Investigating and Addressing Barriers to the Effective Recognition and Management of Depression in People with Long-term Conditions in Primary Care

A thesis submitted to the University of Manchester for the degree of Doctor of Philosophy (PhD) in the Faculty of Medical and Human Sciences.

2015

Dimitra Karachaliou

School of Medicine
# Table of Contents

## Chapter 1: Introduction to the thesis

1.1. The scope of the thesis ................................................................. 25
1.2. The issue ...................................................................................... 26
1.3. Current knowledge on this topic .................................................. 27
1.4. Gaps in current knowledge on this topic ...................................... 28
1.5. Research questions and thesis structure ..................................... 29

## Chapter 2: Context, aims and objectives

2.1. Introduction .................................................................................... 33
2.2. Long-term conditions .................................................................... 33
  2.2.1. Coronary Heart Disease and diabetes .................................. 34
2.3. The conceptualisation of depression .......................................... 36
  2.3.1. Theoretical perspectives on depression ................................. 37
2.4. Epidemiology of depression ....................................................... 41
2.5. Understanding comorbidity ......................................................... 42
  2.5.1. Bidirectional interaction between depression and LTCs ....... 44
  2.5.2. A conceptual model of depression in LTCs ......................... 46
2.6. Screening, identification and management of depression in
    primary care .................................................................................. 48
  2.6.1. Recognition and treatment rates ........................................... 48
2.7. Current UK clinical guidelines for the identification and treatment
    of common mental disorders in primary care ............................... 50
  2.7.1. Clinical guidelines and stepped care model ........................... 50
  2.7.2. Diagnostic instruments for depression and anxiety .............. 52
  2.7.3. Improving access to psychological therapies ....................... 54
2.8. Barriers to the recognition and management of depression ........... 56
  2.8.1. Patient factors as barriers ...................................................... 56
  2.8.2. Health system factors as barriers ......................................... 59
  2.8.3. Health care professionals’ factors as barriers ......................... 61
    2.8.3.1. Attitudes as a barrier .................................................... 66
2.9. Focus on depression in the context of LTCs ................................. 67
Chapter 3: A scoping literature review exploring HCPs’ views, attitudes and experiences of managing depression in primary care ..........90

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1. Introduction to the chapter</td>
<td>90</td>
</tr>
<tr>
<td>3.2. Introduction to the review</td>
<td>90</td>
</tr>
<tr>
<td>3.3. Methods</td>
<td>93</td>
</tr>
<tr>
<td>3.3.1. Stage 1: Identifying the research question</td>
<td>93</td>
</tr>
<tr>
<td>3.3.2. Stage 2: Identifying relevant studies</td>
<td>94</td>
</tr>
<tr>
<td>3.3.2.1. Search strategy</td>
<td>94</td>
</tr>
<tr>
<td>3.3.2.2. Searching other sources</td>
<td>94</td>
</tr>
<tr>
<td>3.3.3. Stage 3: Study selection</td>
<td>94</td>
</tr>
<tr>
<td>3.3.4. Stage 4: Charting the data</td>
<td>100</td>
</tr>
<tr>
<td>3.3.5. Quality assessment of included studies</td>
<td>100</td>
</tr>
<tr>
<td>3.3.5.1. Qualitative studies</td>
<td>101</td>
</tr>
<tr>
<td>3.3.5.2. Quantitative studies</td>
<td>101</td>
</tr>
<tr>
<td>3.3.6. Stage 5: Summarising, synthesising and reporting the results</td>
<td>102</td>
</tr>
<tr>
<td>3.3.6.1. A narrative summary</td>
<td>102</td>
</tr>
<tr>
<td>3.3.6.2. Themes translation</td>
<td>102</td>
</tr>
<tr>
<td>3.3.6.3. Analysis process for narrative summary in the qualitative</td>
<td>103</td>
</tr>
<tr>
<td>studies</td>
<td></td>
</tr>
<tr>
<td>3.3.6.4. Analysis process for narrative summary in the quantitative</td>
<td>104</td>
</tr>
<tr>
<td>studies</td>
<td></td>
</tr>
</tbody>
</table>
3.4. Results.................................................................105
  3.4.1. Study characteristics.........................................105
  3.4.2. Sample............................................................105
  3.4.3. Qualitative studies...........................................106
  3.4.4. Quantitative studies........................................107
  3.4.5. Quality assessment..........................................111
  3.4.6. Description of analysis....................................111

3.5. Themes and Subthemes........................................113
  3.5.1. Theme 1: GPs and PNs’ illness beliefs towards causes,
         consequences and symptoms of depression..............113
    3.5.1.1. Depression’s causal mechanism.......................113
    3.5.1.2. Consequences of depression..........................116
  3.5.2. Theme 2: Attitudes and skills towards the diagnostic
         process of depression.............................................116
    3.5.2.1. Time constraints.........................................116
  3.5.3. Views on guidelines and diagnostic tools...............117
    3.5.3.1. Knowing the person......................................118
    3.5.3.2. Confidence (self-efficacy) and optimism in ability
             to manage depression........................................119
    3.5.3.3. Knowledge, skills and training........................120
  3.5.4. Theme 3: Attitudes towards depression and patients
         with depression...............................................121
    3.5.4.1. Personal experience working with depression.......121
    3.5.4.2. Unclear understanding of depression...............123
    3.5.4.3. Stigma associated with depression and its treatment....124
  3.5.5. Theme 4: Treatment control and management strategies .....125
    3.5.5.1. Attitudes towards medication regimens...........125
    3.5.5.2. Attitudes towards talking therapies.................126
    3.5.5.3. Concerns for available treatment options...........127
  3.5.6. Facilitators and barriers to best practice...............128

3.6. Discussion ..........................................................132
  3.6.1. Summary of the results....................................132
  3.6.2. Implications of the findings..............................133
  3.6.3. Comparison with other reviews............................135
  3.6.4. Strengths and limitations................................136
Chapter 4: A qualitative study exploring personal models of HCPs’
towards depression in LTCs

4.1. Chapter overview

4.2. Introduction to the qualitative study

4.2.1. The theoretical underpinning of this study

4.3. Methods

4.3.1. Semi-structured interviews as a method

4.3.2. Ethical considerations

4.4. Data collection method / process

4.4.1. Sampling method

4.4.2. Procedure

4.5. Sample and settings characteristic

4.5.1. The interview process

4.5.2. Topic guide

4.5.3. Recording and transcription

4.6. Data analysis

4.7. Framework analysis stages

4.7.1. Framework and themes

4.7.2. Themes and subthemes overview

4.8. Rigour

4.9. Results

4.9.1. Recognition of depression in people with LTCs is complex

4.9.1.1. Lack of clear understanding of depression in the context of a LTC

4.9.1.2. The depression itself as a barrier

4.9.2. Attitudes towards the recognition and management of depression in people with LTCs

4.9.2.1. Clinician’s expectations or their choice when to engage with depression when dealing with LTCs

4.9.2.2. Perceived stigma and fear of medicalising normal
stress.................................................................166
4.9.2.3. Limited consultation time ..................................167
4.9.2.4. Attitudes and feelings towards people with depression and LTC 169
4.9.3. The necessary level of condition-related knowledge and understanding of depression the context of a LTC .................170
  4.9.3.1. A normalising understanding of depression in the context of a LTC.................................................................170
  4.9.3.2. Cause of depression is bereavement; grieving the healthy self.................................................................173
  4.9.3.3. Depression is a consequence of not coping with a LTC’s management .................................................................175
  4.9.3.4. Is there a bidirectional link?.................................178
  4.9.3.5. A vicious cycle or a synergistic relationship........180
  4.9.3.6. Other causes ..................................................181
4.9.4. Controllability of depression in people with LTC .............185
  4.9.4.1. Lack of perceived control towards depression management in conjunction with a LTC.................................................185
  4.9.4.2. Concerns about available treatment options .............186
4.10. Summary of results .................................................189
4.11. Implications for the development of a HCPs’ personal models instrument and online intervention ........................................190
4.12. Summary ..................................................................192

Chapter 5: Development of an on-line training intervention .......194
5.1. Overview ..................................................................194
5.2. Background information .............................................194
5.3. The current intervention and the future aims of the FoR.D ......197
5.4. Methods ....................................................................199
  5.4.1. Step 1: What is the problem? ....................................199
  5.4.2. Step 2: Selection of the theoretical framework and a qualitative study for the identification of constructs to target for change ..........199
  5.4.3. Step 3: Selecting BCTs and modes of delivery..............200
5.5. Results ....................................................................200
  5.5.1. Step 1: What is the problem? What do we need to change? ..201
5.5.2. Step 2: Selection of the theoretical framework and identification of constructs to target for change

5.5.2.1. Theory of Planned Behaviour ........................................202
5.5.2.2. The Social Cognitive Theory (SCogT) ..........................204
5.5.2.3. Self-regulation and self-efficacy .................................206
5.5.2.4. A combined framework to design the content of the FoR.D intervention ..........................................................206

5.5.3. Step 3: Selecting BCTs and modes of delivery ..................208

5.5.3.1. Using the internet as a training delivery method ...........213
5.5.3.2. The use of on-line illustrations as an intervention delivery method ...........................................................................215

5.5.4. Illustrations’ storyline .....................................................216

5.5.5. Design of clinical vignettes and characters .......................219

5.5.5.1. Maria, the patient .......................................................220
5.5.5.2. The ‘professional’ characters ......................................222
5.5.5.3. Dr Bennett; a doctor-centred clinician .......................223
5.5.5.4. Mrs Blake, the health psychology researcher ..............226
5.5.5.5. Dr Tipping, the patient-centred clinician ....................230

5.5.6. Online activity ................................................................237

5.5.7. Development and additional content of www.fordepression.co.uk ............................................................239

5.5.7.1. Choosing a name for the intervention and the domain name .................................................................................239
5.5.7.2. Learning support information ......................................240

5.6. Summary .............................................................................240

Part B: Development of a questionnaire ....................................242

5.7. Illness perceptions and attitudes to depression measure ........242

5.8. Theoretical models, constructs and measurement .................243

5.9. Focus of the questionnaire ...................................................244

5.10. Item sources .......................................................................244

5.11. Literature search ................................................................245

5.12. Qualitative interviews .......................................................246

5.13. Initial item pool and preliminary validation phase ...............247

5.13.1. Dimensions .................................................................248

5.13.1.1. Illness coherence in people with LTCs .......................249
Chapter 6: A Feasibility training intervention study ............... 262

6.1. Introduction ................................................................. 262
6.2. Methods ........................................................................ 263
  6.2.1. Study design ............................................................. 263
  6.2.2. Recruitment approach ................................................. 264
  6.2.3. Procedure and data collection ....................................... 267
6.3. Materials ......................................................................... 268
  6.3.1. Socio-demographic variables ....................................... 271
  6.3.2. Further information ................................................... 271
6.4. Analyses ......................................................................... 272
  6.4.1. Statistical methods ..................................................... 273
6.5. Results ........................................................................... 273
  6.5.1. Response rate and demographics .................................. 273
  6.5.2. Acceptability of the measure ....................................... 274
  6.5.3. Descriptive data on items ............................................ 275
    6.5.3.1. The IPAD item pool ................................................ 275
    6.5.3.2. Barriers item pool .................................................. 279
    6.5.3.3. Treatment preferences item pool ............................. 281
    6.5.3.4. Self-efficacy and Intentions item pool ....................... 282
6.5.4. Dimensionality and internal consistency of the questionnaire.........................................................................................287
  6.5.4.1. Self-efficacy and intentions constructs .................................................288
  6.5.5. Descriptive statistics on the sections pre- and post- FoR.D...289
    6.5.5.1. Pre- and post-FoR.D intervention descriptive statistics for N=16...............................................................................291

6.6. Feasibility and acceptability of the FoR.D intervention ........292
  6.6.1. Overview .................................................................................................292

6.7. Feasibility results ........................................................................................292
  6.7.1. Delivery aspects of the training intervention .........................294
    6.7.1.1. Content and focus of intervention .................................................294
    6.7.1.2. Effective mode of delivery ...............................................................295
  6.7.2. Gains derived from participation in the FoR.D intervention .296
    6.7.2.1. Increasing knowledge (Question 4) ..............................................296
    6.7.2.2. Improving work performance (Question 8) .........................297
  6.7.3. General feedback ...................................................................................298
    6.7.3.1. Positive feedback ...........................................................................298
    6.7.3.2. Negative feedback ........................................................................298

6.8. Discussion ....................................................................................................300

6.9. Summary ........................................................................................................301

Chapter 7: General discussion ........................................................................302
  7.1. Chapter overview .......................................................................................302
    7.1.1. Thesis methodology ...........................................................................302
  7.2. Summary of main findings .........................................................................304
    7.2.1. The use of health psychology theories in this thesis ..................305
    7.2.2. Summary of findings of the scoping literature review ..........305
    7.2.3. Summary of findings of the qualitative study ..............................306
    7.2.4. The development and feasibility study of the FoR.D intervention .....................................................................................309
  7.3. Interpretation of findings ............................................................................313
    7.3.1. Lack of clear understanding of depression in the context of a LTC..........................................................................................313
    7.3.2. Failure to recognise the individual differences in depression 316
7.3.3. HCPs’ expectations for patients to ‘volunteer the diagnosis’ 319
7.3.4. Perceived lack of time as an attitude rather than simply a barrier ................................. 320
7.3.5. Outcome expectancies and self-efficacy lead to diagnosis .................................. 321
7.3.6. Reflexivity .............................................................................................................. 322

7.4. General strengths of the thesis .............................................................................. 323
7.4.1. Strengths of the scoping review ................................................................. 325
7.4.2. Strengths of the qualitative study ............................................................. 325
7.4.3. Strengths of the FoR.D training intervention ........................................ 326

7.5. Limitations of the thesis ....................................................................................... 328
7.5.1. Weaknesses of the scoping review .......................................................... 329
7.5.2. Weaknesses of recruitment methods in qualitative and feasibility study ......................................................... 330
7.5.3. FoR.D intervention weaknesses .............................................................. 333
7.5.3.1. Outcome measures ............................................................................. 334

7.6. Implementation for research, practice and policy ............................................ 335
7.6.1. The FoR.D intervention and its implementation .................................. 337
7.6.1.1. Practice implementations .................................................................. 340

7.7. Future research .................................................................................................. 342
7.8. Conclusions ......................................................................................................... 343

References ............................................................................................................... 345
Appendices .............................................................................................................. 405

Appendix A: Severity measures for depression and anxiety ......................... 406
Appendix B: Interventions and severity of depression .................................. 407
Appendix C: Literature review search strategy (Medline) ............................. 409
Appendix D: Scoping review search strategy (Medline, 2000-2015).............. 410
Appendix E: Scoping review (Medline, Update 15.06.2015) ....................... 411
Appendix F: Scoping review included studies: Quantitative studies .......... 412
Appendix G: Scoping review included studies: Qualitative studies ............ 413
Appendix H: Scoping review - Characteristics of the quantitative studies included in the scoping review ...................................................... 415
Appendix I: Scoping review - Form for data extraction for scoping review
List of Tables

Table 3.1: Inclusion criteria for scoping review ................................................. 96
Table 3.2: Exclusion criteria for scoping review ................................................ 97
Table 3.3: Characteristics of included qualitative papers ................................. 109
Table 3.4: Characteristics of included quantitative papers .............................. 110
Table 3.5: Themes, subthemes and translation .................................................. 112
Table 3.6: Summary of barriers and studies contributing to each theme... 131
Table 4.1: Breakdown of Participants Characteristics ..................................... 148
Table 4.2: Table of core concepts and main themes ....................................... 154
Table 4.3: Framework: The four dimensions of HCPs’ personal models towards depression in patients with LTCs ......................................................... 192
Table 5.1: Key Determinants of Behaviour (Table adapted from Michie et al., 2005) .............................................................................................................. 208
Table 5.2: Definitions of Chosen Behaviour Change Techniques ................. 210
Table 5.3: Advantages and disadvantages of online research and interventions .................................................................................................................. 214
Table 5.4: Quote, content, BCT and construct for illustrations (example 1) ......................................................................................................................... 228
Table 5.5: Interview quote, content, BCT & construct for illustrations (example 2) .............................................................................................................. 229
Table 5.6: Quote content, BCT and construct for illustrations (example 3) .......................................................................................................................... 234
Table 5.7: Quote, content, BCT and construct for illustrations (example 4) ......................................................................................................................... 235
Table 5.8: Source, content, BCT and construct for illustrations (example 5) ......................................................................................................................... 236
Table 5.9: Summary of Chapter 5; FoR.D intervention ................................. 241
Table 5.10: Comorbidity Illness Coherence Quotes and Developed Items 250
Table 5.11: Timeline Quotes and Developed Items........................................ 251
Table 5.12: Comorbidity Consequences Quotes and Developed Items ....... 252
Table 5.13: Comorbidity Treatment Control Quotes and Developed Items ............................................................................................................................. 253
Table 5.14: Personal Control Beliefs Quotes and Developed Items ............ 254
Table 5.15: Self-efficacy Beliefs Quotes and Developed Items ..........255
Table 5.16: Example of content validity .........................................256
Table 5.17: Example of item rewording ..........................................257
Table 6.1: Baseline descriptive data and normality; Participants
Demographics ..............................................................................274
Table 6.2: Table 6.2: Descriptive statistics for item pool of IPAD........276
Table 6.3: Descriptive statistics for item pool of ‘Barriers’ section ........279
Table 6.4: Descriptive statistics for item pool of Treatment Preferences
section ..............................................................................................281
Table 6.5: Descriptive statistics for item pool of Self-efficacy section ...283
Table 6.6: Descriptive statistics for item pool of Intentions’ section ......284
Table 6.7: Reliability Statistics; Cronbach’s α..................................288
Table 6.8: Descriptive statistics before and after FoR.D ....................290
Table 6.9: Descriptive statistics of the N=16 pre- and post- FoR.D
participants ......................................................................................291
Table 6.10: Age and years of practicing for the 16 participants ..........293

List of Figures

Figure 1: Structure of the thesis ......................................................31
Figure 2: Bidirectional interaction between depression and LTCs ..........47
Figure 3: Stepped-care model: a combined summary for common mental
health disorders (adapted from NICE, 2011b). ................................51
Figure 4: Common sense model of illness behaviour; Leventhal et al., 1980
.................................................................................................73
Figure 5: PRISMA diagram detailing the process of searching and
identifying relevant papers............................................................99
Figure 6: Aims, strategy, and presentation of illustrations ...............218
Figure 7: Example of the process for Item Development .................259
Figure 8: FoR.D feasibility study recruitment process .....................266
Figure 9: Overview of thesis methodology and associated studies ......303
List of Boxes

Box 5:1 Patient Case Scenario- Maria .................................................. 221
Box 5:2 Dr Bennett’s approach ............................................................... 224
Box 5:3 Mrs Blake-Dr Tipping Scenario ............................................... 231
Box 6:1 Feedback on illustrations as a training mode ............................ 295
Box 6:2 Positive feedback on FoR.D intervention ................................. 298
Box 6:3 Negative feedback for FoR.D intervention ............................... 299
Box 6:4 Feedback to improve the FoR.D intervention .......................... 299
Abbreviations

APA = American Psychological Association
BCTs = Behaviour Change Techniques
BDI-II = Beck Depression Inventory Second Edition
BPS = British Psychological Society
CASP = Critical Appraisal Skills Programme guideline
CBT = Cognitive Behavioural Therapy
cCBT = Computerised Cognitive Behavioural Therapy
CHD = Coronary Heart Disease
CLAHRC = Collaboration for Leadership in Applied Health Research and Care
CMDs = Common Mental Health Disorders
COPD = Chronic obstructive pulmonary disease
CPD = Continued Professional Development
CSM = Common-Sense Model
CS-SRM = Common-Sense Self-Regulatory Model
CVD = Cardiovascular Disease
DAQ = Depression Attitudes Questionnaire
DCP = Division of Clinical Psychology
DD = Depressive Disorder
DoH = Department of Health
DSM-IV = Fourth Edition of the Diagnostic and Statistical Manual of Mental Disorders
DSM-V = Fifth Edition of the Diagnostic and Statistical Manual of Mental Disorders
FoR.D = Focus on Recognising Depression
GM-CLAHRC = Greater Manchester Collaboration for Leadership in Applied Health Research and Care
GPs = General Practitioners
GSE = General Self-Efficacy
HADS = Hospital Anxiety and Depression Scale
HCPs = Health Care Professionals
IAPT = Improving Access to Psychological Therapies
ICD-10 = International Classification of Diseases, 10th edition
II = Implementation Intentions
IPAD = Illness perceptions and attitudes to depression questionnaire
IPQ = Illness Perceptions Questionnaire
IPQ-R = Illness Perception Questionnaire-Revised
IPQ-RH = Illness Perceptions Questionnaire for Healthy people
IPQ-SCV = Illness Perceptions Questionnaire version for schizophrenia
LT = Learning Theory
LTCs = Long-Term Conditions
MDD = Major Depressive Disorder
MI = Myocardial Infarction
NatCen = National Centre for Social Research
NICE = National Institute for Health and Clinical Excellence
PBC = Perceived Behavioural Control
PCTs = Primary care Trusts
PHQ9 = Patient Health Questionnaire
PNs = Practise Nurses
QOF = Quality of Outcomes Framework
RA = Rheumatoid Arthritis
RCGP = Royal College of General Practitioners
RCTs = Randomised Control Trials
SCMs = Social Cognitive Models
SCogT = Social Cognitive Theory
SSRIs = Selective Serotonin Reuptake Inhibitors
STROBE = Strengthening the Reporting of Observational Studies in Epidemiology guideline
TDF = Theoretical Domains Framework
TPB = Theory of Planned Behaviour
TRA = Theory of Reasoned Action
UK = United Kingdom
WHO = World Health Organisation
Thesis Abstract

Objectives: Depression is often unrecognised or sub-optimally treated in primary care. This has led to research exploring the barriers and enablers to effective recognition but little is known about health care professionals’ (HCPs) beliefs or personal illness models about depression in patients with long term conditions (LTCs), the presence of which may affect recognition and management. Using Leventhal’s Common Sense or Self-regulatory Model this thesis aimed to: explore HCPs’ illness representations and management in people with LTCs and depression; to understand the role of personal models and perceived barriers to depression recognition and management; and to address them in a theory-based online training intervention.

Methods: This thesis was undertaken in three stages; a scoping review with narrative synthesis was conducted to explore the role of HCPs’ personal illness models of depression, a qualitative study using semi-structured interviews with 16 HCPs to investigate their illness beliefs about depression in patients with LTCs and finally, the development and feasibility assessment of a theory-based online training intervention to target HCPs’ attitudes, beliefs and self-efficacy. During this stage a new measure of HCPs’ beliefs and attitudes towards depression in patients with LTCs was developed as no appropriate measures were currently available to capture HCPs’ personal illness models of depression as a comorbid condition.

Results: Twenty-seven papers were included in a mixed method scoping review. The review concluded that HCPs mainly normalised depression but lacked a complete conceptualisation of depression in primary care. HCPs reported time constraints and lack of skills as important barriers to recognising depression in primary care. Negative attitudes towards depression and lack of confidence to recognise and manage depression were also commonly reported. In the qualitative study, the main themes were; 1) Recognition of depression in people with LTCs is complex (unclear illness identity) 2) Attitudes towards recognition and management of depression in people with LTCs act as either barriers and enablers to depression management 3) The necessary level of condition-related knowledge and understanding of depression in the context of a LTC 4) Controllability of depression in people with LTCs. The findings suggested that HCPs’ illness beliefs about depression in people with LTC varied in crucial ways with some participants prioritising the management of the LTC or expecting patients with diabetes or CHD to diagnose depression themselves due to time constraints. Some HCPs also reported simplistic views of causation which appeared to impact on their decisions whether or not to detect depression in people with LTCs. The findings of the qualitative study were used to inform the content of a novel online training intervention using illustrations to facilitate engagement. Thirty one HCPs were recruited and 15 completed the evaluation. The results of the feasibility study suggested that the method, context and mode of intervention was feasible but the lack of validated measures and the small sample size hinder conclusions about changes in participants’ illness beliefs, intentions, self-efficacy and perceived barriers towards depression.

Comments: The scoping review study provided new insights into why HCPs may not engage with detection of depression but only a limited amount of research has explored HCPs’ beliefs about depression in patients with LTCs. The qualitative study addressed this and contributes new knowledge about the way HCPs conceptualise depression in patients with LTC and was used to design an online intervention to improve the management and recognition of depression in these patients. Further research to develop this intervention and evaluate it on a larger scale is needed.
Declaration

No portion of the work referred to in the thesis has been submitted in support of an application for another degree of qualification of this or any other university or other institute of learning
Copyright Statement

i. The author of this thesis (including any appendices and/or schedules to this thesis) owns certain copyright or related rights in it (the “Copyright”) and s/he has given The University of Manchester certain rights to use such Copyright, including for administrative purposes.

ii. Copies of this thesis, either in full or in extracts and whether in hard or electronic copy, may be made only in accordance with the Copyright, Designs and Patents Act 1988 (as amended) and regulations issued under it or, where appropriate, in accordance with licensing agreements which the University has from time to time. This page must form part of any such copies made.

iii. The ownership of certain Copyright, patents, designs, trademarks and other intellectual property (the “Intellectual Property”) and any reproductions of copyright works in the thesis, for example graphs and tables (“Reproductions”), which may be described in this thesis, may not be owned by the author and may be owned by third parties. Such Intellectual Property and Reproductions cannot and must not be made available for use without the prior written permission of the owner(s) of the relevant Intellectual Property and/or Reproductions.

iv. Further information on the conditions under which disclosure, publication and commercialisation of this thesis, the Copyright and any Intellectual Property and/or Reproductions described in it may take place is available in the University IP Policy (see http://documents.manchester.ac.uk/DocuInfo.aspx?DocID=487), in any relevant Thesis restriction declarations deposited in the University Library, The University Library’s regulations (see http://www.manchester.ac.uk/library/aboutus/regulations) and in The University’s policy on Presentation of Theses.
Acknowledgements

First and foremost, my sincere gratitude goes to my PhD supervisors, Dr Christine Bundy and Dr Lis Cordingley, for without their valuable guidance, encouragement, and support, this PhD would never have been started, let alone finished.

I am fortunate to have had Dr Elaine Harkness as my academic advisor, who not only supported me, but lifted my spirit beyond my expectations in times of need. Her presence was comforting, and provided great encouragement for completing my thesis.

Sincere thanks to the Greater Manchester Collaboration for Leadership in Applied Health Research and Care (GM-CLAHRC) for sponsoring this PhD. It has been an honour for me to work with CLAHRC practitioner theme staff, and have had their support during the early stages. Special gratitude goes to my former supervisor Dr Pete Coventry for his valuable guidance during this PhD difficult period.

I am particularly grateful for the statistical advice and support given by Dr Mark Hann. He has been a remarkable mentor to me. I would also like to thank to Prof Pete Bower and Prof Stephen Campbell for their academic advice and support. My appreciations also go to Dr Jo Hudson and Adwoa Hughes-Morley for undertaking quality checks on the scoping review study selection and data extraction process. Many thanks go to Ben and Elena for doing such an amazing job developing the FoR.D website.

I thank my fellow PhD researchers and colleagues in the Centre for Primary Care: Dr Katherine Perryman, Dr Charlotte Garrett, Jasmin Knopp, Emily Bland, Dr Nicola Small, Dr Abigail Methley, Isabel Adeyemi, Shoba Dawson, Charles Adeniji, and Dr Jo Hudson. Your friendship, support, advice and encouragement have been infinite. I feel exceptionally lucky to have made friends with you all.

I would like to thank my precious friends Aphrodite, Kathy, Amina, Ioanna, Laura, Korina, Sofia K., Elena, Alex, Mustafa, Ade, Aisha, Jojo, Kalpa, Beanie, Nick, John, Claire, Fiona, Sofia X., Peter, Tom and Jaise for all the fun we have had in the last four years, including the stimulating discussions, and for encouraging and supporting me during the difficult times. You have been wonderful and so important in this very challenging chapter of my life. Thank you for dealing with me and my stressful mood for so long and still being my friends!

Last but not least, I owe an enormous debt of gratitude to my family and friends in Greece. Without you, this journey would have been much more difficult, if not impossible. Pavlina and Evi, your friendship and love were my inspiration during this journey.
I dedicate this thesis to my incredible partner Danny and my marvellous psychotherapist Dr Elsa Koppasi.

I could not have done it without you. Σας αγαπώ!
Chapter 1: Introduction to the thesis

1.1. The scope of the thesis

This chapter provides a summary of the thesis context and justification. It presents information on the importance of and need for research that explores health care professionals’ (HCPs) beliefs, attitudes and perceived barriers in the recognition and management of comorbid depression in primary care.

The thesis is concerned with the subject of depression in people with long-term conditions (LTCs) as this is a poorly identified and managed comorbidity in primary care (Williams et al., 2007; Cepoiu et al., 2008). Previous research suggests that HCPs’ attitudes and beliefs affect the recognition (Main, Lutz, Barrett, Matthew & Miller, 1993) and management (Dowrick, Gask, Perry, Dixon & Usherwood, 2000) of depression in primary care (Hyde et al., 2005; MacDonald et al., 2009). Depression as a diagnostic entity rather than in association with chronic illness has typically been the focus of research, resulting in a lack of evidence around their co-occurrence. No study has thus far examined how HCPs’ illness beliefs and attitudes operate in clinical decision-making related to depression care in people with LTCs. It is suggested that these beliefs and attitudes may serve as a diagnostic “filter” that either facilitates or inhibits a clinician’s ability to recognise depression (Main et al., 1993). Therefore, understanding HCPs’ beliefs and attitudes is important to help explain their impact on effective diagnosis and management of depression in people with LTCs (Main et al., 1993; Hyde et al., 2005; MacDonald et al., 2009). In doing so, it will be possible to identify targets for interventions to provide HCPs with skills in identifying and managing depression in the context of a LTC (Bower & Gilbody, 2005). As such, the overall goal of this thesis is to contribute to the improvement of care of people with LTCs.

This thesis reports on a combination of studies using a scoping review of the literature and additional qualitative research to develop an online
intervention to address HCPs’ attitudes towards a more confident and well-informed understanding of depression in primary care patients with LTCs.

First, a scoping review of qualitative and quantitative studies of HCPs’ attitudes and beliefs to managing depression in primary care is presented in Chapter 3. This is followed by a qualitative investigation of attitudes and illness beliefs to managing comorbid depression in the context of diabetes and coronary heart disease (CHD) in the United Kingdom (UK) from the perspectives of general practitioners (GPs) and practice nurses (PNs). The investigation focuses on how HCPs view depression in people with LTCs, specifically exploring the causes and consequences of depression with LTCs, HCPs’ confidence in its diagnosis and the barriers to its management. The scoping review and a qualitative study were conducted in order to explore the research question, aims and objectives of the thesis. This work was used to inform the development of an online training intervention that aims to provide HCPs with the skills and confidence needed to manage depression effectively, in an effort to reduce negative attitudes that act as barriers to care (Cepoiu et al., 2008; Main et al., 1993; Hirschfeld et al., 1997; MaGPIe Research Group, 2005; Schumann, Schneider, Kantert, Löwe & Linde, 2012) and increase confidence in HCPs’ ability to manage patients with comorbid depression, which is important when dealing with people with LTCs (Gask, Dixon, May & Dowrick, 2005).

1.2. The issue

The identification and management of depression associated with LTCs represents a major challenge for primary care (Williams et al., 2007; Cepoiu et al., 2008; Mitchell, Vaze & Rao, 2009). In fact, Goldman et al. (1999) found that only about half of all cases of depression are diagnosed, especially as symptoms of depression overlap with those of LTCs such as diabetes and CHD (Simon & VonKorff, 1995).

The effects of depression are long lasting; it is associated with a negative outcome of physical disorders, greater decrements in quality of life and increased risk of mortality (Mussavi et al., 2007) even in cases of mild
depression (Bush et al., 2001). Co-existence of depression is also associated with high care utilisation, unscheduled care, including costly referrals to secondary care; in total it has been found to increase the cost of care for patients with LTCs by at least 45% (Naylor et al., 2012; Dickens et al., 2012).

Depression in people with LTCs also affects patients’ self-management abilities and is associated with reduced compliance with treatment, lower activity levels, increased social isolation, limited self-efficacy and impaired communication with healthcare providers (Andersson, Troein & Lindberg, 2001; Carney & Freedland, 2003; Piette, Richardson & Valenstein, 2004). Previous research has suggested the significance of the acknowledgement and identification of a patient’s emotional distress in relevance to LTCs and the importance of providing effective treatments which improve patients’ quality of life, boost physical functioning, prevent health complications and increase optimism and treatment adherence (Goldman, Nielsen & Champion, 1999). Addressing the psychological aspects of an illness is an important aspect of holistic care (Katon, Lin & Kroenke, 2007; Bauman, Fardy & Harris, 2003).

1.3. Current knowledge on this topic

Although HCPs are aware of the risks of psychological comorbidity, it is still unclear why they struggle to recognise, diagnose and appropriately manage depression in people with LTCs (Coventry et al., 2011). This is a multifactorial and multi-level problem; the majority of published findings of studies concerning the recognition of depression in primary care settings identify several potentially important influences such as patient and clinician characteristics and health care system factors (Chew-Graham & Hogg, 2002; Howe, Ashton & Hooper, 2006; Hirschfeld et al., 1997). It is suggested that system barriers such as unavailability of specific interventions, difficulty accessing care and continuity of care (Nutting et al., 2002) warrant more attention in terms of policy, intervention development and future research (Henke et al., 2008). At the same time, research focusing on the personal belief systems of HCPs could also allow us to
improve depression care through interventions by tackling unhelpful or dysfunctional attitudes (Eccles, Grimshaw, Walker, Johnston & Pitts, 2005; NICE, 2009; Crisp et al., 2000; Smolders et al., 2010).

It is widely acknowledged that patient and HCPs’ attitudes and beliefs to the problem of depression itself can be of influence in the detection and treatment of emotional distress in primary care (Botega et al, 1992; Cooper et al., 2000; Dorwick et al., 2000; Koenig, 2007). Furthermore, it is claimed that HCPs’ beliefs and perceptions of patients’ illnesses are a major factor impacting on the quality of treatment they provide (Henderson, Orbell & Hagger, 2007; van-der Hofstadt, Rodriguez-Marin, Quiles, Mira & Sitges, 2003). Dowrick et al. (2000) and Main et al. (1993) suggest that GPs are more likely to detect depression if they believe they can manage and treat it. Other studies suggest that HCPs are reluctant to prescribe antidepressants when they believe that depression is caused by life problems and social issues (Chew-Graham, May & Perry, 2002; Karasz, et al., 2012). Therefore, the primary focus of this study is to identify the cognitive aspects that influence HCPs’ ability to recognise depression in people with LTCs.

1.4. Gaps in current knowledge on this topic

Although studies on HCPs’ experiences in managing depression have widened our understanding about factors that can influence its recognition and treatment in primary care (Cepoiu et al., 2008), there was until recently a paucity of information on the impact that comorbidity has on clinician’s practice. Currently, the challenge of managing and measuring comorbidity and multi-morbidity is gaining increased attention (Bower et al., 2011; Diederichs, Berger & Bartels, 2011). Thus, in line with this, this thesis is concerned with the management of depression comorbid with LTCs by HCPs in an effort to make a contribution to the renewed interest in these challenges.

A small number of research studies have investigated professionals’ experiences of providing health care services for LTCs and depression (Barley, Walters, Tylee & Murray, 2012). Such research has, however,
largely consisted of atheoretical, empirical investigations. Undertaking a theoretical approach in this matter, the present study employs the Common Sense, Self-Regulatory Model (CS-SRM), which has been to shown to provide an integrated and empirically validated model for dealing with beliefs and coping mechanism related to illness (Leventhal et al., 1980).

1.5. **Research questions and thesis structure**

This thesis aims to expand the limited theoretical knowledge available regarding HCPs’ illness beliefs and attitudes that may influence their ability to recognise and effectively manage depression in people with LTCs.

To fulfil the aims of the research, the study sought to answer the following questions:

1. What personal illness models in HCPs towards depression and its management in primary care are reported in the literature in the UK?
2. What are the experiences, perceptions and perceived barriers of HCPs of people with comorbid depression and how do these may affect the recognition and shape the management of depression in the presence of a LTC?
3. How do HCPs view the identity, causes, consequences, timeline and controllability of depression in conjunction with diabetes and CHD?
4. What beliefs and attitudes are amenable to intervention in order to support HCPs to better manage depression in such LTCs?

The research questions were developed based on observations in clinical practice where depression management in primary care is still problematic; they were refined based on the findings of a scoping review (presented in Chapter 3) which was conducted in order to address the gaps in the literature. Subsequently, the qualitative research method of semi-structured interviews was employed in order to investigate the research questions. Following on from this, Chapter 4 presents the findings of this study and discusses its implications for the subsequent steps of the research. This study aimed to identify factors potentially affecting HCPs’ ability to
recognise and manage depression in people with LTCs as well as beliefs and attitudes regarding comorbid depression, which could then be addressed within the developed intervention (first stage of intervention development). It also supported the development of a measurement tool of HCPs’ illness beliefs, attitudes, confidence and barriers to depression comorbid with LTCs. Chapter 5 presents the methodology employed in order to design the measurement tool, which was the Illness Perceptions and Attitudes to Depression (IPAD) questionnaire, and gives an in-depth description of the development of the online intervention, namely the ‘Focus on Recognising Depression’ (FoR.D), and how the individual studies shaped its content. The methods employed for conducting the feasibility study, as well as its subsequent results, are presented in Chapter 6. This study explored the usability and acceptability of the developed intervention (second stage of intervention development). As such, the ultimate aim of FoR.D is to improve HCPs’ skills, beliefs, attitudes and self-efficacy in order to assist in the enhancement of the recognition and management of depression in people with LTCs. Such research is yet to be conducted in future modifications (as third stage of intervention development). Finally, a general discussion of the main findings of all the studies, implications and proposed suggestions for further research are considered in Chapter 7, as are the strengths and limitations of the thesis.

Phase A of the thesis will contain two chapters presenting the background information of the research in more detail and the scoping review conducted for this thesis.

An outline of the structure of the research process and the thesis is presented in Figure 1.
Chapter 1: an overview of the current literature, the aims and the structure of the thesis

Background information for the study in broader context
- Chapter 2: key information regarding LTC and depression and its management as well as giving an overview of the health care policies and guidelines pertinent
- Review of literature on barriers to effective management of depression in primary care underpinning the significance of the research
- Detailed presentation of the theoretical framework of the thesis

Study 1: Scoping narrative review
- Chapter 3: methods and findings of a scoping narrative review investigating HCPs’ views on depression and its management in UK primary care

Study 2: Qualitative study identifying HCPs’ attitudes and illness beliefs of depression in people with LTCs
- Chapter 4: analysis process and findings of a qualitative study exploring the perceptions and experiences of GPs and PNs

Study 3 (development stage): Focus on Recognising Depression (FoR.D) intervention and measurement tool development
- Chapter 5: methods used to design the tool and the pilot intervention, content and theoretical basis of the intervention, structure and design of the web-page hosting the intervention

Study 3 (feasibility stage): Feasibility testing of FoR.D intervention
- Chapter 6: methods and findings of the feasibility study

Final discussion, interpretation of findings and conclusion
- Chapter 7: discussion and interpretation of the findings with reference to the background literature and the theoretical framework
- Implications for clinical practice, including suggestions for future research
- Identification of strengths and limitations of the study and conclusion of the thesis
PHASE ALPHA

Identification, problem and development of the theoretical basis for the intervention
Chapter 2: Context, aims and objectives

2.1. Introduction

This chapter provides the context and justification for the research topic. An overview of the prevalence of depression as a comorbid condition among patients with LTCs is presented, followed by a description of their bidirectional relationship. Issues relating to the conceptualisation of depression and an overview of the screening, identification and management of depression in primary care are discussed. This is elaborated further by including details on the barriers for the optimal recognition and management of depression in primary care. Subsequently, there is the presentation of the evidence which led to the identification of the research topic. There is a marked absence of the HCPs’ views and experiences working with depression in people with LTCs, in contrast with HCPs’ experience of working with depression on its own. The chapter also describes the theoretical underpinning of the thesis.

2.2. Long-term conditions

The Department of Health (DoH) in the UK define LTCs as ‘conditions that cannot, at present be cured; but can be controlled by medication and other therapies’ (DoH, 2011). LTCs include conditions such as hypertension, arthritis, psoriasis, diabetes mellitus, asthma and CHD (also known as coronary artery disease-CAD) and they affect individuals of all ages, economic status and races in all stages of their lives (Anderson, 2004). It is estimated that only in the UK, there are about 15.4 million people (around 30% of the population) living with such conditions (DoH, 2011). Worldwide, about 133 million people live with a LTC and it is estimated that by 2020 this number will have increased to 157 million or more (Wu & Green, 2000). There are several reasons for this growth; new technologies and diagnostic tests, new treatments and research help to accurately identify and treat LTCs which in turn result in increased numbers of people.
surviving their conditions (Paschalides et al., 2004). It is widely accepted that LTCs impact on people’s physical and mental health, their social and employment status and their quality of life. Patients with CHD and diabetes mellitus, have an increased prevalence of depression, with rates estimated to be 15–20% (Ali, Stone, Peters, Davies & Khunti, 2010). Depression in patients with diabetes has also been found to be associated with a higher incidence of CHD (Katon, 2004) Thus, this thesis is concerned with the management of depression and its diagnosis in the two exemplar LTCs; CHD and diabetes. The abbreviation LTC is preferred in this thesis as an overarching concept of other terms used in the literature, such as LTCs, life-long disease, chronic illness, disease or disabilities which are usually used interchangeably in research (Martin, 2007).

2.2.1. Coronary Heart Disease and diabetes

The evidence suggests that CHD and diabetes have the highest prevalence (Anderson, Freedland, Clouse & Lustman, 2001; Goldney, Phillips, Fisher & Wilson, 2004) with CHD being the single largest cause of mortality in the UK, accountable for the deaths of one in every four men and one in every six women, (www.cks.library.nhs.uk). CHD affects coronary arterial health and functions and it is estimated that 23 million people worldwide suffer from heart failure (Dupree, 2009). People from South Asian ethnic groups, particularly Bangladeshi and Pakistani, have a higher than average prevalence of CHD (Bhopal et al., 1999). The British Heart Foundation Statistics Database indicates that, although there has been a reduction in cardiac deaths, possibly due to the introduction of public health campaigns, there is still a lot of work needed in order to significantly reduce the mortality and morbidity rates (www.bhf.org.uk/statistics). They propose that in order to successfully address the burden of CHD, individual behavioural trends need to be explored to determine possible influences on this LTC. For example, smoking, alcohol consumption, stress and obesity are associated with the onset of CHD, which in turn may lead to developing depression and anxiety (Katon, 2003).
Diabetes mellitus is characterised by high levels of blood glucose (sugar), with type 2 diabetes being its most prevalent form (Grundy et al., 1999). Diabetes poses a threat to public health on a global scale; according to the International Diabetes Federation, diabetes affects at least 285 million people worldwide and by 2030 this number will have increased to 438 million or more. In the UK, almost 1.8 million people are diagnosed with diabetes, whereas it is estimated that one million more people may have undiagnosed diabetes. The increasing prevalence of type 2 diabetes is partially due to the rising prevalence of obesity, high cholesterol, low physical inactivity, rapid urbanisation and unhealthy lifestyles such as heavy alcohol use and smoking (Hu, 2011).

CHD and diabetes often co-exist. In fact, it has been found that people with diabetes are at increased risk of cardiac events due to an undiagnosed cardio-vascular problem such as diabetic dyslipidaemia (Betteridge & Morrell, 2003). Similarly, CHD is found to be significant causal factor of morbidity and mortality in individuals with diabetes (Belch et al., 2008). Grundy et al. (1999) have demonstrated that diabetes is one of the main causes of death in people with CHD. As such, diabetes is becoming more important as a cause of CHD because of its increasing prevalence, due to the high incidence in minority populations and the increasing obesity of the population.

To manage diabetes and CHD successfully, patients must be able to adhere to self-management strategies; self-management in people with diabetes and CHD entails monitoring and managing symptoms, compliance with treatment regimens, retaining a healthy lifestyle with weight management, smoking cessation and exercise, and managing the impact of the illness on daily functioning, emotions, and social relationships (Schreurs, Colland, Kuijer, de Ridder & van Elderen, 2003; White, Smith, Hevey & O’Dowd, 2009). Good self-management reduces complications related with the LTCs, such as blindness, kidney disease or further cardiac events, improves quality of life and decreases health care utilisation and mortality rates. Good self-management also helps patients to return to former levels of daily activity after recovering from a relapsing episode and live full, productive, and
rewarding lives compared with others who live in isolation, depression and physical pain (Stafford, Berk & Jackson, 2009). Self-management is a collaborative approach between a patient and the HCPs aiming to improve well-being and the management of the medical condition (Eales & Stewart, 2001). However, the serious and chronic nature of CHD and diabetes, the complexity of their management, the multiple daily self-care decisions that these LTCs require, alongside the associated low mood and depression mean that being adherent to self-management strategies is often not satisfactory (Funnell & Anderson, 2004).

2.3. The conceptualisation of depression

Psychological distress is largely defined as a state of emotional suffering characterised by symptoms of both depression and anxiety (Mirowsky & Ross, 2002). The concept of distress is poorly understood, it can include a range of psychological problems that primary care patients suffer from, including distress that does not warrant a diagnosis of depression (Drapeau, Marchand & Beaulieu-Prevost, 2011). However, all guidelines and research influenced by the medical model, explore the effectiveness of the identification and treatment of common mental health disorders (CMDs) such as anxiety, depressive disorders or mixed anxiety and depression. Depressive disorders are separate but distinct conditions from anxiety disorders, however, there is an overlap between their symptoms and they can co-exist (Nutt, 2004). Depressive disorders differ with respect to eliciting avoidance behaviour, manifested by a tendency to withdraw from social interactions, eliciting a negative perspective and inducing low motivation and a flattening of mood (McKenzie, 2000). Anxiety disorders have a tendency to cause over-focusing and excessive attention to symptoms (hypervigilance) and are characterised by extreme worry, feelings of irritability, restlessness and tension in muscles (Cameron, 2003). Inconsistent and chaotic behaviour is often a sign of anxiety. The two states are more commonly referred to collectively as psychological distress (Snaith, 2003; Dobson, 1985).
Since the term depression is used in recent guidelines by the National Institute for Health and Care Excellence (NICE) for managing depression in people with LTCs (NICE, 2011b), this is the term that will be employed in this thesis. Additionally, in this thesis, depression in the context of a LTC refers to a person who has single, repeated or persistent episodes of depression which may be mild, moderate or severe as a comorbid condition. People with depression comorbid with LTCs usually present mild to moderate depressive episodes but when the cases remain undetected and untreated, they can progress to severe depression (NICE, 2004; Mussavi et al., 2007).

Depression is a broad term describing a state of emotional disturbance which may not always be obvious in the presenting patient, causing problems for HCPs when it comes to recognising depression in patients (Drapeau, Marchand & Beaulieu-Prévost, 2011; Mirowsky & Ross, 2002; Ridner, 2004). NICE (2010) provides the following information on depression borrowed by Lewinsohn, Solomon, Seeley & Zeiss, (2000):

‘Depression refers to a wide range of mental health problems characterised by the absence of positive affect (a loss of interest and enjoyment in ordinary things and experiences), low mood and a range of associated emotional, cognitive, physical and behavioural symptoms. Depression varies in severity and individuals with major depression can be differentiated into those with mild, moderate and severe disease on the basis of symptom severity and impairment of functioning’ (NICE, 2010, pg1).

2.3.1. Theoretical perspectives on depression

There are three different theoretical perspectives on depression; the sociological, the medical and the psychological models. The sociological approach encompasses the cultural context in which people live as well as the social stressors that they encounter as a part of life. It conceptualises depression as a consequence of failing to respond adaptively to stressful social events and life difficulties, thus the determinants of depression are all external (Middleton & Shaw, 2000). According to Engel (1980), the medical model premises that disease is determined by biomedical factors which are
explained by chemistry, physics and biology, and requires treatment. The psychological model will be discussed later in this section.

Goldberg (1992) argues that there are three types of people with depression or anxiety who do not meet the criteria for a formal diagnosis, but will still benefit, in one way or another, from detection of their emotional distress;

a. Patients who are likely to get better without treatment and would not benefit from a formal diagnosis, but would benefit from recognition and discussion of the problem.
b. Patients with long-standing symptoms associated with social or inter-personal problems that may benefit from social interventions as well as counselling.
c. Patients who would benefit from a formal diagnosis and medical treatment, as being labelled as ‘ill’ is likely to improve their treatment adherence.

This has been recognised by other research which found that most of patients with or without a formal diagnosis felt that it was important to receive help from their HCP for their psychological distress (Brody, Khaliq & Thompson, 1997).

Depressive disorders can be viewed from either a categorical or a dimensional perspective. In the categorical approach, a specific number of symptoms need to be present in order to obtain a clinical diagnosis whereas, in a dimension approach, symptoms occur on a continuum differing in levels of severity, with a greater number of symptoms indicating greater severity of disorder (Goldberg, 2000; Lewinsohn et al., 2000). The International Classification for Disease criteria for mental and behaviour disorders (ICD-10) (World Health Organisation; WHO, 1992) and the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) are used as the main diagnostic manuals for depressive disorders compiled by the WHO and are used across Europe. Both manuals are widely used in research and adopt a categorical approach to diagnosis.
In a typical depressive episode, based on the DSM-IV criteria, an individual will manifest a depressed mood and withdrawal from typical pleasurable activities for at least two weeks and exhibit at least five of the following symptoms that cause clinically significant impairment in social, professional, or other important areas of functioning almost every day; fatigue and lack of energy, change in appetite (gain or loss of weight), insomnia or sleeping too much, feelings of anxiety, worthlessness, excessive self-hate, guilt, inability to concentrate or think clearly, or irritability, agitation, and restlessness. Symptoms of a severe depressive episode may include feelings of hopelessness and helplessness and thoughts of death or suicide (American Psychiatric Association; APA, 2000). In a depressive episode, in the context of a LTC, the individual may present several physical symptoms such as joint pain, limb pain, back pain, gastrointestinal problems, fatigue and lack of energy. Such symptoms may lead to chronic pain and complicate treatment (Trivedi, 2004). Some symptoms of depression such as a depressed mood, feelings of anxiety, worthlessness, excessive self-hate, fatigue and lack of energy, are more conclusive for a diagnosis than others (Tummey, 2011). The emphasis on functional impairment and duration of depressive symptoms for the diagnosis is now more helpful than the previous reliance on symptoms count, however, inexperienced GPs may still rely on a symptoms score (Kendrick & Peveler, 2010; Dowrick et al., 2009).

Diagnostic criteria in categorical classification systems can be helpful in providing an indication for the most suitable types of clinical interventions (Goldberg, 2000). However, these classification systems are psychiatric classifications of mental disorders, based on the medical model. Thus, their application may be less appropriate for use in primary care settings which draw more on psychosocial approaches (Dowrick, May, Richardson & Bundred, 1996). In this context, a limitation of using categorical classification systems to assess depression in people attending primary care is that they do not address the different types of emotional distress and it may lead GPs to underestimate sub-threshold symptoms of depression (lack of personal care, withdrawal of household or practical activities, poor self-management). This raises the question about the validity of the different
conceptualisations and ways of recognising and managing depression in primary care amongst GPs.

The British Psychological Society (BPS) and the Division of Clinical Psychology (DCP) criticise such classifications, especially the DSM-V as having significant conceptual and empirical limitations as follows; a) interpretation bias—observed symptoms are presented as objective facts, b) limitations in validity and reliability of DSM-V or ICD-10, c) their ability to inform the development of clinical interventions is limited, d) the biological emphasis which dismisses psychological and social causal factors and focuses on biological interventions, de-contextualisation, and e) ethnocentric bias. Such classifications that label people can impact negatively on their identity, affecting decision-making and dis-empowering people from making active choices for their recovery. Most importantly, diagnosis based on these systems can lead to over-reliance on medication (BPS, 2013). The DCP “argues for a new approach that is multi-factorial, contextualises distress and behaviour, and acknowledges the complexity of the interactions involved in all human experience” (BPS, 2013, p5).

Approaches such as interview based assessments (Thompson et al., 2001) together with categorical and dimensional approaches to diagnosis can be beneficial to identify depression and anxiety in primary care and improve clinical outcomes.

Goldberg (2000) suggests that, categorical criteria are important for determining which patients meet the criteria of a disorder in order to justify the appropriate treatment, but dimensions such as severity of illness are equally important to understand relationships between social and biological variables. Inexperienced HCPs might focus on symptoms count rather than individuals’ functional impairment and miss the true impact of depression (Dorwick et al., 2009). There is evidence that sub-threshold depressive symptoms are associated with substantial levels of functional disability, including greater absence from work, thus the use of dimensional approaches in conjunction with the categorical systems may help improve the recognition and management of depression (Rai, Skapinakis, Wiles, Lewis & Araya 2010; Helzer, Kraemer & Krueger, 2006).
Those three ways of conceptualising depression show that there is ambiguity about the nature of depression and the provision of care for patients with depression, including whether it should even be provided at all. Therefore, effective training on the management of depression will need to consider the conceptual debates regarding depressive disorders, the limitations of their diagnostic criteria and the feelings of HCPs towards their validity.

2.4. Epidemiology of depression

Depression is one of the most frequent disabling conditions (Hirschfeld et al., 1997) and the most CMD (Alonso et al., 2004) but the difficulties of defining depression make it difficult to report consistent or accurate prevalence rates. The WHO (1992, 2001) ranks depression as the second global burden of disease and the largest non-fatal burden of disease (Lopez-Torres, Parraga, Del Campo, Villena & Group, 2013; Murray et al., 2006). According to Mitchell, Dwyer, Hagan and Mathers (2011), the lifetime prevalence of depression in the general population is 2-15%. The estimated point prevalence for major depression among 16- to 65-year-olds in the UK is 21/1000 (females 25, males 17) whereas mixed anxiety and depression is prevalent in a further 10% of patients attending primary care (Üstün & Sartorius, 1995; NICE, 2004).

The majority of patients with depression are managed in primary care - at least 90% of the patients with mental health problems are treated merely in primary care and one in five consultations are for depression (Goldberg & Huxley, 1992). This is a major challenge for primary care which is associated with a number of negative consequences on health care service provision and medical costs (Egede, 2007). Services on mental illness and the National Health System (NHS) spend about eight billion pounds a year for the support and care of people with depression and other mental health illness (Layard, 2005).
People with LTCs are two to three times more likely to experience depression or anxiety than the general population (NICE, 2009). It has been estimated that almost half of all people with such LTCs experience comorbid mental health problems (Aragonès, Piñol & Labad, 2007; Anderson et al., 2001; Ali et al. 2006). Katon (2011) reported that the proportion of people with depression and diabetes or CHD is 12% to 18% and 15% to 23% respectively. The co-existing mental health problems are associated with greater reductions in individuals’ health status compared to depression alone or chronic illness alone (Moussavi & Loncar, 2007) and increased economic burden (Chisholm et al., 2003; Naylor et al., 2012; Dickens et al., 2012).

2.5. Understanding comorbidity

Comorbidity is defined as the concurrent presence of more than one distinct medical conditions in an individual with the diagnosis of each contributing condition based on established criteria (Fried, Ferrucci, Darer, Williamson & Anderson, 2004). There are four main types of distinctions within this definition as described by Valderas, Starfield, Sibbald, Salisbury and Roland (2009). The first distinction is made by the nature of the health conditions that occur together including concepts such as diseases, disorders, conditions, illnesses, or health problems. Within this distinction, depression and anxiety would not be considered as comorbidities because both conditions are part of one spectrum. The second distinction is made ‘by the relative importance of the co-occurring conditions’ in which one condition is not more important than the other where an index condition is neither useful nor obvious for the care of the patient with comorbid conditions. The third distinction is made ‘by the timeline of the conditions’ including the time span and sequence of the conditions. The time span refers to the time of assessment of the conditions; for example, do the conditions occur together at the same point of time or across a period of time? Likewise, it is important to examine the sequence in which comorbidities appear. For instance, depression in the context of a LTC may be different from a pre-occurrence episode of depression for the consideration of the
development, prognosis and treatment of those conditions. Finally, the last distinction is made by expanded conceptualisations based on the burden of disease on the individual, alongside the patient complexity including their age, culture and behaviour.

Valderas et al. (2009) explains that two or more conditions can co-occur in the same person due to a) chance, b) selection bias, where patients seek treatment for a health issue, resulting in receiving the diagnosis of two or more conditions, or c) a causal relationship between the conditions. A causal linkage does not exist when comorbidity occurs by selection bias or change but is still important because it may lead to wrong assumptions about causality. Last but not least, four models of a causal relationship between conditions, which have been proved valid when assessing co-morbidities, are described in the literature which will be outlined below.

- Direct causation model; one condition or its treatment is directly responsible for another. This is also called a reciprocal causation model; A and B cause each other.

- In the associated risk factors model, the risk factors for one condition are linked with the risk factor for another condition, resulting to the patient being diagnosed with two conditions at the same time. For example, unhealthy eating and smoking are linked, while unhealthy eating is a risk factor for diabetes and smoking is a risk factor for chronic obstructive pulmonary disease (COPD). This can make the two conditions more likely to co-occur and is also known as the co-related liabilities model.

- In the heterogeneity model, the risk factors of two or more conditions are not linked, rather, each of them creates conditions associated with the other risk factor. For instance, unhealthy eating and age are independent risk factors for diabetes and CHD.

- In the independence model, the parallel presence of the diagnostic features of two conditions is actually due to a third distinct condition. For example the co-occurrence of chronic tension headache and hypertension and might both be due to pheochromocytoma (Valderas et al., 2009).
Currently, there is increasing interest in the management of comorbid conditions and its challenges (Bayliss, Steiner, Fernald, Crane & Main, 2003) including the management of comorbid depression (Detweiler-Bedell et al., 2008). Interactions among different diseases have been a particular focus of interest because they may have impact on both health and health care. It is suggested that managing two or more conditions together is difficult due to time and resource constraints as well as issues related to interactions between conditions including medication regimes and self-management behaviours. Understanding of these interactions is important to improving clinical care (Valderas et al., 2009).

Most published work concerning the impact of multi-morbidity on clinical decision making has focussed on patient perceptions with a few exceptions that focused on HCPs’ perceptions (Knowles et al., 2015). While informative, more studies are needed to provide a better understanding of the impact of comorbidity on HCPs’ decision making towards the recognition and management of depression and identify areas for improvement. This research addresses this need and the findings are presented in Chapter 4.

2.5.1. Bidirectional interaction between depression and LTCs

Depression in people with or without a LTC is associated with biological, psychological and social contributory causal factors. Depression is found to be strongly associated with family history, genetic influences or additive genetic effects (Sullivan, Neale & Kendler, 2000; Kendler, Gardner, Neale & Prescott, 2001) but without any clear pattern of inheritance. Stressful life events such as loss, humiliation, or failure influence the onset of depression especially when stressful life events are associated with genetic factors (Kendler, Thornton & Gardner, 2001). Depression is also associated with emotional, physical and sexual abuse, environmental diversity and maltreatment in childhood (Mullen, Martin, Anderson, Romans & Herbison, 1996). Personality traits such as neuroticism which is the tendency to experience negative emotions, such as anger, fear, or sadness (Krueger, McGue & Iacon, 2001; Fava & Kendler; 2000) and low levels of
extraversion (positive emotionality) have also been associated with depressive symptoms (Chioqueta & Stiles, 2005).

Depressive symptoms are prevalent in people with diabetes and CHD. For example, T2 diabetes mellitus is a risk factor for the onset of depression (Nouwen et al., 2010) and it is estimated that 24% of people with diabetes will also have depression (Goldney et al. 2004). Depression in people with CHD ranges from 14% to 47% (Lett et al., 2004) and these patients are three times more likely to die if they have depression compared to those without depression (Lespérance & Frasure-Smith, 2000; Carney et al., 2003a).

Furthermore, depression is linked to a wide variety of deficits in diabetes self-management behaviour such as adherence to medication regimens, poorer diet, exercise, foot care and glycemic control (Lustman, et al., 2000; Lustman et al., 2005; Gonzalez et al., 2008; DiMatteo, Lepper & Croghan 2000; Aikens, 2012). Compared to patients with depression alone, or with single or multiple LTCs alone, depression is associated with greater personal, social and occupational disability (Ormel & Tiemens, 1995), greater reductions in health status, more complications with poorer outcomes of physical disorders and increased risk of mortality and morbidity (Moussavi et al., 2007). A meta-analysis of 47 studies showed an association between depression and non-adherence with the recommended treatment in people with diabetes (Gonzalez et al., 2008). Depression can influence the perceived number of physical symptoms (DoH, 2008: 1; Füredi, Rózsa, Zambori & Szádóczky, 2003) and lead to greater attention to physical symptoms, particularly chest pain, dyspnoea and palpitations (French et al., 2012). Coexistence of depression is also associated with unscheduled care, with considerable cost implications; it increases the cost of care for patients with LTCs by at least 45% in the NHS (Naylor et al., 2012; Dickens et al., 2012). Anxiety is less examined but plays an equally important role as depression in terms of risk, comorbidity and outcomes (Roy-Byrne et al., 2008). Addressing the psychological aspects of such conditions is an important part of patient-centred care (Katon, 2011). Hence, it is important to identify a patients’ emotional distress and provide effective treatments to prevent health complications, increase optimism and treatment
adherence related to LTCs and as a proactive practice which improves the quality of life and physical functioning (de Ridder, Geenen, Kuijer & van Middendorp, 2008).

2.5.2. A conceptual model of depression in LTCs

Katon (2003) developed a conceptual model of depression which describes the complex interactions between depression and LTCs, such as diabetes and CHD. Based on this model, diabetes and CHD are found to be independent factors for developing depression due to the consequences of living with such conditions, i.e. reduced quality of life, symptom burden, functional impairment and biologic changes in the brain secondary to the LTC. This may also impact on the development of bio-behavioural risks such as smoking, alcohol consumption, stress and obesity, which in turn may lead to developing depression and anxiety. These bio-behavioural risks alongside with depression and anxiety, affect the self-care management of the LTC medication adherence. Genetic vulnerability and childhood adversity may also lead to maladaptive attachment patterns which in turn result in lack of social support and problems with interpersonal relationships, problematic collaboration with physicians, poor medical adherence and poor diet and exercise. Poor self-management and adherence exacerbate both depression and LTCs increasing morbidity and mortality (Katon, 2003; Katon, 2011). This pattern constitutes a bidirectional relationship between depression and diabetes and/or CHD as shown in Figure 2.
Conversely, depression is found to be an independent risk factor that hastens the development of CHD and diabetes (Rugulies, 2002; Musselman, Evans & Nemeroff, 1998; Van der Kooy et al., 2007; Carney & Freedland, 2003; Wulsin & Singal, 2003). The mechanisms linking depression and CHD are not well understood but may include toxicity related to smoking (Carney, Freedland, Rich & Jaffe, 1995), high cholesterol (Bajwa, et al., 1992) and high blood pressure (Wells et al., 1989). Additionally, depression is related to low motivation for exercise and obesity in CHD patients (Milani, Lavie & Cassidy, 1996). It is estimated that depression is associated with a 50% increase in the costs of LTCs’ care, resulting from smoking, poor diet, inadequate self-management of the LTC and lack of exercise (Katon, 2003).

In summary, when depression is comorbid with any of these LTCs, the health score is worse than with any other combination of these LTCs, diabetes comorbid with depression being the most disabling of all (Andrews & Titov, 2007). This suggests a vital role for research investigating the involvement of HCPs in managing such conditions to ensure that relevant issues are reported and addressed in order to improve patients’ wellbeing.
2.6. Screening, identification and management of depression in primary care

The following section presents research regarding the rates of under-recognition and under-treatment of depression in people with LTCs by HCPs. It also presents research exploring the current UK clinical guidelines for the identification and treatment of depression. The aim is to present arguments for further research regarding the factors influencing the recognition and management of depression in people with LTCs and potential training needs in relation to improving the management of depression in people with LTCs.

2.6.1. Recognition and treatment rates

Given the variety in both the type and the severity of symptoms, depression is a complex and difficult condition to diagnose. It is estimated that HCPs fail to recognise emotional disorders in up to two-thirds of their patients (Kessler, Heath, Lloyd, Lewis & Gray, 1999; Von Korff et al., 1987). Lack of diagnosis leads to poor treatment outcomes (Rost et al., 1998). A recent systematic review found that GPs accurately identified depression in only 47% of cases, although only 34% of those who were diagnosed had it recorded in case notes (Mitchell et al., 2009; Egede, 2007). At the same time, depression associated with LTCs is less well-detected than depression occurring on its own (Goldberg, 2010; van Rijswijk et al., 2009). Adding to the problem of poor recognition, the treatment of depression in people with LTCs is problematic (Simon, Von Korff, Wagner & Barlow; 1993). For example, it has been suggested that half of all individuals with depression remain untreated (Kohn, Saxena, Levav & Saraceno, 2004) or receive inadequate treatment, i.e. overtreatment of mild cases and under-treatment of moderate to severe cases (Kendrick, King, Albertella & Smith, 2005). The 2000 psychiatric morbidity survey (Singleton, Bumpstead, O’Brien, Lee, Meltzer, 2003) found that only a quarter of the people who suffered from mental illness received any form of treatment and that only 4% of the people with anxiety or depression received therapy in the previous year. In addition, Katon et al. (2004) showed that only 30% of the people diagnosed
with both diabetes and depression received adequate treatment and fewer than 10% made four or more psychotherapy visits. This is particularly striking in light of the fact that people who suffer from depression have been shown to respond effectively to treatment and that treatment decreases short-term or functional disability (Moussavi et al., 2007). The complexity of the diagnosis of depression may in turn cause difficulties in managing the disease. This argument is explored in Chapter 3 with the use of a literature review of HCPs’ attitudes, beliefs and perceived barriers to diagnosing and treating depression in primary care.

There is criticism regarding the accuracy of these rates on the prevalence of undiagnosed depression due to the cross-sectional nature of the studies and the complexity of the presentation of depression. The main argument is that cross-sectional studies do not reflect the longitudinal nature of primary care, where patients may be subject to ‘watchful waiting’ and may be diagnosed at a later date (Tylee & Walters, 2007; Von Korff & Goldberg, 2001). However, a study that assessed recognition rates from a dimensional perspective found a correlation between recognition rates and severity of depression (Thompson et al., 2001). In addition, a longitudinal study found that 32% of primary care patients with current major depression continued to be undiagnosed at one year, and around half of these patients developed suicidal ideation and reported five or more current symptoms at the one year follow-up (Rost et al., 1998).

Currently, there is increasing interest in the management of comorbid conditions and its challenges (Bayliss, Steiner, Fernald, Crane & Main, 2003) including the management of comorbid depression (Detweiler-Bedell et al., 2008). Most published work has focused on patient perceptions with a few exceptions that examined HCPs’ perceptions concerning the impact of multi-morbidity on clinical decision-making (Knowles et al., 2015). In this study, HCPs’ suggested that managing two or more conditions together is difficult due to time and resource constraints as well as issues related to interactions between conditions including medication regimes and self-management behaviours. Time constraints lead HCPs to adopt an ‘additive-sequential’ decision-making model in which problems are dealt with in
order of priority (Detweiler-Bedell et al., 2008; Bower et al., 2011). While this is informative, more studies are needed in order to provide a better understanding of the impact of comorbidity on HCPs’ decision-making towards the recognition and management of depression and the identification of areas for improvement. This need is explored in a qualitative study and the findings are presented in Chapter 4.

2.7. Current UK clinical guidelines for the identification and treatment of common mental disorders in primary care

The literature uses the term ‘recognition’ of depression to indicate a clinical screening and diagnosis of depression. A diagnosis is considered following assessment based on validated measures of depression or an interview-based tool (DSM-IV, 2000; Edege, 2007). This type of assessment is also called ‘case finding’ for depression using ‘screening’ questions and diagnostic assessment tools. Hence, HCPs’ refer to ‘case finding’ as screening (Pouwer, 2009).

2.7.1. Clinical guidelines and stepped care model

In the UK, there are clinical guidelines for the recognition and management of depression in adults with a chronic physical health problem (NICE, 2009b; 2011b). NICE guidelines recommend that HCPs be alert to possible depression and anxiety, particularly in those with a past history of depression or LTCs. These guidelines encourage patient-centred care and outline the stepped care model (NICE, 2004). This model, involves four steps, starting with the most effective intervention for mild symptoms. As the severity of symptoms increases, HCPs refer patients to the next step which involves more intense interventions. Managers, commissioners, primary and secondary care clinicians, are encouraged to work together to develop local care pathways that promote the stepped care model of service delivery. The first three steps, outlined in Figure 3 below, involve primary care specialists whereas the fourth step involves secondary care practitioners such as mental health specialists including crisis teams. The focus of the fourth step is on patients with treatment-resistant, recurrent, atypical and
psychotic depression as well as those at significant risk. Interventions offered in line with this step consist of medication, complex psychological interventions and combined treatment. For these reasons, the fourth step falls outside the scope of this thesis and has thus not been included in Figure 3.

Figure 3: Stepped-care model: a combined summary for common mental health disorders (adapted from NICE, 2011b).

The stepped care model provides a framework in order to ensure that efficient interventions are tailored to the severity of symptoms, ensuring the most effective use of services. It is based on clear objective criteria with staff being trained to deliver coordination of care. Routine monitoring, report of outcomes to GPs, service co-ordinators and service users are also very important for improving the delivery of care (Kendrick & Pilling,
The stepped care approach involves ‘active monitoring’ meaning that all patients with symptoms of depression should be actively reviewed, normally within two weeks (Kendrick & Peverel, 2010). Such models also emphasise on the “top-down” training model and “bottom-up” use of replacement/referral model which in turn reflect the importance of counselling and psychological therapy services in the management of depression (Bower & Gilbody, 2005).

2.7.2. Diagnostic instruments for depression and anxiety

In the UK, the focus has moved from screening to case identification for high-risk groups such as people with LTCs or a history of depression (NICE, 2009a). To detect depression, HCPs are encouraged by the NICE guidelines to initially use a two-question screening approach to identify depression (PHQ-2) (Kroenke et al., 2003) and anxiety (GAD-2) (Kroenke et al., 2007). These questions are ‘During the past month have you often been bothered by feeling down, depressed, or hopeless?’ and ‘During the past month have you often been bothered by little interest or pleasure in doing things?’ and if a patient responds positively to both questions, an additional four follow-up questions on sleep disturbance, appetite change, low self-esteem, and anhedonia are asked. If the patient responds positively to at least two of those four questions, the test specificity increases to 94% (Anderson, Michalak & Raymond, 2002). If the score indicates a possible CMD, assessments using validated tools by specialists should then be undertaken (NICE, 2011b). The advantages of this screening method are its accuracy in identifying most cases with depression and its briefness which helps HCPs in their busy consultations (Arroll, Khin & Kerse, 2003). Following this, HCPs make decisions based on the severity of symptoms and then engage in active monitoring, provide psycho-education or refer patients for further assessment and/or intervention (Stage 1 in the stepped care model).

The three suggested validated tools for depression and anxiety are: the Patient Health Questionnaire (PHQ-9; Spitzer et al., 1999; Kroenke et al.,
Evidence suggests that screening tools improve diagnostic accuracy, save time and improve management in people with complex issues. Those instruments are considered easy to use and very quick to be administered and indicate whether further assessment is needed (Anderson et al., 2002). These scales are able to show the severity of symptoms and also gradations in severity which can be helpful in guiding treatment options (Nease & Malouin, 2003). Generally, the diagnostic instruments are considered to be better for treatment purposes rather than screening patients to recognise depression (Kendrick et al., 2009). Valderas (2014) stated that these instruments are also useful for goal setting, monitoring the conditions and as a way to communicate with patients. Chew-Graham & Hogg (2002) found that some, but not all, GPs believe that screening tools for recognising depression are more reliable than their clinical judgement alone (Chew-Graham & Hogg, 2002).

Naturally, there are some disadvantages to screening tools. Some give false positive results due to the presence of other similar disorders such as dysthymia, anxiety disorder, substance abuse, panic disorder, post-traumatic stress disorder or grief reactions. A positive result does not always signify the presence of a depressive disorder but can act as an indication for further investigation. In addition, somatic complaints and psychological symptoms of depression often occur together but this relationship is not always represented by the questions of depression screening tools (Kerr & Kerr, 2001). Gilbody and Beck (2009) reported that screening for depression is unlikely to be a clinically effective or cost effective way to improve the mental well-being of the population, and that screening would be more effective if used to identify the need for further evaluation rather than to actually diagnose depression itself. A meta-analysis conducted by Gilbody et al. (2003) showed that screening alone does not improve the detection, management and health outcomes of depression. It is not clear whether screening is a necessary component of collaborative care which is found to
be effective for improving depression outcomes. In addition, a study conducted by Dowrick et al. (2009) showed GPs were more cautious about the validity and utility of the suggested screening tools of depression compared with patients. Moreover, Maxwell et al. (2013) in a qualitative study of HCPs’ views of case finding for depression in people with LTCs found that limited time in the consultations was a problem for using the screening questions. Some HCPs indicated that it was not only difficult to find time to use such questions but also that a positive result would open a ‘can of worms’ which might be overwhelming in such time-limited consultations. This research also suggested that PNs’ lack of confidence and experience in working with people in primary care are important reasons influencing their engagement with discussions related to patients’ mental health issues. Maxwell et al. (2013) suggest that the limitations of screening instruments and their lack of use in general practice might indicate the end of case finding in people with LTCs.

Kerr and Kerr (2001) suggest that screening tools and questions, regardless of their limitations, are needed to help HCPs screen for symptoms of depression. It is better to use them to screen for depression, ideally as a routine examination, than risk missing patients who are suffering from such disabling conditions. Successful diagnosis and treatment (or referral) may be best achieved in primary care through comprehensive screening for all CMDs, rather than only for depression and diagnoses should not be based solely on the findings of such tools (Kerr & Kerr, 2001). Such issues related to screening tools and effectiveness are further investigated in this thesis. This research explored HCPs’ perspectives of screening tools in order to investigate whether such attitudes can impede the detection of depression, especially in the context of a LTC. The findings are presented in the scoping review and the qualitative study (Chapters 3 and 4 respectively).

2.7.3. Improving access to psychological therapies

Psychological therapies are suggested interventions for people experiencing depression and anxiety associated with LTCs. Such therapies are provided by the ‘Improving Access to Psychological Therapies’ (IAPT) programmes.
This type of low-intensity interventions, such as guided self-help and computerised Cognitive Behavioural Therapy (cCBT), is very effective at reducing symptoms of depression for patients including those with LTCs and chronic pain (Eccleston, Williams & Morley, 2009). Thus, there is a clear need for HCPs to be able to correctly identify and refer patients to these services.

For patients suffering from major depression, including those with a LTC, NICE (2009b) low-intensity interventions are not recommended, but instead effective treatments include a combination of medication, such as selective serotonin reuptake inhibitors (SSRIs) and talking therapies within the high intensity interventions. In case of an emergency, the mental health crisis team (also known as crisis resolution or home treatment) assesses the individual within a short time period (Hopkins & Niemiec, 2007).

Most patients prefer talking therapies but limited access to therapists prevents patients from receiving their preferred intervention (Layard, 2006; Wittchen et al., 2002). As a result, the most common treatment for depression in primary care is medication (NICE, 2011b). NICE guidelines, however, do not recommend medication until Step 3 (stepped care model), unless patients have long-standing subthreshold depression symptoms, subthreshold symptoms that continue after other interventions or a past history of moderate or severe depression or mild depression that complicates a patient’s LTC (NICE, 2011b). Appendix B presents a table with each intervention provided for the treatment of depression based on severity. HCPs in primary care have access to an online continued professional development (CPD) course on IAPT and relevant consultation skills on the Royal College of General Practitioners (RCGP) website (Royal College of Psychiatrists, 2013), but they may require more training so that the patients with depression receive appropriate interventions based on their preferences. The assumption that investigations of HCPs’ experiences and perceived beliefs regarding training needs are necessary in order to confirm this is a key concept of this PhD research. The results of this exploration are presented in the scoping review in Chapter 3.
2.8. Barriers to the recognition and management of depression

Despite the recent policies for mental health in the UK on depression care in people with LTCs, the introduction of incentives in primary care, the use of screening tools, and the NICE guidelines (2009), the diagnosis and management of depression is still in a state of flux (Cepoiu, et al., 2008; Coventry, et al., 2011). Taking into consideration the fact that patients suffering from depression have been shown to respond well to treatment, and that treatment has the ability to reduce short-term or functional disability (Moussavi et al., 2007), this is a particularly striking fact. There are several potential reasons influencing the recognition and adequate treatment of depression by HCPs and the literature focuses specifically on three barriers; the patient, the provider, and the health care system (Cepoiu et al., 2008; Chew-Graham & Hogg, 2002; Howe et al., 2006; Hirschfeld et al., 1997). Research on patient, practitioner and system related barriers will now be presented in more detail in order to explore the gaps in the literature related to barriers about depression management in the context of a LTC and potential training needs for HCPs.

2.8.1. Patient factors as barriers

There is extensive literature concerning the role of the patient in the recognition and management of depression (Cepoiu et al., 2008; Howe, 1996). Howe (1996) identified two aspects to patients’ factors which influence GPs’ ability to recognise depression in their patients with LTCs: those that lie within the perception of the HCPs and those over which the patient has some control. In some studies, HCPs view patient-related barriers such as resistance to taking medication or prioritising other medical conditions, as the most challenging (Tylee, 2006). Another study showed that patients normalise attributions of depression, such as gastrointestinal complaints, fatigue and headaches, to physical instead of psychological causes and focus on physical rather than emotional symptoms (O'Connor, Rosewarne & Bruce, 2001). Others may recognise their emotional issues but fail to identify their symptoms as caused by depression (Hirschfeld et al., 1997). Kessler, Lloyd, Lewis and Gray (1999) examined the effect of
patients’ causal attributions of common somatic symptoms on the GPs’ recognition of depression. The results indicated that patients making emotional attributions are more likely to be diagnosed with depression than those who minimise or normalise their symptoms. Patients were also found to underestimate the seriousness of the problem, or disagree with the diagnosis. In this study, patients having ‘a normalising attribution style’ may be one of the explanations proposed to explain low detection rates of depression in primary care; as Nutting et al. (2002) suggest that this can cause resistance on the patient’s side to initiate medication, accept treatment options and comply with visits. More studies suggest that patients are more inclined to prioritise other medical conditions, which may prevent them from talking about their emotional issues. This can lead GPs to focus on physical symptoms and ignore the non-physical symptoms which can also indicate depression (van Rijswijk et al., 2009; Tylee, Freeling & Kerry, 1993).

A recent study conducted by Alderson, Foy, Glidewell and House (2014) exploring patients’ beliefs about the nature of depression associated with physical illness suggested that some beliefs affect detection and subsequent engagement with management. Many patients in this study were also unsure about seeking help from GPs and felt a personal responsibility to overcome depression which shows that depression might be unrecognised in people with LTCs if they do not engage in such discussions. Most consultations in primary care are initiated by the patients and the content of a consultation is influenced by what patients choose to present; as a result, recognition of depression may fail to occur (Oopik, Aluoja, Kalda & Maaroos, 2006). This may happen because some patients believe that GPs cannot help them or are not interested in their mood whereas others report the doctors’ consultation styles may discourage them from presenting emotional symptoms (Goldberg, Jenkins, Millar & Faragher, 1993). In a cross-sectional survey of 775 people, 29.8% of all patients and 36.9% of patients with current symptoms of depression reported non-disclosure of self-perceived psychological problems due to their beliefs that GPs were not the right people to talk to or that those issues should not be discussed at all (Bushnell et al., 2005). Others may feel that they were able to handle problems by
themselves; or that treatment would not help them (Sherbourne, Dwight-Johnson & Klap, 2001). A focus group study conducted by van Rijswijk et al. (2009) found that many patients have difficulties in accepting the diagnosis and treatment with antidepressants when talking therapies are not available. Even when treatment for depression is available, patients are sometimes reluctant to accept a referral, which may be due to a fear of stigmatisation (van Rijswijk et al., 2009). It is also suggested that the efficacy of the available treatments for depression is moderate to low but ways to overcome these barriers include HCPs interventions and public educational and training programs (Hirschfeld et al., 1997).

A number of studies have found that patients’ characteristics such as ethnicity, race, culture, religion (Yeung, Yu, Fung, 2006; Lutfey, Link, Grant, Marcou & McKinlay, 2009; Caplan et al., 2013); gender (Wilcox, 1992); age (Mauerhofen, Berchtold, Michaud & Suris, 2009; Fischer, Wei, Solberg, Rush & Heinrich, 2003), employment and marital status, poverty, education and knowledge about depression (Aragones, Pinol & Labad, 2007); previous mental health problems, relationship with and time knowing the HCPs, affect depression management (Sirey et al., 2001). Women are found to have a higher prevalence of depressive disorders and are likely to be recognised more easily compared to men (WHO, 2008). Ethnic minorities and young women of limited means are less likely to seek treatment compared to more affluent patients (Miranda & Green, 1999). Di Caccavo, Fazal-Short and Moss (2000) found that white patients were more likely to be correctly diagnosed as having depression whereas South Asians were more likely to receive only a physical diagnosis.

There is evidence to support that patient’ religious and cultural values and attitudes towards depression, the stigma associated with such illnesses, and/or lack of knowledge are some of the patients’ reasons for not presenting emotional problems in general practice (Cape & McCulloch, 1999; Cape, Morris, Adams & Fairbairns, 2003). Some patients may feel ashamed to admit psychological problems (Docherty, 1997) and they are reluctant to see their doctor due to stigma (Hirschfeld et al., 1997). Others see their distress as hassle for their GPs due to limited consultation time.
(Pollock & Grime, 2003; Tylee et al., 1993). A patient’s understanding of depression may also play a role; some patients may have limited knowledge about depression and its treatment while others fear stigma and do not seek help for their emotional problems (Tylee, 2006). Moreover, depression may manifest somewhat different features in ethnic minorities, such as shame in Indians, while others, for example Chinese people may demonstrate denial of the illness or a tendency to express depression somatically (Mitchell et al., 2009; Paykel & Priest, 1992; Parker, Gladstone & Chee, 2001). To provide culturally appropriate services and high quality of care, primary care HCPs should be aware of the patient's belief systems, illness interpretations, and expectations of treatment and have the ability to discuss them (Caplan et al., 2013).

Last but not least, Nutting et al. (2002) suggested that HCPs hold views regarding patient-related barriers which explain low detection rates of depression in primary care. These include HCPs’ beliefs that patients want to prioritise other conditions, patients’ time constraints, noncompliance with visits, patient resistance, non-adherence to depression treatment, perceived social stigma, lack of follow-through with mental health referrals and lack of access to care for various other reasons which affect the recognition of depression. However, HCPs’ perceptions of patient-related barriers may reflect attitudinal barriers. For instance, the view that patients want to prioritise other conditions may suggest their personal preference to focus on these conditions during consultations. These perceived views may also reflect the HCPs’ demoralisation (Hirschfeld et al., 1997). Intervention strategies to address such barriers and the stigmatisation of depression and other CMDs at a population level are important in order to improve depression care and address patient-related barriers (Nutting et al., 2002).

2.8.2. Health system factors as barriers

One of the most important barriers to depression care relies on health care system organisational factors. Conflicting demands, including time-limited consultations (Gask, Dixon, May & Dowrick, 2005; Oopik et al., 2006; Smolders et al., 2010), limited close follow-up and monitoring, low
frequency of consultations (Menchetti, Murri, Bertakis, Bortolotti & Berardi, 2009), competing clinical priorities, poor integration with mental health care (Riley, McEntee, Gerson & Dennison, 2009), lack of supporting services (Wong, Lee, Chan & Lee, 2006), the overall distress in the practical area due to time constraints and the high prevalence of depression in primary care are major barriers to recognition (Howe, 1996; van Rijswijk et al., 2009).

Time-limited consultations are seen as the main barrier to the delivery of effective management including diagnosis (van Rijswijk et al., 2009). Evidence suggests that consultations discussing depression take longer compared to consultations for medical problems (Deveugele et al., 2002) and the likelihood of identification depends on the length and the type of visit (Cape, Morris, Adams & Fairbairns, 2003). Recognition of depression has been shown to be greater in longer consultations, with a 32% increase of recognition when there is an increase of 50% in the consultation length (Stirling et al., 2001). However, research conducted by Pollock & Grime (2003) suggests that GPs do not perceive time as a barrier to depression care. Therefore, HCPs may benefit from training in consultation time-management skills in order to successfully attend to patients’ needs during time-limited consultations. This could include supporting HCPs in the use of a patient-centred approach when engaging with patients (van Marwijk & Tylee, 2004).

Coventry et al. (2011) stated that the structural constraints proposed by the Quality of Outcomes Framework (QOF), that promoted improvement though clinical audit and encouraged reductionist approaches to case-finding in people with CHD and diabetes, were also a barrier for some HCPs to effectively detect co morbid depression. Depression screening in LTCs usually occurs opportunistically during consultations for different reasons, or in chronic disease clinics, where time to explore patient beliefs is often limited (van Rijswijk et al., 2009). This may also result in HCPs failing to recognise depression due to them having limited time to engage with emotional issues or due to their focus on the physical symptoms.
Practice characteristics, such as the number of HCPs working in the practice and the size of the patient population, are additional barriers to depression management. Such barriers are associated with limited adherence to evidence-based guidelines for anxiety and depression (Smolders et al., 2010). Lack of access to psychological therapies, such as CBT and patient-centred counselling may also prevent effective management (Layard, 2005; Wittchen et al., 2002). Waiting times for psychological therapies vary in the UK, with approximately one in five people having to wait over six months for an appointment with a therapist (MIND, 2010). This becomes specifically a major issue when patients refuse to take antidepressant medication, leaving them without treatment as they are unable to access their preferred interventions, or are faced with a long waiting list. MIND (2010) suggests that when people are offered a variety of therapies to choose from, they are more likely to report that therapy has worked for them than those who are not.

Therapies provided by IAPT programmes have been shown to be an effective intervention for people with depression and anxiety disorders but also in financial terms for the NHS; the effective provision of psychological therapies has the potential to provide savings in the treatment of LTCs (Layard, Clark, Knapp & Mayaraz, 2007; Clark et al., 2009). In the light of this, the separation of primary care and mental health services may also play a detrimental role in good provision of care (Katon & Ludman, 2003). This transition may have an impact on delaying the diagnostic process; many patients with several LTCs and other health issues attend primary care, and depression is likely to be overlooked due to busy consultations. This, in association with the fact that primary care practices are arranged largely to provide acute treatment, create additional barriers to improving the long-term management of conditions such as depression (Post et al., 2009).

2.8.3. Health care professionals’ factors as barriers

HCPs’ barriers for the management of depression in primary care include personality, knowledge, attitudes, culture, gender, years of clinical experience, level of training, confidence, consultation style, interview skills...
and behaviours, sensitivity to nonverbal communication, interest in patients with psychological problems and psychological awareness (Chew-Graham & Hogg, 2002; Tylee & Walters, 2007b; Main et al., 1993). Age and clinical experience have been found to increase health professionals’ sensitivity to psychiatric disorders (Robbins, Kirmayer, Cathebras, Yaffe & Dworkind, 1994) whereas training undertaken at undergraduate or postgraduate levels may also influence a GP’s detection ability (Goldberg, Steele & Johnson, 1982). Specifically, lack of confidence and lack of experience are associated with limited mental health training in most cases (Wong, Lee, Shan & Lee, 2006). Many GPs and PNs may be inadequately trained for diagnosing and managing patients with depression or their training is not appropriate for the general practice and this may affect their confidence resulting in poor recognition (Gask et al., 2005).

The literature on the barriers to the diagnosis and treatment of depression in primary care also indicates that lack of training in the interpersonal skills that help HCPs to manage emotional distress and a poor psychosocial orientation, may also affect the management of depression (Cepoiu et al., 2008; Park & Unützer, 2011). HCPs hold models based on their medical orientation, education, training, and personal experience with medicine and health which can be categorised as either the biomedical or the biopsychosocial model. Based on the biomedical model, mental disease is caused by natural i.e. biological brain dysfunctions rather than societal, psychological or interpersonal factors. Engel (1980) believed that attitudes and beliefs of HCPs are shaped by the biomedical model which conceptualises depression or other mental health disorders in terms of a disturbance of underlying physical mechanisms. This model does not leave any room for psychosocial and behaviour dimensions. Conversely, the biopsychosocial model provides a holistic view of illness influenced by theories and disciplines such as psychology, sociology and anthropology, which allows for the effect of other, non-biological factors upon biological processes (Engel, 1997).

Early research (Dowrick, May, Richardson & Bundred, 1996; Andersson, Lindberg & Troein, 2002) on HCPs’ barriers to the effective recognition of
depression looked at models, consultation style and content, and beliefs about the nature of the clinical problems; it indicated that HCPs who are not good detectors of psychological distress tend to make more biomedical enquiries. HCPs who believe that illness is determined by biomedical factors will develop a diagnosis which reflects this perspective. On the other hand, HCPs who place emphasis on psychosocial factors may develop a different diagnosis for the same symptoms. Thus, beliefs influence the development of a HCPs’ diagnosis. GPs are encouraged by the RCGP to adopt the bio-psychosocial approach to their consultations in order to undertake a diagnosis of any illness with physical, psychological and social terms. A non-bio-psychosocial approach results in the social realm's being dismissed (Cohen, 2000), hence it may result in the poor recognition of depression especially when isolation, lack of support or limited networks are evident.

The successful diagnosis of depression is associated with clinicians’ skills such as communication and interview skills in the consultation including the use of direct questions about physical symptoms, eye contact and interest in patients’ opinion (Robbins et al., 1994; Gask, Goldberg, Porter & Creed, 1989). Thus, lack of communication and interview skills may affect the recognition of depression. The doctor-patient relationship and HCPs’ approach in the consultation may also influence the recognition and management of depression. A study conducted by Ridd, Lewis, Peters and Salisbury (2012) showed that GPs are more likely to diagnose severe depression if they have a deeper relationship with their patient. A good relationship with the patient based on a patient-centred approach can be reflected by patient satisfaction, good adherence to medication, and a positive health outcome (Stewart, 1995), which may in turn help the process of diagnosis. Recent research has also shown that HCPs who display a more open consultation style using a patient-centred approach, are more likely to manage the psychological issues of their patients (Blakeman, Bower, Reeves & Chew-Graham, 2010).

Nonetheless, an HCP’s attitude that depression is ‘too time-consuming’ to manage is a major perceived barrier for treating patients with depression and
anxiety (Wong et al., 2006). Short consultations are associated with limited discussion about psychological issues and prevention, and increased patient dissatisfaction (Dugdale, Epstein & Pantilat, 1999). However, patient-centred communication approaches which include asking patients for their own illness beliefs, identifying their own perceived barriers to self-management, discussing the patient’s understanding of the illness and engaging them in collaborative decision making, take time. Time constraints may limit HCPs’ ability to communicate in a patient-centred way which in turn may affect the diagnosis of depression (Fiscella & Epstein, 2008).

Telford, Hutchinson, Jones, Rix and Howe (2002) suggested that HCPs reported that their limited time and their heavy workload are important barriers to the provision of high-quality services to people with depression.

Another related reason for overlooking depression is the fact that HCPs fail to follow guidelines (Smolders et al., 2010). Kendrick (2000) identified three possible reasons why GPs do not always follow the guidelines. First of all, depressive symptoms are ‘distributed continuously in the population and can change quickly’. Therefore, more patients are diagnosed with depression as its severity increases, but GPs vary in the way they categorise patients as needing treatment. Secondly, many GPs doubt the effectiveness of antidepressant medication as they believe that social factors also play a major role in managing depression.

In addition, lack of knowledge about depression, its diagnostic criteria or treatment options and lack of training in its management are also found to be factors that reduce the HCPs’ ability to diagnose and treat the illness effectively (Davidson & Meltzer-Brody, 1999; Docherty, 1997). In a qualitative study by Blakeman, Macdonald, Bower, Gately & Chew-Graham (2006), some GPs reported that they did not have any relevant knowledge about depression to share with their patients whereas Hirschfeld et al. (1997) reported that some HCPs may believe that depression is not a ‘real’ disorder.

In an effort to examine the clinical strategies used by HCPs to identify depression and the factors that influence their ability to do so, Baik, Bowers,
Oakley and Susman (2005) identified three processes in which HCPs engage when detecting depression; ruling out (fitting symptoms into a medical diagnosis), opening the door (allowing the patient to talk about whatever is bothersome), and recognising the person (comparing the person in front of them with the person they know). The diagnosis was influenced by their familiarity with the patient including their medical history and psychological state, their general clinical experience, beliefs about the reasons why the patient came to see the doctor. Other HCPs were concerned about potential patient stigma and the belief that such diagnoses are burdensome for the patient.

Cognitive structures such as schemas, stereotypes, and medical models represent stored experience which helps HCPs to process information, provide medical decisions and interpret facts (Singer & Salovey, 1991). A schema is a cognitive framework that helps organise and interpret information which is structured in the long-term memory (Mann & Chan, 2011). Stereotypes are beliefs or perceptions for a person or situation and HCPs use stereotypes in developing clinical hypotheses and in reaching management decisions for their patients (Bower, 1995). HCPs have pre-existing beliefs about the prevalence, incidence, seriousness or treatability of any given health problem. Furthermore, on these grounds, their perceptions and beliefs of the seriousness of the illness may influence HCPs’ recommendations for treatment (Petrie & Weinman, 1997). When there is time pressure, unconscious stereotypes and schemas may emerge about a patient’s race, socio-economic status and depression care (van Ryn & Burke, 2000), yet, without them, consultations would be extremely time-consuming. However, unacknowledged clinicians’ stereotypes may also affect the quality of care provided.

Epstein, Hooper and Weinfurt (2008) found that GPs’ age, training type and skills appeared to affect the decision to prescribe antidepressants or to refer patients. According to this study, antidepressant prescription followed by referral to another mental health specialist and occasionally performed counselling by the practitioners themselves are the preferable options for treatment. Younger GPs with training in mental health were more likely to
refer patients to a specialist than older GPs without such training. Therefore, age, experience and training are significant factors when HCPs make a referral for depression. Moreover, GPs with adequate qualifications and training are more likely to diagnose depression correctly and to prescribe antidepressants. Parker and Hyett (2009) found that male GPs were less likely to be perceived by patients as ‘caring’ or ‘understanding’ and are more likely to prescribe medication, seek less information from the patients, and finally, to make a referral to a specialist.

2.8.3.1. Attitudes as a barrier

According to the literature, one of the main barriers for the recognition and management of depression in primary care are attitudes and beliefs of HCPs (Tylee & Walters, 2007b). According to the definition by the Theory of Planned Behaviour (TPB; Ajzen, 1991; Ajzen & Fishbein, 1980), attitudes refer to a positive or negative evaluation of a particular behaviour and beliefs regarding the outcome of the behaviour. In the context of ‘positive attitudes towards depression management’ they are seen as a personal motivation or intention to provide care for people with mental disorders and they can act as a disincentive to the treatment of depression (Benzer et al., 2012). Attitude is a complex and multidimensional construct comprised of cognitive and affective components which account for behavioural intentions or actual intentions (Bagozzi & Burnkrant, 1979).

As evidenced, there is a wealth of studies that capture negative attitudes of HCPs towards depression as an important barrier to care (Cepoiu et al., 2008; Main et al., 1993; Hirschfeld et al., 1997; Obituaries, 2005; Schumann et al., 2012). Botega and Silveira (1996) claimed that detection of depression and its management mostly depends on the HCPs’ personal characteristics and attitudes towards mental illness. For example, GPs are more likely to detect depression if they believe they can manage and treat it (Dorwick et al., 2000; Botega et al., 1992). This is crucial, as accurate diagnosis is necessary for determining the best course of treatment in order to optimise prognosis (Blaxter, 1978).
Other research suggests that some HCPs believe that depression is not a “real” illness; they claim that it reflects laziness and, therefore, is something the patient could improve with more effort, willpower or “positive thinking.” HCPs are found to be doubtful about the existence of depression as a clinical entity or interpret depression as “appropriate” for the patient’s circumstances and thus not in need of treatment (Goldman, Nielsen & Champion, 1999). In addition, in the context of a LTC, the literature shows that HCPs often prioritise physical illness over mental illness in consultations (Nutting et al., 2002), which is likely to be the result of medical training; this covertly reinforces a more limited biomedical rather than bio-psychosocial model which, as explained previously, is the preferred approach to consultations. Similarly, HCPs have been reported to doubt the relevance of the biomedical model in some cases and to be reluctant to prescribe antidepressants when depression is caused by life problems and social issues (Chew-Graham et al., 2002; Karasz et al., 2012). In such cases, diagnosis and treatment decisions may be derived by the common sense and clinical experience of the HCPs (Karasz et al., 2012). Therefore, as can be seen from all the points made above, the attitudes and beliefs of HCPs have a distinct influence on the diagnosis and management of depression, and as such constitute a significant topic for further research.

2.9. Focus on depression in the context of LTCs

Research on the system, patient and provider-related barriers to the effective management of depression in primary care has widened our understanding on how such factors influence depression diagnosis and treatment (Cepoiu et al., 2008). This area is, however, under-researched in the context of depression in people who suffer from LTCs (Coventry et al., 2011). As discussed in previous sections, patients with LTCs and depression have significantly greater reductions in health status and report lower quality of care compared to patients with either LTCs or depression alone (Moussavi et al., 2007; Katerndahl, Calmbach & Becho, 2012). The DoH (2006) stated that actions to reduce the burden of comorbid depression are a major health priority. Nevertheless, research has shown that depression in a significant proportion of patients with LTCs remains undiagnosed and that even when
depression is accurately diagnosed; many do not receive adequate treatment, despite the availability of improved guidelines and effective therapies for this population (Tiemens et al., 1999; Rost, Nutting, Smith, Werner & Duan 2001; Katon et al., 1995). This suggests the need for training programmes for HCPs, targeting the process of care for depression in people with LTCs. In order to develop training programs aiming to improve the management of depression in the context of LTCs, it is important to understand how HCPs experience working with comorbid depression and the challenges associated with its management in time-limited consultations in order to link these experiences with the intervention context (Thompson et al., 2001).

Consequently, research concerning the challenge of managing and measuring comorbidity and multi-morbidity has been gaining increased attention in recent years (Bower et al., 2011; Diederichs et al., 2011), although there is still a paucity of information on the impact that comorbidity has on clinical practice (Buck, Akbar, Zhang & Bettger, 2013). Hence, this thesis is concerned with depression comorbid with LTCs due to its high prevalence in this population and the fact that it often remains unrecognized and untreated. The role and experiences of GPs and PNs when managing people with LTCs and depression will now be outlined, along with the justification and context to explain their selection as participants in this research.

2.9.1. Focus of the thesis on the attitudes and beliefs of HCPs

GPs and PNs, referred to as HCPs throughout this thesis, are increasingly being placed in the role of ‘gatekeeper’ of the stepped care model, which has been developed to support primary care in diagnostic and therapeutic procedures in accordance with the suggested NICE guidelines. They are responsible for the identification of depression, its assessment, psycho-education, active monitoring and referral for further assessment and treatment (NICE, 2009b). The management of depression in people with a LTC is a challenging and distressing task for HCPs (Bower et al., 2011). However, to date, there is relatively little research investigating the
experiences of GPs and PNs with regards to providing care for people with comorbid depression. Thus, this thesis explores the experiences, beliefs and attitudes of depression of HCPs in the context of mental-physical comorbidity with an aim to contribute to the existing body of literature on the barriers to the recognition and management of depression in people with LTCs as a contribution to person-centred healthcare. This was addressed in the thesis by exploring HCPs’ beliefs and experiences working with depression comorbid with LTCs and through the development of a pilot online intervention, the results of which are presented in Chapter 6 respectively.

System factors are seen as important barriers concerning effective depression management in primary care (Post et al., 2009) and the majority of research is weighted towards these systems in terms of policy, intervention development and research (Henke et al., 2008). However, studies discussing system-related barriers typically present the role of the professional as restricted within service-related variables such as time-limited consultations, but also within provider-related variables such as their own attitudes (Cummins, Jarman & White, 1981). Therefore, professional-related factors such as negative attitudes and lack of confidence in available treatments (Payne et al., 2002) are considered closely related to system barriers. Indeed, one of the prevailing themes running through the majority of the literature reviewed was the undercurrent of HCPs’ attitudes affecting depression care delivered in consultations (Cooper et al., 2000; Richards et al., 2004; Koenig, 2007; Botega et al., 1992; Dorwick et al., 2000; Chew-Graham et al., 2002; Karasz et al., 2012). It is acknowledged that HCPs’ beliefs and perceptions of patients’ illnesses are a major factor influencing the quality of care they provide (Henderson et al., 2007; Hofstadt et al., 2003). For instance, as mentioned previously, studies suggest that HCPs are more likely to detect depression if they believe they can manage and treat it (Dowrick et al., 2000) whereas HCPs’ beliefs related to the cause of depression affect treatment decision making (Chew-Graham et al., 2002; Karasz et al., 2012). Overall, these studies have suggested training needs for HCPs to better diagnose and manage depression. Providing adequate training in common mental disorders for HCPs is now a priority for primary
care (DoH, 2001). As such, specific interventions aimed at the reduction of negative attitudes and the improvement of confidence and communication skills among HCPs are particularly timely.

For all the reasons stated above, research on GPs and PNs’ experiences, attitudes and beliefs, alongside research on system barriers, are important to undertake too, in order to gain a more comprehensive understanding of additional barriers that can impede or facilitate effective depression management in primary care (Chew-Graham & Hogg, 2002; Howe et al., 2006; Hirschfeld et al., 1997). HCPs’ experiences were investigated in this PhD research through a scoping review of the literature and a subsequent qualitative study, the results of which are presented in Chapters 3 and 4 respectively.

2.10. Attitudes, self-efficacy, personal models of illness and the use of the CS-SRM in this thesis

Although studies on HCPs’ experiences and attitudes managing depression have widened our understanding about factors that can influence its recognition and treatment in primary care, there is little information on the impact that HCPs’ comorbidity beliefs and attitudes have on comorbid depression management. Research looking at HCPs’ beliefs and attitudes towards depression in people with LTCs is currently understudied, although, a few research studies have investigated the experiences of professionals providing health care services for LTCs and depression (Barley et al., 2012; Maxwell et al., 2013; Haws, Ramjeet & Gray 2011). Such research has, however, largely comprised atheoretical, empirical investigations. Whilst it is widely accepted that cognitive processes mediate people’s adaptation to their own physical health threats (Orbell & Hagger, 2003), cognitive models of HCPs’ attitudes and beliefs towards depression in people with LTCs have had very limited study.

A variety of psychological models such as the TPB (Ajzen, 1991) and the Social Cognitive Theory (SCogT; Bandura, 1986; 1997) have offered a wide range of beliefs and attributions that may affect health-related behaviour.
However, these models do not apply to cognitive processes that may be predictors of behaviours. In light of this, the CS-SRM suggests that personal models of illness inform relevant illness behaviour (Leventhal et al., 1980). The present research is mainly based on the CS-SRM which is a model that provides an integrated and empirically validated model for dealing with beliefs and coping strategies related to illness (Leventhal et al., 1980). Constructs from the TPB and the SCogT also support the thesis’ emphasis on HCPs’ attitudes and self-efficacy (see below for definitions) in ways that will be analysed in Chapter 5 where the development process of the intervention is presented.

2.10.1. Self-efficacy

Self-efficacy is a personal factor that influences reciprocal interactions; it is the person’s impression that he/she is capable of reaching his/her goals or the belief that one has the capabilities to implement the courses of actions required to manage a situations. ‘Self-efficacy beliefs function as an important set of proximal determinants of human self-regulation. People’s beliefs in their efficacy influence the choices they make, their aspirations, how much effort they mobilize in a given endeavour’ (Bandura, 1991). Thus, individuals with strong self-efficacy show a higher correlation between knowledge and behaviour and are more likely to act on their knowledge (Sanderson, 2004). Self-efficacy, on the one hand, is directly related to behaviour; on the other hand, it also affects behaviours indirectly through its impact on goals (Schwarzer & Luszczynska, 2003). Bandura (1986) stated that that when behaviour change entails regular performance of familiar behaviours, self-regulatory efficacy replaces self-efficacy (Anderson et al., 2007).

2.10.2. Attitudes

Attitudes are psychological predispositions about an object, or person. They are the person’s overall evaluation of the behaviour. Attitudes precede behaviour and affect the way a person behaves. According to Ajzen and Fishbein (1980), when behaviour is perceived as not important, individuals
are unlikely to engage with this particular behaviour. In addition, if behaviour is perceived as not feasible, the chances of the person engaging with this behaviour decrease (Ajzen, 2002). Consequently, attitudes are formed by beliefs about the consequences of the behaviour (behavioural beliefs e.g. ‘referring the patient with depression for talking therapy will improve both symptoms of depression and those of the LTC) and the resulting positive or negative evaluations about each of these features of the behaviour (outcome evaluations; e.g. symptom improvement is desirable) (Francis et al., 2004).

2.10.3. Personal models of illness and CS-SRM

The CS-SRM involves the construct of illness representations or personal models of illness; these two terms refer to the manner in which an individual conceptualises and gives meaning to an illness or threat and its consequences. The concepts include beliefs, emotions, knowledge and experiences about an illness (Hampson, Glasgow & Foster, 1995; Petrie & Weinman, 1997). In accordance with the relevant literature, the terms personal models of illness and illness representations are used interchangeably in this thesis to capture concepts of HCPs’ beliefs, emotions, knowledge and experiences in relation to depression in people with LTCs. Leventhal et al. (1980) describe five components to the personal model of an illness: identity, cause, consequences, timeline and control/cure. Illness identity refers to statements regarding beliefs about the illness label and knowledge about its symptoms (e.g. diabetes with depression, tiredness). The cause dimension represents the beliefs regarding the factors that are responsible for causing the illness or disease. The consequences component represents beliefs regarding the impact of the illness on an individual’s quality of life and functional capacity. Timeline refers to time trajectory; the length of time the individual perceives their illness to last (e.g. acute, chronic, and cyclical). Finally, the cure/control dimension refers to the beliefs about whether the condition can be cured or kept under control and the efficacy of treatment.
The core of the CS-SRM is that people use common sense in constructing illness representations or personal models, based on their prior knowledge and direct experiences generated according to the principles of logic and rationality (Cameron & Leventhal, 2003). It falls into the category of attribution models which are concerned with individuals’ causal explanations of health-related events.

Illness representations are also developed by different sources of information including social and cultural knowledge, information and experiences received from family and HCPs (Leventhal & Diefenbach, 1991). Thus, illness representations are developed through ‘looking-at depression’ by healthy individuals and/or ‘living-with depression’ by people with depression. According to Leventhal et al. (1997), illness representations integrate with existing schemata, i.e. the normative guidelines that people hold, enabling them to make sense of symptoms and guide any possible action plans. Illness representations are a proximal determinant of both the emotional and the behavioural response to an illness threat and they form an extension of the schema theory from cognitive social psychology (Leventhal et al., 1997). The CS-SRM is depicted in Figure 4.

Figure 4: Common sense model of illness behaviour; Leventhal et al., 1980

The CS-SRM proposes that illness symptoms produce cognitive and emotional representations of the illness or threat; individuals’ emotional
reactions to the health threat as well as perceptions of the health threat which are highly personal and unique (Cameron & Moss-Morris, 2004). These representations are processed in parallel in three stages, as can be seen in Figure 4.

According to the CS-SRM, in the first stage, illness perceptions are formed around the five dimensions of the illness experience (i) beliefs about symptoms (illness identity), (ii) chronicity or recurrence of the condition (timeline and cyclical timeline), (iii) consequences, (iv) personal control and treatment control, (vi) causes of the condition. In the second stage, these illness perceptions form a schema that determines the patient’s coping procedures, which in turn affect outcomes and adjustment. They also serve as a conceptual framework for making sense of the information received from HCPs and for evaluating the appropriateness and efficacy of the treatment or advice (Leventhal et al., 1980). In the third stage, individuals evaluate the outcomes, which may lead to an adjustment of these perceptions and coping efforts or to adaptation. Consequently, the CS-SRM operates on a continuous feedback loop, which allows for the evaluation process to inform further illness representations, which in turn shape subsequent coping strategies and behaviours. Applying the CS-SRM to depression, it is suggested that patient’s beliefs of depression influence their coping responses such as seeking medical treatment and social support (Vollmann et al., 2010).

The research into the CS-SRM has proven valuable in providing evidence for the importance of illness perceptions in predicting health outcomes such as emotional and physical functioning, recovery, as well as treatment, seeking and coping-related behaviours (Heijmans, 1998; Heijmans and de Ridder, 1998; Moss-Morris et al., 1996; Scharloo et al., 1998) in various illnesses including diabetes (Hampson et al., 1990; 2000) and depression (Brown et al., 2001) as well as diabetes comorbid with depression (Hudson et al., 2014). Specifically, the meta-analysis of 45 studies adopting the CS-SRM and examining a total of 23 illnesses and conditions showed that consequences, identity and timeline subscales exhibited significant negative relationships with psychological well-being, role functioning, social
functioning and vitality (range: -0.67 ≥ r ≤0.11). Consequences (r = -0.18, p<0.05) and identity (r= -0.28, p<0.05) were also strongly and negatively related to physical functioning. The control/cure subscale was significantly and negatively related to psychological distress (r= -0.17, p<0.05). In addition, these studies consistently reported strong negative associations between the identity and timeline dimensions and the cure/control dimension and the consequences. On the contrary, positive corrected correlations were found between the consequences, timeline and identity dimensions (Hagger & Orbell, 2003). Given that important mechanisms between illness perceptions and outcome are evident empirically, as demonstrated above, interventions that address illness representations are likely to improve outcomes (Phillips, Leventhal & Leventhal, 2012). Indeed, as reviewed in Petrie and Weinman (2012), there are several intervention studies using the CS-SRM that demonstrated that brief, psycho-educational interventions can be used for identifying and modifying negative illness beliefs, which in turn can result in improvements in a range of health-related outcomes (Fortune, Richards, Griffiths & Main, 2004; Broadbent, Ellis, Thomas, Gamble & Petrie, 2009). This evidence is important because it helps not only inform interventions to improve outcomes but can also provide a basis for identifying patients who are at risk of not coping well with their condition at an early stage (Petrie & Weinman, 2012).

2.10.4. CS-SRM and HCPs

The vast majority of illness representations research focuses on patients, however, healthy individuals and lay people form illness representations that correspond with the CS-SRM dimensions (Weinman, Heijmans & Figueiras, 2003). Currently, there is an increasing interest in research which uses the CS-SRM framework to explore HCPs’ illness perceptions (Shinan-Altman, Werner & Cohen, 2014) and the link between these beliefs and behavioural and attitudinal outcomes in the care they provide (Lobban, Barrowclough & Jones, 2003; Mackay & Barrowclough, 2005). Lobban et al. (2003) suggest that HCPs’ personal models are an important area for research due to the likely impact of such beliefs on their behaviour in the clinical context, such as the treatments that patients are offered. While these
perceptions are complex, investigating them may help understand the behaviour of HCPs and the reasons behind their clinical actions. This is of particular relevance, as evidence has consistently shown that HCPs’ illness perceptions have a significant impact on the quality of treatment provided (Heijmans et al., 2001; Insel, Meek & Leventhal, 2005; Weinman et al., 2003). HCPs’ behaviour is influenced by perceptions of the cause and the controllability of depression. For instance, it is suggested that the beliefs of HCPs about the cause of mental illness have been associated with their treatment plans (Cape, Antebi, Standen & Glazebrook, 1994), whereas greater attributions of controllability have been associated with negative attitudes towards the person (Mackay & Barrowclough, 2005). As such, HCPs’ illness representations may extend beyond the illness to entail beliefs about the effectiveness of particular treatments. To date, the way in which beliefs about the perceived causes and consequences of living with an illness and the perceived potential effectiveness of treatments impact on actual practice have not been investigated.

Research conducted by Figueiras and Alves (2007) on illness representations among healthy individuals revealed that illness beliefs such as illness coherence, psychological attributions, chronic timeline and perceptions of the consequences account for significant variance in attitudes and intentions towards the adoption of preventative behaviours. Causal beliefs have been shown to be positively associated with beliefs about controllability, suggesting that healthy people’s causal representations of an illness may influence their beliefs about its treatment. These findings also suggest that causal beliefs of HCPs, as members of the category of healthy individuals mentioned above, may influence their behaviour and treatment preferences. Examples of health behaviours that are found in patients and may be applicable to health professionals are attempts to ignore or avoid the existence of the problem (avoidance/denial), active attempts to directly address the illness/problem (planning, management, referral), and cognitive efforts to reappraise the problem differently but acknowledging its existence (acceptance and normalisation) (Hagger & Orbell, 2003).
To conclude, as studies have shown that the beliefs of HCPs affect the care they provide (Henderson, Orbell & Hagger, 2007; Hofstadt et al., 2003), it is important to assess their beliefs about depression in people with LTCs. Examining HCPs’ perceptions of patients’ illness provides a new approach with an aim to examine and intervene in a number of problematic areas of health care. For example, the ability to identify both patients’ and HCPs’ beliefs offers the potential to examine the differences in their views. Important differences may impact on treatment adherence and patients’ self-management. In addition, examining HCPs’ illness beliefs may explain the variability in their behaviour when providing treatment.

The CS-SRM was deemed relevant for the qualitative study that was carried out as part of this research, as understanding views and perceived barriers to effective management may encourage the wider exploration of different beliefs about depression in people with LTCs and the manner in which these may impact on clinical decision-making. In addition, understanding HCPs’ personal models may enable more effective and patient-centred care, thus improving depression management (Figueiras & Alves, 2003). In light of this, better recognition and treatment can probably improve patients’ health status (Ormel & Tiemens, 1995). Underpinned by this, this research investigated HCPs’ personal models of depression in people with LTCs, and their attitudes and self-efficacy to its diagnosis and management, and the relevant findings are presented and discussed in Chapter 4.

Early work on assessing patients’ illness perceptions relied on open-ended questions from structured interviews. Therefore, the CS-SRM was applied in the qualitative study as the main theoretical framework for the design of the interview topic guide as well as the analysis and interpretation of the interview data. This thesis adopts the first stage of the CS-SRM, which is the idea of individuals forming illness beliefs reflecting the cognitive representations of depression in people with LTCs. Constructs from the TPB and the ScogT also support the thesis’ emphasis on HCPs‘ attitudes and self-efficacy. More details about the theoretical concepts and theoretical underpinning of each research project are presented below and in corresponding chapters.
2.10.5. Measuring personal models

In-depth semi-structured interviews have been used since the development of the CS-SRM to identify the manner in which people think about the conditions and elicit illness beliefs. Participants’ descriptions of their illness have, indeed, suggested underlying beliefs related to symptoms’ identity, cause, consequences, controllability, and timeline (Leventhal et al., 1980; Leventhal et al., 1984; Lau & Hartman, 1983). This resulted in the development of the Illness Perceptions Questionnaire (IPQ) which was developed to assess cognitive representations of different illnesses (Weinman, Petrie, Moss-Morris & Horne, 1996). Based on Leventhal’s CS-SRM (1980), the IPQ provides a quantitative measurement of the aforementioned five core cognitive components of the model’s illness representations.

A later revised version of the scale, Illness Perception Questionnaire-Revised (IPQ-R; Moss-Morris et al., 2002) added more items; split the control dimension into treatment and personal control, added a cyclical timeline and included an emotional representation-of-illness scale (affective responses) and an overall comprehension-of-illness factor (illness coherence) (Moss-Morris et al., 2002). This has facilitated the widespread use of the CS-SRM in research examining adaptation to chronic illness. The illness perceptions as measured by the IPQ-R present a pattern of logical moderate-to-strong inter-relationships (Hagger & Orbell, 2003; Petrie et al., 1996; Weinman et al., 2000).

An advantage of the IPQ-R is that it can be tailored for use across many different illnesses by modifying the question stem and by changing the information to focus on the specific illness under research. Examples include heart disease (Cooper et al., 1999) rheumatoid arthritis (Murphy et al., 1999), diabetes (Griva et al., 2000), cancer (Buick, 1997) and chronic fatigue syndrome (Heijmans, 1998). The measure is found to be reliable and valid in different LTC populations such as heart disease (Dickens et al., 2008; Lane et al., 2009), diabetes (Lawson et al., 2007; Paschalides et al., 2004), asthma (Horne & Weinman 2002), epilepsy (Jones et al., 2006),
psoriasis, vitiligo (Papadopoulos et al., 2001), chronic obstructive pulmonary disease and rheumatoid arthritis (Scharloo et al., 1998).

As discussed previously, studies examining illness representations have been focused mainly on assessing the perceptions of persons with specific diseases, but recently the IPQ-R has been used for other populations such as family members (Benyamini, Medalion,& Garfinkel , 2007; Figueiras & Weinman 2003; Sterba & DeVellis, 2009; Del Castillo et al., 2013), lay people (Figueiras & Alves, 2007; Hamilton-West et al., 2010; Sullivan et al., 2010), medical students (Grankvist & Brink, 2009), carers of schizophrenia (Barrowclough, Lobban, Hatton & Quinn, 2001; Fleming Martin, Miles & Atkinson, 2009), and nurses and social workers (Shinan-Altman et al., 2014). These studies suggested that the test-retest reliability Cronbach's $\alpha$ coefficient was generally acceptable for the majority of the IPQ-R subscales. In addition, these studies showed that the IPQ-R was easy to administer, reliable, and stable over a period of time. The instrument has been shown to be a vital tool in aiding HCPs understand patient views about illness and to help them recover (Papadopoulos et al., 2001). Finally, the IPQ-R can serve as a qualified tool to assess illness representations among different populations, rather than just ill people (Shinan-Altman et al., 2013).

This research undertook the same methodology, a semi-structured qualitative study, to identify how HCPs think about depression as a comorbid condition. As IPQ-R was found to be the most useful instrument to identify, understand and target HCPs’ illness representations, it was used as the basis for item development of a modified version for this thesis. Following this, the results from the qualitative study and the IPQ-R statements informed the development of a measure for this thesis, named Illness Perceptions and Attitudes to Depression (IPAD). Chapter 5 describes the item selection and methods used to modify the IPAD instrument. The IPAD was used to assess illness beliefs held by HCPs towards depression in people with LTCs in the feasibility test of the online training intervention designed for this thesis, the results of which are presented in Chapter 6.
2.11. Improving the management of depression in primary care

It is commonly accepted that it is possible for the management and recognition rates of depression in primary care to be improved despite the barriers and issues presented in clinical practice (Tylee & Walters, 2007; Kessler et al., 1999), which in turn can lead to an improved health status for a number of patients (Ormel & Tiemens, 1995), and to reduce the public burden of depression (Thompson et al., 2000). The ability of HCPs to identify and manage depression, or to refer the patient to a specialist at an early stage, is essential as early recognition allows for sufficient treatment and recovery for the patient (van der Pasch & Verhaak, 1998). These observations have led researchers to develop interventions to improve the detection and management of depression in primary care (Gilbody et al., 2003), analysed in this section.

To improve the management of depression in primary care and the quality of care provided, Bower and Gilbody (2005) have proposed four quality improvement models; the first is training HCPs in order to improve skills and knowledge concerning mental health care. This model emphasises the role of GPs and PNs in the management of depression and anxiety and focuses on increasing their confidence in managing such conditions; the second is consultation-liaison which involves mental health specialists supporting HCPs and their training with mental health the third is collaborative care which involves HCPs’ training, consultation-liaison and collaboration with case managers. This model also involves patients’ education, screening, practice changes and technology involvement; finally, there is the referral to talking therapies such as counselling and CBT services. This model is found to be clinically effective, at least in the short term (Bower & Gilbody, 2005).

These models emphasise the importance of the HCPs in the management of depression or anxiety. Such models focus on increasing the confidence and skills of HCPs in order to improve their ability to manage depression, have the greatest possible impact on access to treatment because they have the potential to improve the recognition and treatment of depression (Bower &
Gilbody, 2005). As such, the need for appropriate training in order to improve HCPs’ communication skills and views about patients with mental illness has been argued to be very important (Crisp et al., 2000) which suggests the significance of designing appropriate interventions to address this issue.

Gilbody et al. (2003) conducted a systematic review of 36 studies of organisational and educational strategies for the improvement of the management of depression. In this review, they demonstrated that there is a link between clinical training and its influence on the ability of HCPs to effectively diagnose depression. According to the results, effective training was usually focused on communication skills, specific diagnostic and management guidelines for depression, patients’ outcomes or clinical effectiveness. Moreover, effective strategies that were reported were collaborative care, stepped collaborative care, quality improvement, and guideline implementation strategies linked by complex organisational interventions. On the other hand, ineffective strategies included educational and simple guideline implementation interventions; although they often improved HCPs’ knowledge and attitudes, there was only limited impact on changing practice or patient outcomes. The review demonstrated that training interventions should incorporate several strategies, including the use of questionnaires to detect depression, a combination of HCP and patient education, patient-specific reminders, nurse case management, and enhanced integration of specialist care (Gilbody et al., 2003).

Furthermore, Bower and Gilbody (2005) have argued that short training interventions combining financial incentives can be effective in the improvement of depression management in primary care. Other effective strategies in interventions which improve the management of depression include face–to-face interactions and personalised feedback and audit, multifaceted interventions with more than one educational component, personalised training materials, and provision of tools for HCPs to use for screening purposes (Howe et al., 2006; Kroenke et al., 2000). Finally, case studies and role play have also been reported to improve HCPs’ diagnostic and communication skills (Benthem, Heg, van Leeuwen & Metsemakers,
Communication skills training for HCPs can improve patients’ care and satisfaction, their own patient-centeredness and empathy (Fiscella & Epstein, 2008) and such training is now part of the curriculum in most medical schools in the UK (Brown, 2008).

Another systematic review of interventions for the enhancement of the management of anxiety disorders in general practice demonstrated that professional and organisational interventions, when combined, increased recognition, referral and prescription, and improved anxiety outcomes (Heideman et al., 2005). What is surprising is that none of the aforementioned systematic reviews identified any studies addressing HCPs’ perceived problems in the recognition, diagnosis and treatment of depression. In addition, most of the theories applied in studies conducted in primary care have focused on predicting simple instead of complex behaviours. For instance, studies have explored HCPs’ intentions and behaviour (rates of antibiotic prescription) to manage upper respiratory tract infections with or without antibiotics (Eccles, et al., 2007; Hrisos, et al., 2008) or HCPs’ behaviour to appropriately disclose the diagnosis of dementia (Foy et al., 2007). These can be considered to be simple behaviours when compared to the diagnosis and management of depression, which involves the coordination of several processes such as the use of screening tools and questions, and the provision of tailored interventions based on symptom severity, constituting them more complex behaviours than those studied to date.

Interventions have also been shown to be effective in improving the management of depression in primary care when combined with some educational methods such as interactive, on-going and relevant CME (Thomson et al., 2002). Such interventions are said to improve attitudes, knowledge and skills (Hodges et al., 2001). Training interventions should also be accompanied by a focus on promoting positive attitudes, increasing confidence towards mental illness and awareness of general practice as an appropriate and effective source of health care (Bushnell, et al., 2005). This suggests that training interventions that address attitudes and self-efficacy in HCPs are important in order to evaluate and explore their impact on the
management of depression. For instance, confidence (self-efficacy) is associated with adherence to clinical guidelines for anxiety and depression, and HCPs who are confident in managing depression are more likely to provide effective care to people with such conditions (Smolders et al., 2010). Furthermore, current reviews do not provide information about the illness beliefs and attitudes on depression of HCPs and even though theories such as the TPB (Ajzen, 1991) have proven to be strong models to predict behaviour change, the above reviews did not analyse the components of the theories (Perkins et al., 2007).

Currently, the literature does not indicate with clarity what the best way to provide training in the management of depression is, and there is relatively little guidance regarding effective methods so as to improve the management of depression in primary care (Hodges et al., 2001; Howe et al., 2006). Therefore, it is clear that more research is needed in order to identify what constitutes an effective intervention for the management of depression in the context of a LTC.

2.11.1. Focus of the thesis on developing a new intervention

The evidence presented in the previous section demonstrates that systematic strategies such as collaborative care are effective whereas training interventions improve HCPs’ attitudes and knowledge but not patient outcomes. However, Gask et al. (2004) and Lin et al. (2001) suggested that, although such training may be inefficient, it is still a required strategy for improving detection of depression which is necessary for its management. This thesis presents the development and feasibility study of a novel, online training intervention focusing not only on attitudes and knowledge, but also on beliefs and confidence. It is based on the Medical Research Council (MRC) framework (Craig et al., 2008) and uses well-known behavioural change techniques (BCTs) found to be effective in improving clinical behaviour (Michie et al., 2013).
The MRC framework involves three steps; the first is collecting evidence through systematic reviews and conducting qualitative research in order to explore opportunities for and barriers to change. The findings of these studies, and evidence from other related research, can inform an initial assessment of how much improvement the intervention might achieve. The second step is the development of an optimal intervention using theory and evidence-based information to address the identified issues. A feasibility study is therefore essential as part of this stage to assess the acceptability and possible impact on the intervention on specified outcomes. The third stage is a modification and re-design of such interventions for further testing in a Randomised Control Trial (RCT). This thesis, therefore, presents the preliminary work of the intervention, that of the scoping review with the subsequent qualitative study, along with the development phase of the FoR.D intervention and its feasibility testing, which is essential to establish the probable active components of the intervention so that they can be delivered effectively during a future trial.

The literature suggests that research focusing on the personal belief system of health care professionals allows us to improve depression care through interventions which tackle unhelpful or dysfunctional attitudes and increase confidence (Eccles et al., 2005; NICE, 2009a; Crisp et al., 2000; Smolders et al., 2010). This suggests that increasing self-efficacy (Bandura, 1977a; Bandura, 1997b) and improving attitudes should be a core part of any training intervention aiming to enhance the management of depression. Such interventions should also provide the appropriate knowledge and skills necessary for the identification and management of depression (Crisp et al., 2000). In light of this, negative attitudes and perceived barriers ought to be explored before designing interventions; it is also suggested that before selecting and developing an intervention to facilitate the role of HCPs in depression management, the underlying barriers should be identified in order to understand which steps of behaviour change are being interrupted by these barriers (Cabana, Rushton & Rush, 2002; Kroenke et al., 2000).

Consequently, in this thesis, the systematic collection of information on the attitudes and illness beliefs of primary care HCPs towards depression was
deemed necessary in order to explore their potential impact on the management of depression in primary care. Thus, a scoping review was conducted in order to identify and categorise HCPs’ attitudes, beliefs and perceived barriers for good depression care in primary care, the results of which are presented in Chapter 3.

For effective management of depression in people with LTCs to take place, interventions may need to address the barriers for poor recognition and management (Kroenke et al., 2000) and target attitudes, self-efficacy and perceptions of barriers (Gask et al., 2005). In addition, it is suggested that most interventions insufficiently match with the problems experienced by HCPs in primary care (van Rijswijk et al., 2009). In light of this, research suggests that interventions should be linked to the participants’ experiences (Thompson et al., 2001) but no study had as yet explored how primary care providers currently conceptualise, identify and treat depression in patients with LTCs. In addition, when considering the content of the interventions to improve the management of depression in primary care, it is important to consider learning needs. Hodges et al. (2001) proposed that the best way to identify learning needs is through research which explores the actual knowledge, skills and attitudes of HCPs. This thesis has addressed this by investigating how HCPs’ view depression, its causes and consequences in the context of a LTC, as well as how they manage depression symptoms, in a qualitative study, the outcomes of which are presented in Chapter 4.

HCPs’ beliefs about the nature of depression and how treatable they are may impact on the care delivered. Therefore, it is essential to provide training which aims to improve attitudes, beliefs and increase self-efficacy (Crisp et al., 2000). Such improvement will impact on adherence to clinical guidelines for anxiety and depression (Smolders et al., 2010). Subsequently, the results of the scoping review and the qualitative study were used to inform an online training intervention which focuses on the promotion of positive attitudes towards mental illness, the improvement of skills and increase of awareness of general practice as an appropriate and effective source of health care (Bushnell et al., 2005).
Interventions should offer the appropriate evidence-based knowledge, effective communication and time management skills needed to identify and manage depression in primary care in order to successfully meet patients’ needs (van Marwijk & Tylee, 2004). In addition, goal-setting and making specific plans to meet the objectives of recognising and managing depression in people with LTCs are important determinants of actual performance (Sniehotta, Schwarzer, Scholz & Schüz, 2005). Theory-based interventions tend to be more successful than other interventions as they have a greater likelihood of overcoming the range of existing barriers (Cabana & Coffman, 2009); this knowledge, combined with the MRC guidance and BCTs mentioned above, guided the development of the online intervention which focuses on addressing HCPs’ beliefs and attitudes in a way that aims to improve their skills to address the patients’ illness/treatment representations in time-limited consultations. A detailed description of the rationale, theoretical background and methods of the FoR.D intervention are presented in Chapter 5.

2.12. Research questions and objectives

Having defined the terms, concerns and theoretical underpinning of the thesis, the following section will outline the research questions and objectives in order to explore the overall aims.

The present study aims to contribute to the existing body of knowledge, using the CS-SRM, and exploring the influence of HCPs’ cognitive characteristics such as personal models and attitudes in recognising and managing depression in people with LTCs. Therefore, in this PhD research the following four research questions were examined:

1. Which personal illness models that HCPs hold towards depression and its management in primary care are reported in the literature?
2. What are the experiences, perceptions and perceived barriers of HCPs on people with comorbid depression and how may these affect the recognition and management of depression in the presence of a LTC?
3. How do HCPs view the identity, causes, consequences, timeline and controllability of depression in conjunction with diabetes and CHD?

4. What beliefs and attitudes are amenable to intervention in order to support HCPs to better recognise depression in such LTCs?

The first research question is addressed in Chapter 3 through a scoping review on HCPs’ experiences and views of depression in primary care. The study aims to comprehensively identify the available literature on HCPs’ attitudes and beliefs towards depression and explore their impact on its recognition and management in the UK. The second and third research questions were examined through a qualitative study, the findings of which are presented in Chapter 4, focusing on GPs and PNs’ experiences of managing people with depression comorbid with LTCs. The fourth research question is discussed in both Chapter 3 and Chapter 4 based on the findings of both studies which identified and conceptualised barriers to the effective recognition and management of depression in primary care and especially in conjunction with LTCs.

This series of studies was used to inform the development of the online training intervention using the MRC framework that aims to provide HCPs with the knowledge and skills needed to manage depression effectively, reduce negative attitudes that act as barriers to care and increase confidence in HCPs’ ability to manage patients with comorbid depression. The content of the intervention was designed partially using the illness representations dimensions, in order to promote positive attitudes, increase awareness of the identified problems/barriers and provide HCPs with communications skills to explore patient’s illness beliefs (Phillips et al. 2012). Other constructs and theories used in the intervention are presented in Chapter 5.

Therefore, the specific research objectives for the completion of this thesis are:

- To conduct a mixed methods scoping review in order to address the gaps in previous research by investigating HCPs’ personal illness models and their relationship to the recognition and management of
depression in people with LTCs.

- To explore HCPs’ personal illness models, illness beliefs, and attitudes in this context and their association recognition and treatment of depression.
- To design a HCPs’ tool personal models of depression in conjunction with LTCs using the qualitative study and existing measures.
- To develop a theoretically driven, training online intervention to improve HCPs’ skills, knowledge, attitudes and self-efficacy.
- To design and test a feasibility study of the intervention in order to evaluate whether this intervention is feasible for HCPs.

Detailed descriptions of the different methods employed for the achievement of these objectives can be found in corresponding chapters.

2.13. Summary

- Common mental health disorders such as depression and anxiety are highly prevalent in primary care, especially in LTC populations.
- Depression in the context of a LTC is associated with significant morbidity and mortality and it often remains undiagnosed or is inadequately managed.
- Recognition of depression in the primary setting often requires a high index of intuition and skills. Diagnostic questions and screening instruments are used for early detection and management as recommended by NICE (2009) guidelines.
- The qualitative and quantitative research suggests that HCPs’ attitudes, beliefs, and confidence play a role in recognising and managing depression in primary care.
- Research using the CS-SRM has proven important in understanding how people experience illness and how illness perceptions are associated with behaviour.
• Although only a few studies have assessed professionals’ illness representations, the results have consistently shown that these perceptions are an important factor affecting the quality of treatment that HCPs provide.

• There is little recent evidence on how GPs and PNs view comorbid depression and its challenges, even though they may be heavily involved in providing services to people with such conditions. Consequently, a qualitative study was conducted to identify attitudes, beliefs related to comorbid depression.

• In order to improve the management of depression in people with LTCs, multifaceted training interventions need to address the barriers influencing its recognition and appropriate treatment. Such interventions may be benefit from targeting HCPs’ attitudes, self-efficacy and perceptions of barriers specific to the management of depression in people with LTCs.

• The results of the scoping review and qualitative study informed the development of a pilot online training intervention to support HCPs.

• Chapter 3 will present this scoping review on HCPs’ views, attitudes and experiences of managing depression in primary care.
Chapter 3: A scoping literature review exploring HCPs’ views, attitudes and experiences of managing depression in primary care

3.1. Introduction to the chapter

Whilst undertaking the literature review on barriers, attitudes and beliefs towards depression management that was presented in Chapter 2, it became apparent that no systematic or scoping reviews had previously been conducted on the perceived attitudes and beliefs of HCPs towards depression and its management. To investigate current research on the research topic, a systematic search of major research databases was conducted. The aim of this review was to improve our understanding of the potential influence of attitudes, beliefs and perceived barriers of HCPs in the recognition and management of depression in primary care. Hence, a scoping review was undertaken with a view to address the first research question “what are personal illness models that HCPs hold towards depression and its management in primary care are reported in the literature?” This study is a mixed-method scoping review, it uses a narrative summary to synthesise the findings and focuses on HCPs’ attitudes and beliefs in the UK primary care.

In this chapter, I present the methods used in this scoping review and its subsequent findings, which addressed my first empirical research question. It presents the findings from qualitative and quantitative studies investigating how frontline primary care HCPs view depression, their role and aspects related to its diagnosis and management.

3.2. Introduction to the review

Research suggests that depression contributes significantly to the global burden of disease (Moussavi et al., 2007; Ali et al., 2006). In the UK, patients with depression and/or LTCs are managed mostly in primary care.
but there is growing recognition that the identification and management of depression remains in a state of flux, not only as a condition on its own but also in the presence of LTCs (Cepoiu et al., 2008; Mitchell et al., 2009). High prevalence of depression, under or over-diagnosis, and inadequate treatment of depression can impose a burden on society resulting in unnecessary suffering and a general reduced quality of life for patients and their families, high risks of morbidity and mortality, and substantial economic losses (Hirschfeld et al., 1997). Therefore, identifying people with LTCs who may be at risk of developing or already have depression is important, as depression can also impact on the way the person manages their other LTC (NICE, 2009b).

As explained in the previous chapter, there are several barriers to the identification and management of depression in people with LTCs in primary care such as changes to the environment in terms of services provision, time constraints, a lack of confidence in diagnostic criteria, and a perception that patients resist discussing emotional problems (Cepoiu et al., 2008). From 2000, guidelines in the UK have changed in regards to the best way to treat depression. Initially, the NICE guidelines instructed GPs to treat depression with antidepressant medication, especially SSRIs, but by 2004 the concerns about overprescribing shifted their emphasis towards talking therapies. By 2009, NICE guidelines were launched to provide CBT for mild to moderate depression. Therefore, these various changes in guidelines may have affected the way HCPs decide how to effectively treat depression (McPherson & Armstrong, 2012). In addition, it has also been shown that the optimal management of depression is likely to be influenced by HCPs’ views, beliefs and attitudes of depression itself (Richards et al., 2004; Koenig, 2007; Dorwick et al., 2000; Botega et al., 1992).

To date, there are some systematic reviews investigating processes, barriers and underlying concepts relating to depression in primary care (Barley, Murray, Walters & Tylee, 2010; Schumann et al., 2011; McPherson & Armstrong, 2012). However, these reviews either summarise findings from only qualitative studies (Schumann et al., 2011; McPherson & Armstrong, 2012), have a very narrow research focus such as diagnosis issues
(Schumann et al., 2011) or focus on attitudes to the whole depression management process while excluding studies on specific management options such as antidepressant use and other interventions (Barley et al., 2010). Quantitative and qualitative studies which consider aspects relating to views, beliefs, attitudes and perceived barriers towards both the diagnosis and the management of depression may further explain the reasons why depression is overlooked or sub-optimally managed in primary care. Thus, there was a need to synthesise the literature in order to gather important information on the views of HCPs towards depression, its consequences, the diagnostic process, and the barriers towards its recognition, and management in the UK. Understanding how primary care HCPs view depression in primary care is essential in order to improve its detection and management in people with LTCs as well (Macdonald et al., 2009).

This review aimed to map the key concepts underpinning this research area and the main sources and types of evidence available (Arksey & O’Malley, 2005). It was a necessary step in order to identify what barriers, beliefs and attitudes influence the effective recognition and management of depression in order to later develop an online intervention (presented in Chapters 5 and 6) to facilitate the role of professionals in depression care in the context of a LTC. As Cabana and Coffman (2009) point out, such exploration is necessary prior to undertaking any further research for the development of this kind of intervention (Cabana & Coffman, 2009). At the initial stage, the aim was to draw conclusions regarding potential barriers to and facilitators for good depression care in the UK. Hence, a scoping review was a more appropriate approach than conducting a full systematic review in the field as it would enable the identification and the synthesis of existing evidence from empirical studies concerning HCPs’ illness perceptions, attitudes, perceived barriers and management of depression.

The methodology of a scoping review was developed in order to summarise the range of evidence that would convey the breadth and depth of a complex (Arksey & O’Malley, 2005; Ashcroft, Silveira, Rush & McKenzie, 2014) and non-homogeneous topic (Shankardas et al., 2012; Levac, Colquhoun & O’ Brien; 2010). To present this scoping study, the Arksey and O’Malley’s
(2005) 5-stage methodological framework for scoping reviews was applied. The five stages involved:

Stage 1: identifying the research question
Stage 2: identifying relevant studies
Stage 3: study selection
Stage 4: charting the data
Stage 5: summarising, synthesising and reporting the results.

The next section presents the methods of the review in more detail.

3.3. Methods

3.3.1. Stage 1: Identifying the research question

This study aims to offer a review which explores the literature focusing on HCPs’ personal models and attitudes of depression in primary care. As presented in the previous chapter, the term ‘personal models’ was defined as ‘representations, beliefs, emotions, knowledge and experiences’ of an illness using the CS-SRM literature (Hampson et al., 1995). In addition, ‘attitudes’ were defined as a positive or negative evaluation of a particular behaviour, and beliefs about the outcome of the behaviour using the TPB literature (Ajzen, 1991).

The question guiding the scoping review was, ‘which personal models that HCPs hold towards depression and its management in primary care are reported in the literature?’ In particular, in order to address this research question, this review had two main objectives:

- To explore qualitative and quantitative papers examining GPs and PNs’ illness beliefs, attitudes and concepts of depression in primary care.
- To explore whether HCPs’ illness-related beliefs and attitudes and their differences influence clinical decision making regarding the recognition and treatment of depression.

93
3.3.2. Stage 2: Identifying relevant studies

3.3.2.1. Search strategy

At stage 2, an *a priori* search strategy was developed in consultation with a specialist librarian from the University of Manchester in order to identify suitable articles in relevance to the research question. A search was conducted within the Ovid Medline, the Embase, the PsychInfo and the Cinahl databases to detect all articles with content related to depression, primary care HCPs, beliefs, attitudes and clinical decision making. Initially, the databases were searched in June 2010 and it was last updated in June 2015 (see Appendix E). The search strategy was revised using MeSH terms appropriate for each database. Key words were organised in four groups using “OR” then groups 1 to 4 were combined using “AND” (see Appendix C for an initial literature review search strategy and Appendix D for a more detailed search strategy for the scoping review). Duplicates of articles were removed, and only full-text peer reviewed studies were retrieved.

3.3.2.2. Searching other sources

To widen the search, reference lists of all eligible studies were searched and their citations were tracked. Relevant secondary references listed in the bibliographies of relevant articles were also retrieved. In addition, the papers identified as part of three systematic reviews on GPs and PNs’ management of depression (Barley et al., 2010; Schumann et al., 2011; McPherson & Armstrong, 2012) were scanned in order to check if they met the inclusion criteria for the current review (see Table 3.1 for inclusion criteria).

3.3.3. Stage 3: Study selection

In stage 3, studies relevant to the study objectives were selected so that the studies that met all of the inclusion criteria could be identified and the abstracts of these articles examined. Titles and abstracts of all citations were
judged against the inclusion and exclusion criteria (Table 3.2 for exclusion criteria). Studies eligible for inclusion were those that investigated the experiences of GPs and PNs and their views, beliefs, attitudes to and perceptions of depression in primary care in the UK. The inclusion criteria (see Table 3.1) were developed using SPIDER criteria, i.e. Sample, Phenomenon of Interest, Design, Evaluation, Research type (Cooke, Smith & Booth, 2012).

Articles were excluded when they were clearly ineligible. If the relevance of a study was unclear from the abstract, then the full article was obtained. When there was doubt about the suitability of a study for inclusion, it was discussed in supervision and only included if there was complete agreement. When title and abstracts met the inclusion criteria, the full text copies of all papers were retrieved for further investigation. Multiple publications of the same study were treated as one single study, with reference made to all the publications (Centre for Reviews and Dissemination, 2009).
Inclusion criteria for scoping review

| Sample | Studies that included primary care professionals (inclusive of all primary care terminology including HCPs, health care professionals, GPs, PNs) as the study sample. If a study included other primary care staff apart from GPs and PNs but it was possible to separate the data, the study was still included. |
| Research Type and Design | Qualitative, quantitative and mixed methods studies; qualitative interviews, focus group studies, or audio/video taped consultations, primary quantitative studies such as cross-sectional, or cohort design studies were included. Baseline data from intervention studies were also included. |
| Phenomenon of Interest | a. Depression presented in adults in primary care, depression in the context of a LTC |
| | b. Studies had to investigate at least one of the following cognitive processes, behaviours and experiences: Attitudes, beliefs, views, opinions of depression or barriers of diagnosing and managing depression in primary care. |
| Evaluation | End results and outcome measures related to knowledge, attitudes, confidence, behaviour, consultation style, identification and treatment behaviours. |

Table 3.1: Inclusion criteria for scoping review

From a practical point of view, decisions had to be made at the outset about the coverage of the review in terms of location, language and time span. Thus, only English language studies were consulted and the search focused on studies conducted in the UK. This was a realistic method of including only culturally relevant studies looking at HCPs’ beliefs and attitudes towards depression conducted in the UK, in the NHS. Reflecting time constraints, only studies published between January 2000 and April 2010 were included (first search). The National Institute for Clinical Excellence (NICE) was set up in 1999, thus the start date of 2000 was chosen because it was felt that this covered a period in which major policy changes took place and important guidelines for clinical practice in the UK were published. The same search was repeated at a later stage of the research, in October 2013 and recently in June 2015, in order to check for new articles that may
have been published since previous updates in 2013; only one paper was identified since the last update search.

**Exclusion criteria for scoping review**

1) Studies not reporting original or empirical research e.g. commentaries, editorials, and summary papers (original paper identified instead).

2) Studies not conducted in UK primary care settings. This was in order to obtain views, beliefs and attitudes relevant to primary care practice in the UK, which is where a planned new online intervention was developed for.

3) Studies excluded if the data from GPs and PNs were combined with data gathered from other health care professionals and were difficult to separate, because the focus of the present review was exclusively concerned with GPs and PNs working in primary care.

4) Studies excluded when focusing on depression in special subgroups (postnatal, maternal depression, children, adolescents) because the focus of the present review was exclusively concerned with adults’ depression and its management in primary care and such studies are unlikely to provide data which could inform primary care depression management.

The identified themes about depression were planned to be addressed in planned later studies specific to diabetes, CHD and comorbid depression.

5) Interventions aimed at training practitioners’ to manage depression were also excluded as it was beyond the scope of this review.

6) Studies not published in English.

**Table 3.2: Exclusion criteria for scoping review**

Following the removal of duplicates, the titles and abstracts of 6,728 articles (5,577 records in April 2010 and an additional 1,151 records in June 2015) were screened for eligibility in the review. Titles and abstracts of these 6,728 articles were reviewed so as to identify articles related to the topic. From the above, 6,365 articles were excluded because they were either irrelevant or failed on one or more of the inclusion criteria, and the remaining 364 were selected for further investigation. To improve the
quality of the review, extensive hand-searching of key journals such as previous systematic reviews and reference-checking in the selected articles was conducted. This step generated an additional ten articles for examination. A total of 374 articles were selected for full examination. After full examination of the 374 articles, 27 papers (26 studies) met the inclusion criteria; 10 quantitative and 17 qualitative papers were selected for inclusion in the review. The results of the 27 papers (26 studies) selected are presented in Appendices F and G. Figure 5 below presents the process of searching and identifying relevant papers (PRISMA; Liberati et al., 2009).
Figure 5: PRISMA diagram detailing the process of searching and identifying relevant papers
3.3.4. Stage 4: Charting the data

In stage 4, a ‘Charting approach’ (Ritchie & Spencer, 2005) which describes a technique for synthesising and interpreting data by sifting, charting and sorting material according to key issues and themes, was applied. This process is a similar process to ‘data extraction’ in systematic reviews, but without involving any specific statistical techniques. The charting approach was employed where contextual or process-oriented information was extracted from each study. The chart guided the identification of key areas relevant for the scoping review. A form for data extraction for the scoping review was used to assist the process (Appendix I). In summary, the information in the studies included was as follows:

- First author, year of publication, title of study
- Study populations (Number of GPs and PNs)
- Aims of the study
- Methodology
- Outcome measures (in quantitative studies) or research analysis (qualitative studies)
- Important results

A Microsoft Excel spread sheet was developed and used as a chart to extract data for each study. A different reviewer independently examined all the extracted texts against the inclusion and exclusion criteria. Any disagreements were resolved via discussion. The summary of the quantitative and qualitative study characteristics is in Appendices H and J respectively.

3.3.5. Quality assessment of included studies

When a study met the inclusion criteria and data were extracted and stored in the Microsoft Excel spread sheet, a team of researchers and academic supervisors independently appraised the extracted data for quality. Critical appraisal was used to comment on the methodological quality of the included studies and suggest improvements for future research in this field.
A version of the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE; Von Elm et al., 2007) checklist was used for the quantitative studies and a version of the Critical Appraisal Skills Programme (CASP) criteria (Solutions for Public Health, 2011) were used for the qualitative studies (Appendix N).

3.3.5.1. Qualitative studies

The extracted data from the qualitative studies were appraised for quality using a version of CASP guidelines, which has been recommended for use in qualitative systematic reviews (Jackson, Waters & Taskforce, 2005). Similarly to the quantitative studies, no qualitative studies were excluded on grounds of quality, but instead the information of the checklist was used for discussion. Quality appraisal forms were completed by two reviewers (author and A.H.M) and no disagreements emerged. A summary of the results of the quality assessment of the qualitative studies can be found in Appendix N.

3.3.5.2. Quantitative studies

The STROBE guidelines were used to assess the quality of the included studies (Appendix K). A checklist was developed using these underlying principles and STROBE recommendations (Appendix L; von Elm et al., 2008). In addition, a systematic review by Sanderson, Tatt and Higgins (2007) looking for tools for assessing quality and susceptibility to bias in observational studies found that ‘most identified studies included tools with items for selection methods (92%), measurement of study variables (86%), design-specific sources of bias (86%), use of statistics (78%), control of confounding (78%), and conflict of interest (4%)’. Studies were not excluded on grounds of quality; instead this information was used to present the quality of evidence available on this topic for discussion. Quality appraisal forms were completed by two reviewers (author and J.H) and no disagreements emerged.
3.3.6. Stage 5: Summarising, synthesising and reporting the results

3.3.6.1. A narrative summary

This stage of a scoping study involves summarizing and reporting the results. There are different methods for evidence synthesis of the data from both qualitative and quantitative studies (Dixon-Woods, Agarwal, Jones, Young & Sutton, 2005) but these methods are still evolving. The synthesis of scoping reviews, however, is more qualitative and typically not quantitative (Armstrong, Hall, Doyle & Waters, 2011). To present the results, a narrative and thematic analysis was employed which lead to a final narrative account of findings for presentation which is suggested to be the best way to present results for scoping reviews (Arksey & O’Malley, 2005). The literature was organised thematically using a narrative summary, an approach found to be the most appropriate method to integrate qualitative and quantitative evidence (Lucas, Baird, Arai, Law & Roberts, 2007) in order to generate and present themes that were not only data-driven but also theory-driven (Popay et al., 2003; Alderson et al., 2012). The narrative summary is an approach which uses words and text to summarise and interpret the findings in different or heterogeneous studies, whilst keeping its context (Popay et al., 2006). This approach was deemed appropriate as the research was conducted under the pre-existing theoretical framework CS-SRM which was described in Chapter 2. This framework guided the themes translation and subthemes generation using the key construct of the model as guidance.

3.3.6.2. Themes translation

Beliefs, attitudes, experience and barriers of HCPs were the main focus of the analysis as presented below. The term “personal model” was used as an umbrella term to capture concepts such as GPs and PNs’ beliefs, representations, and knowledge of depression regarding the identity, causes, consequences, timeline, and control/cure of depression in primary care. The term attitudes was used to generate themes relating to positive or negative evaluations of working with people with depression, and beliefs about the
outcome of those actions. The term barriers were used when something encouraged/ discouraged practitioners to implement mental health care practices in order to recognise or/and manage depression effectively.

3.3.6.3. Analysis process for narrative summary in the qualitative studies

For this review, the qualitative studies guided the analysis and summaries for presentation. The study characteristics, main findings and quality appraisals were firstly tabulated. The supervisory team met to discuss the findings of the studies in order to start the process of a thematic analysis. The thematic analysis of the qualitative data was then conducted as proposed by Thomas and Harden (2008); after the stage of data familiarisation, attitudes, beliefs and experiences reported in the findings of each study became the primary unit of analysis and developed descriptive themes. Beliefs about depression were initially categorised using Leventhal’s Illness Representations (illness beliefs towards causes, consequences, control). These constructs were the high-order themes for the data. More attitudes and beliefs were identified and new codes were generated based on the salient features in the data (Braun & Clarke, 2006). These beliefs were not adequately captured by the framework, thus new themes were developed. The new and final themes were agreed on by consensus with the supervisory team. In addition, the coding of the themes was checked for 10% of studies by the supervisory team and any deviations were again resolved with discussion.

This method was close to the meta-ethnography approach, in which the findings of each study, e.g. attitudes and beliefs as reported by the authors of the studies, would be the first-order constructs and the author-derived themes would be the second-order constructs (Noblit & Hare, 1988). However, the breadth of areas researched in these papers ensured that resulting data were too heterogeneous to utilise a synthesis method such as a meta-ethnography (Barnett-Page & Thomas, 2009; Sandelowski et al., 1997). In this study, the analysis and presentation of studies’ results followed a semantic approach in which the identified themes were based on
their explicit meaning. Interpretation occurred after the generation of themes during the summary to make sense of the findings and during the discussion to avoid transparency bias (Braun & Clarke, 2006)

3.3.6.4. Analysis process for narrative summary in the quantitative studies

The quantitative findings, summaries of participant responses to questionnaire items, results headings, conclusions and recommendations were mapped onto the framework derived from the qualitative literature. This approach was used in previous reviews and was deemed appropriate for this synthesis (Alderson et al., 2012). Thus, data from both qualitative and quantitative studies were presented together in order to provide a comprehensive illustration of the themes. In addition to this, additional attitudes found in the result and discussion sectors were grouped into more categories which were common across the papers. These categories were primarily derived from key constructs of the Depression Attitudes Questionnaire (DAQ) which was used in some studies and is claimed to be the only validated measure of HCPs’ attitudes (Haddad et al., 2012). A coding checklist to help the mapping of the results into the categories was also developed as suggested by Vogt, Hall & Marteau (2005). For example, the finding that 60% of HCPs felt comfortable managing depression supported the theme of ‘self-efficacy and personal control towards depression’ (see Table 3.5 for coding). Meta-analysis in the quantitative studies was not performed due to heterogeneity in the design and outcome measures.

The last stage involved a structured summary contextualising and elaborating on the extracted data from both qualitative and quantitative papers into a framework of barriers and facilitators to the management of depression (Harden et al., 2004) and integrating the findings into overarching conclusions during the discussion stage.

In the section that follows, the qualitative and quantitative findings will be presented in the form of a narrative summary.
3.4. Results

3.4.1. Study characteristics

Among the 374 articles identified for review, 27 papers met all the inclusion criteria. One study was presented in more than one paper (Chew-Graham, Mullin, May, Hedley & Cole 2002; Chew-Graham & Hogg, 2002). Articles were excluded after an abstract review. The main reasons for exclusion were that depression was not the main reason for consultation or studies did not focus on GPs and PNs’ attitudes, beliefs or perceived barriers towards depression and its diagnosis or management. Some studies were excluded because they were not research studies and others because they were not conducted in primary care in the UK. Some studies were also excluded because it was not possible to separate the data for GPs and PNs from the data for other HCPs.

There was a range of quantitative methodologies (10 papers) and mixed qualitative methodologies (17 papers). All studies included in the review, including a summary of the study characteristics (authors, setting, design, participants) are presented in Tables 3.3 and 3.4.

3.4.2. Sample

In the qualitative studies the number of GPs and PNs was 384 and 47 respectively. In the quantitative studies the sample size was 2,697 GPs and 1,173 PNs. In both qualitative and quantitative studies, there were 3081 GPs and 1220 PNs, thus a total of 4301 primary care HCPs. The sample sizes of the studies ranged from 10 to 1,703 participants. In Coventry et al. (2011) from the total sample there were 12 other participants, whereas in Maxwell et al. (2013); the sample involved an additional number of 28 specialists and 21 practice managers.

All but one papers (26) focused inclusively on GPs; 17 of these studies included only GPs and nine of these both GPs and PNs: Twelve out of
seventeen qualitative studies interviewed only GPs (Chew-Graham, May, Cole & Hedley, 2000; Chew-Graham et al., 2002; Chew-Graham & Hogg, 2002; Gask et al., 2005; Hyde et al., 2005; Johnston et al., 2007; MacDonald et al., 2009, Maxwell, 2005; McPherson & Armstrong, 2009; Pollock & Grime et al., 2003; Rogers, Carl & Oliver, 2001; Stavrou Cape & Barker, 2009). The remaining five included both GPs and PNs (Barley et al., 2012; Burroughs et al., 2006; Coventry et al., 2011; Maxwell et al., 2013; Murray et al., 2006). In two of these studies (Coventry, et al., 2011; Maxwell, et al., 2013), the sample was comprised by managers and other professionals as well. Seven out of ten quantitative studies the sample was comprised by GPs, in two by both GPs and PNs (Livingston Yard, Beard & Katona, 2000; Haws, Ramjeet & Gray, 2011) and in one by PNs only (Naji et al., 2004).

3.4.3. Qualitative studies

In fourteen of the qualitative papers, data were collected with in-depth semi-structured interviews. One study used both semi-structured interviews and a focus group to collect data (Coventry et al., 2011) while two studies used focus groups (Hyde et al., 2005; Maxwell et al., 2013).

Purposeful regional sampling, based on different characteristics such as practice characteristics, was used in the majority of the qualitative studies. Two studies used a convenient sample (Stavrou et al., 2009; Burroughs et al., 2006) and one study used both purposive and snowballing design to collect data (Barley et al., 2012). Seven out of eleven quantitative studies reported response rates for the total sample. These ranged from 8.9% to 72%. One study reported the response rate of the practices approached (12% response rate; Livingston et al. 2000). Only two qualitative studies (Chew- Graham et al., 2002; Johnston et al., 2007) reported the response rates which were 66% and 24% respectively.

Seven qualitative studies used a grounded theory (Chew-Graham & Hogg, 2002; Gask et al., 2005; Johnston et al., 2007; Maxwell, 2005; Maxwell et al., 2013; Murray et al., 2006; Pollock & Grime et al., 2003; McPherson &
Armstrong, 2009; Pollock & Grime et al., 2003; Rogers et al., 2001; Stavrou et al., 2009). Four of them also used principles of constant comparison (Chew-Graham & Hogg, 2002; Johnston et al., 2007; Maxwell, 2005; Maxwell et al., 2013). Two studies used a thematic analysis approach (McPherson & Armstrong, 2009; Stavrou et al., 2009) whereas another two used a combination of thematic analysis with principles of constant comparison (Barley et al., 2012; Coventry et al., 2011). Three studies used comparative analysis (Burroughs et al., 2009; Chew-Graham et al., 2002; Hyde et al., 2005), one study used content analysis (Rogers et al., 2001) and another study used the framework approach (MacDonald et al., 2009). The attribution theory was used by Gask et al. (2005), the social constructionist framework by McPherson and Armstrong (2009) and the critical realist perspective by Maxwell (2005). Finally, an interpretive approach, based on the constructivist version of grounded theory was used by Maxwell et al. (2013).

3.4.4. Quantitative studies

In all but one of the quantitative studies the methods for collecting data were questionnaires with a cross-sectional study design apart from one which was a prospective cohort (Livingston et al., 2000). Three of the quantitative studies used a consecutive random sample design to collect data (Oladinni, 2002; Telford et al., 2002; Rothera et al., 2002). One study used a volunteer/convenient sample by a research team and development funded Randomised Control Trials (RCTs) (Dowrick, Gask, Perry, Dixon & Usherwood, 2000). The rest of the studies used regional or nation-wide convenient samples.

The DAQ, which is the only validated practitioner outcome measure of attitudes towards depression designed by Botega et al. (1992), was used in four studies (Naji et al., 2004; Oladinni, et al., 2002; Dowrick, et al., 2000; Livingston, et al., 2000). Naji et al. (2004), in addition to the DAQ, used twelve statements developed for this study which examined intentions (how often nurses ask about depression), self-efficacy (whether nurses feel able to deal with depression) and decision-making (actions taken after identifying
depression). On the other hand, Rothera, Jones and Gordon (2002), Byng et al. (2003), Manning and Marr (2003), Telford et al. (2002), Kendrick et al. (2005) and Haws et al. (2011) used de novo questionnaires. Dorwick et al. (2000) and Livingston et al. (2000) used a scale to measure health professionals’ practice patterns (prescribing patterns, making a referral, psychotherapy preferences, counselling).

The quantitative studies were heterogeneous in terms of the statistical analyses, design and outcome measures they employed (See Appendix O for the results). Most of the analyses were conducted by simple descriptive statistics. Two studies (Oladinni, 2002; Manning & Marr, 2003) reported only frequencies (percentage distributions %) while one study (Telford et al., 2002) reported frequencies, chi-squared analysis and t-tests for the demographic characteristics but not for the attitudes. Another study (Rothera et al., 2002) reported frequencies, and chi-squared analysis. Four studies (Kendrick et al., 2005; Naji et al., 2003; Byng et al., 2003; Haws et al., 2011) reported frequencies, Pearson’s correlations (p values), mean scores and standard deviations. One of these studies (Byng et al., 2003) also carried out analyses using logistic regression. Furthermore, one study (Dowrick et al., 2000) reported descriptive and inferential statistics; frequencies, mean scores/SDs, Spearman’s rho correlations (p values) and a Wilcoxon Signed Rank Test. Finally, one study mentioned the use of similar tests in the method section but only reported p values (Livingston et al., 2000).
### Table 3.3: Characteristics of included qualitative papers

<table>
<thead>
<tr>
<th>First Author</th>
<th>N</th>
<th>Sampling</th>
<th>Data collection</th>
<th>Data analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Qualitative studies</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barley et al. (2012)</td>
<td>10 GPs and 12 PNs</td>
<td>Purposeful snowballing</td>
<td>semi-structured interviews</td>
<td>Thematic analysis using principles of constant comparison</td>
</tr>
<tr>
<td>Burroughs et al. (2006)</td>
<td>9 GPs, 3 PNs</td>
<td>Purposeful</td>
<td>semi-structured interviews</td>
<td>Constant comparison</td>
</tr>
<tr>
<td>Chew-Graham et al.(2000)</td>
<td>22 GPs</td>
<td>Purposeful</td>
<td>semi-structured interviews</td>
<td>Constant comparison</td>
</tr>
<tr>
<td>Chew-Graham et al.(2002)</td>
<td>35 GPs</td>
<td>Purposeful</td>
<td>semi-structured interviews</td>
<td>Constant comparison</td>
</tr>
<tr>
<td>Chew-Graham &amp; Hogg (2002)</td>
<td>25 GPs</td>
<td>Purposeful</td>
<td>semi-structured interviews</td>
<td>Grounded Theory- Constant comparison</td>
</tr>
<tr>
<td>Coventry et al. (2011)</td>
<td>8GP, 4 PNs, 12 others</td>
<td>Purposeful</td>
<td>semi-structured interviews and focus group</td>
<td>Thematic approach using principles of constant comparison</td>
</tr>
<tr>
<td>Gask et al. (2005)</td>
<td>30 GPs</td>
<td>Purposeful</td>
<td>semi-structured interviews</td>
<td>Grounded theory Attribution theory</td>
</tr>
<tr>
<td>Hyde et al. (2005)</td>
<td>27 GPs</td>
<td>Purposeful</td>
<td>Five focus groups</td>
<td>Constant comparison</td>
</tr>
<tr>
<td>Johnston et al. (2007)</td>
<td>32 GPs (RR 24%)</td>
<td>Purposeful</td>
<td>semi-structured interviews</td>
<td>Grounded Theory -Constant comparison</td>
</tr>
<tr>
<td>MacDonald et al. (2009)</td>
<td>63 GPs</td>
<td>Purposeful</td>
<td>semi-structured interviews</td>
<td>Framework analysis approach</td>
</tr>
<tr>
<td>Maxwell (2005)</td>
<td>20 GPs</td>
<td>Purposeful</td>
<td>semi-structured interviews</td>
<td>Grounded theory— Constant comparison</td>
</tr>
<tr>
<td>Maxwell et al. (2013)</td>
<td>a) 6 GPs and 8 PNs</td>
<td>Convenient</td>
<td>Focus groups</td>
<td>Critical realist perspective Grounded theory— Constant comparison</td>
</tr>
<tr>
<td></td>
<td>b) 76=14 GPs, 13 PNs, 28 others</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>McPherson &amp; Armstrong (2009)</td>
<td>20 GPs</td>
<td>Purposeful</td>
<td>semi-structured interviews</td>
<td>Thematic analysis</td>
</tr>
<tr>
<td>Murray et al. (2006)</td>
<td>18 GPs, 7 PNs</td>
<td>Purposeful</td>
<td>semi-structured interviews</td>
<td>Grounded theory</td>
</tr>
<tr>
<td>Pollock &amp; Grime et al. (2003)</td>
<td>19 GPs</td>
<td>Purposeful</td>
<td>semi-structured interviews</td>
<td>Grounded theory</td>
</tr>
<tr>
<td>Rogers et al. (2001)</td>
<td>10 GPs</td>
<td>Purposeful</td>
<td>semi-structured interviews</td>
<td>Content analysis</td>
</tr>
<tr>
<td>Stavrou et al. (2009)</td>
<td>14 GPs</td>
<td>Convenience</td>
<td>semi-structured interviews</td>
<td>Thematic analysis</td>
</tr>
</tbody>
</table>
Table 3.4: Characteristics of included quantitative papers

<table>
<thead>
<tr>
<th>First Author</th>
<th>N</th>
<th>Sampling</th>
<th>Data collection Study design</th>
<th>Data analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Quantitative studies</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Byng et al. (2003)</td>
<td>274 GPs</td>
<td>Convenience sampling</td>
<td>Survey/ Cross-sectional</td>
<td>Frequencies and Pearson’s correlations, mean scores and SDs, logistic regression</td>
</tr>
<tr>
<td>Dowrick et al. (2000)</td>
<td>40 GPs</td>
<td>Convenience/volunteer sampling</td>
<td>Survey / Cross-sectional</td>
<td>Frequencies, mean scores/SDs, Spearman’s rho correlations and a Wilcoxon t-test.</td>
</tr>
<tr>
<td>Haws et al. (2011)</td>
<td>813 (106 GP and 707 PNs)</td>
<td>Convenience sampling</td>
<td>Survey/ Cross-sectional</td>
<td>Frequencies and Pearson’s correlations (p values), mean scores and SDs</td>
</tr>
<tr>
<td>Kendrick, et al. (2005)</td>
<td>17 GPs</td>
<td>Convenience sampling</td>
<td>Survey/ Observational</td>
<td>Frequencies and Pearson’s correlations, mean scores and SDs, confidence intervals (Cis), statXaxt-5 test</td>
</tr>
<tr>
<td>Livingston et al. (2000)</td>
<td>55 (31 GP and 24 PNs)</td>
<td>Convenience sampling</td>
<td>Survey/ prospective cohort study</td>
<td>Pearson’s correlations</td>
</tr>
<tr>
<td>Manning &amp; Marr (2003)</td>
<td>202 GPs</td>
<td>Convenience sampling</td>
<td>Survey/ Cross-sectional</td>
<td>Frequencies (percentage distributions %)</td>
</tr>
<tr>
<td>Naji et al. (2004)</td>
<td>442 PNs</td>
<td>Consecutive sampling/ one-in-two random sample</td>
<td>Survey/ Cross-sectional</td>
<td>Frequencies and Pearson’s correlations (p values), mean scores and SDs</td>
</tr>
<tr>
<td>Oladinni (2002)</td>
<td>61 GPs</td>
<td>Consecutive sampling/ random sample</td>
<td>Survey/ Cross-sectional</td>
<td>Frequencies (percentage distributions %).</td>
</tr>
<tr>
<td>Telford et al. (2000)</td>
<td>1703 GPs</td>
<td>Convenience sampling</td>
<td>Survey/ Cross-sectional</td>
<td>Frequencies, chi-squared (X2) and t-tests</td>
</tr>
<tr>
<td>Rothera et al. (2002)</td>
<td>263 GPs</td>
<td>Consecutive sampling/ all practices</td>
<td>Survey/ Cross-sectional</td>
<td>Frequencies, and chi-squared (X2) analysis</td>
</tr>
</tbody>
</table>
3.4.5. Quality assessment

All 27 qualitative and quantitative papers were assessed for quality. As mentioned previously, no studies were excluded on methodological quality grounds (Noyes & Popay, 2007); all quality issues were addressed during the review process in which generalisability is not assumed when interpreting the data.

Most of the quantitative studies were shown to have an average performance in terms of scores for quality assessment which ranged between 4 and 6 (see Appendix M). No studies apart from one (Haws et al., 2011) reported validity of the measures, internal reliability or calculating Cronbach’s $\alpha$ scores necessary to determine the extent to which items in a subscale are inter-correlated, thus measuring the same construct. These studies also suffered from low response rate. The overall quality of the qualitative studies was satisfactory. The highest rated study scored 10/10 of criteria met (Johnston et al., 2007) whilst the lowest rated study scored 5/10 (Rogers et al., 2006). Studies frequently failed to report or discuss the researchers’ own role in the research process, the relationship between researchers and participants, and potential bias such as transparency of research. Studies reported clearly how the data were collected but the process of analysis was vaguely reported. Two publications on the same dataset (Chew-Graham et al., 2000; Chew-Graham et al., 2002) did not score high in terms of methodological quality. Maxwell et al. (2013) interviewed GPs, PNs, specialists and practice managers but the responses of the practice managers were not reported. Some studies also had small samples but, in combination, the sample size of the HCPs (n=4301) in the review is considered relatively large.

3.4.6. Description of analysis

All 27 papers referred to attitudes, beliefs, facilitators and barriers, although this terminology may not have been used in all of the studies. Appendix P presents the studies that contributed to each theme. Beliefs and attitudes were grouped into four categories, which were evident in more than one study and are hence included in the review.
### Themes and subthemes translation and contributing factors

<table>
<thead>
<tr>
<th>Themes</th>
<th>Subthemes</th>
<th>Themes and subthemes translation and contributing factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Illness beliefs towards causes, consequences and symptoms of depression</td>
<td>a) The threat's causal mechanism</td>
<td>a) Significant life events, LTCs, Biological causes, personality</td>
</tr>
<tr>
<td></td>
<td>b) Reluctance to medicalise problems or the belief that depression is not a real illness (labelling)</td>
<td>b) Depression is not a real disorder or not depression when linked to social problems</td>
</tr>
<tr>
<td></td>
<td>c) Beliefs towards the consequences of depression: The believed consequence of a threat (minor or major)</td>
<td>c) Examples include financial and housing difficulties, decreased quality of life, further episodes of illness</td>
</tr>
<tr>
<td>2) Attitudes and skills towards the diagnostic process and management of depression</td>
<td>a) Time constraints</td>
<td>a) Concerns about the time discussions with people with depression take; ‘it takes too much time’</td>
</tr>
<tr>
<td></td>
<td>b) Views on guidelines and diagnostic tools</td>
<td>b) HCPs’ views on tools such as diagnostic tools are ‘impersonal’, or ‘deemed intrusive’ or ‘the guideline are useful’</td>
</tr>
<tr>
<td></td>
<td>c) Knowing the person</td>
<td>c) perceptions such as HCPs-patient relationship can facilitate recognition of depression</td>
</tr>
<tr>
<td></td>
<td>d) Confidence (self-efficacy) and optimism</td>
<td>d) Statements relating to the degree to which HCPs feel to discuss, recognise, and manage depression effectively</td>
</tr>
<tr>
<td></td>
<td>e) knowledge and training</td>
<td>e) Statements relating to the degree to which HCPs felt they had the necessary knowledge and training to discuss, recognise and manage depression; ‘I feel that I lack knowledge.’</td>
</tr>
<tr>
<td>3) Attitudes towards depression and patients with depression</td>
<td>a) Personal experience</td>
<td>a) Expressions of positive or negative emotional experiences of discussing and managing depression. Examples of such experiences include statements; working with depressed people is heavy-going ‘difficult’ ‘people who bore you’, ‘practical and emotional burdens’ ‘depression reflects a characteristic response in patients which is not amenable to change</td>
</tr>
<tr>
<td></td>
<td>b) Unclear understanding</td>
<td>b) Statements included in this theme explicitly refer to depression as an unclear condition in terms of diagnosis and management</td>
</tr>
<tr>
<td></td>
<td>c) Stigma</td>
<td>c) Issues related to depression and associated stigma</td>
</tr>
<tr>
<td>4) Controllability: Treatment of depression</td>
<td>a) Attitudes towards medication regimens</td>
<td>a) Expressions of positive or negative evaluations of medication its effectiveness and managing depression with medication</td>
</tr>
<tr>
<td></td>
<td>b) Attitudes towards talking therapies</td>
<td>b) Expressions of positive or negative evaluations of talking therapies and beliefs about its effectiveness. Attitudes towards services proving talking therapies</td>
</tr>
<tr>
<td></td>
<td>c) Concerns for available treatment options</td>
<td>c) Barriers, beliefs, problems related with available management options</td>
</tr>
</tbody>
</table>

Table 3.5 Themes, subthemes and translation
3.5. Themes and Subthemes

3.5.1. Theme 1: GPs and PNs’ illness beliefs towards causes, consequences and symptoms of depression

The results from all the studies indicated that health professionals conceptualise depression in a traditional and dichotomous model of depression; that is a reactive (social) and a biological depression. The first model sees depression as a normal response to life events such as ageing, and the second model sees depression from a biomedical perspective. Illness and personality factors were also viewed as causes of depression in some cases.

3.5.1.1. Depression’s causal mechanism

i. Significant life events

Other important causal attributions included the HCPs’ beliefs of normality. For example, in the majority of the studies, HCPs believed that depression is a normal response to social events, stressors, circumstances and misfortunes (Gask et al. 2005; Rogers et al., 2001; Naji et al., 2004; Oladinni, 2002; Maxwell, 2005; McPherson & Armstrong, 2009; Chew-Graham et al., 2000; Chew-Graham et al., 2002; Coventry et al. 2011; Barley et al., 2012; Murray et al., 2006; Stavrou et al., 2009; Burroughs et al., 2006; Naji et al., 2004). Such stressors include issues related to housing crises (Chew-Graham et al., 2000; Maxwell, 2005), loneliness, reduction in function (Burroughs et al., 2006), unemployment, crime, financial problems and work-related issues (Byng et al., 2003; Chew-Graham et al., 2000; Chew-Graham, et al., 2002; Manning & Marr, 2003; Telford et al., 2002; MacDonald et al., 2009; Barley et al., 2012; Rothera et al., 2002). HCPs were reported to believe that it is, therefore, ‘understandable and justifiable’ to feel depressed (Barley et al., 2012; Burroughs et al., 2000). Other HCPs considered depression to be associated with deprivation in earlier life (Oladinni, 2002), and death (Chew-Graham et al., 2002). In two studies, the HCPs suggested that
depression when associated with stressors is called reactive (Rogers et al., 2001; Hyde et al., 2005). Stavrou et al. (2009) reported that when depression is linked to a stressful event, such as death, it is less likely that patients would be referred for talking therapy as they feel able to manage the problems themselves. Chew-Graham et al. (2000) noted: “If depression is conceptualised as a normal response to disadvantage….then the question of an appropriate diagnostic and management strategy becomes as intractable as the illness itself”.

Several studies indicated that HCPs consider patients’ symptoms as ‘less true’ when linked to stressful events and loss or when patients do not respond to treatment (Gask et al., 2005; Murray et al., 2006; McPherson and Armstrong, 2009; MacDonald et al; 2009; Chew-Graham; 2002). In addition, some HCPs expressed their concerns about their role in medicalising patients’ social problems, grief and loneliness (Gask et al., 2005; Maxwell, 2005; Murray et al., 2006; Johnston et al., 2007; McPherson & Armstrong, 2009; MacDonald et al., 2009; Chew-Graham et al., 2002; Burroughs et al., 2006) ‘by making things into medical problems when they are not’ which may lead to an over-identification (Maxwell, 2005) or overtreatment (MacDonald et al., 2009) of depression. Burroughs et al. (2006) suggested that this leads to problems when a clinical diagnosis is needed and the offered treatment is within the biomedical model. Others believed that only distress that becomes severe should require management (Barley et al., 2012). HCPs also suggested that there is ‘secondary gain’ for a patient, as reported in one study (Chew-Graham et al., 2002; Chew-Graham et al., 2000).

The belief that depression is not a real disorder and the concern over the medicalisation of some problems may impact on the management of depression such as leading to prescribing a lot of unneeded antidepressants (Rogers et al., 2001; Chew-Graham et al., 2002; Maxwell, 2005; Murray et al., 2006; Barley et al., 2012; Burroughs et al., 2006). The perception of the causes of depression by HCPs was a key aspect that influenced their approach for dealing with depression.
ii. Long Term Conditions

Illness was also perceived as one of the causes of depression (Murray et al., 2006; Chew-Graham et al., 2002; Chew-Graham & Hogg, 2002; Coventry et al., 2011; Barley et al., 2012; Maxwell et al., 2013; Rothera et al., 2002). Depression is seen as an understandable reaction, a part of the LTC or as a natural and normal consequence of the LTC (Chew-Graham & Hogg, 2002; Coventry et al., 2011; Barley et al., 2012) and as a result of being in pain due to the LTC, the duration of the illness and the severity of its symptoms (Chew-Graham & Hogg, 2002). Other related causes were loss of self-esteem, physical decline, erectile dysfunction and changes in people health status due to the illness (Chew-Graham & Hogg, 2002; Barley et al., 2012).

iii. Biological model of depression

Only a minority of HCPs in six studies saw depression as a medical condition which is caused by a chemical imbalance in the neurotransmitter, (Johnston et al., 2007; Maxwell, 2005; Naji et al., 2004; Oladinni, 2002; Rogers et al., 2001; Livingston et al., 2000). This view was expressed when depression could not be attributed to stressful live events and depression was not inevitable (Dowrick et al., 2000) or treatable (Johnston et al., 2007). One study found that it is difficult to distinguish the biomedical basis of depression from the psychological origin of depression (Oladinni, 2002). One study (Livingston et al., 2000) indicated that doctors were more likely than PNs to link depression with biochemical abnormality. Two studies (MacDonald et al., 2009; Hyde et al., 2003) suggested that some of the HCPs in their study believe that an understanding of depression as reactive or endogenous shows an out-moded model of causality. In one study, HCPs disagreed that it was possible to distinguish the two main groups of depression, i.e. biological and psychological (Oladinni, 2002).

iv. Personality

Personality and in particular premorbid personality was also perceived as a cause of depression by some HCPs in three studies (Gask et al., 2005; McPherson & Armstrong, 2009; Barley et al., 2012) whereas it was not mentioned as a factor in any of the other studies.
3.5.1.2. Consequences of depression

When depression is present with LTCs, its diagnosis is complicated and this has an impact on its management (Murray et al., 2006; Haws et al., 2011). HCPs reported that depression is a serious condition which affects patients’ quality of life and functioning, and interferes with everyday life such as work (Chew-Graham & Hogg, 2002; Stavrou et al., 2009; Barley et al., 2012). Participants recognise the negative impact of depression on the LTC, the risk of further episodes of illness, the potential impact on self-management and adherence to treatment and the barrier it poses to rehabilitation (Barley et al., 2012; Haws et al., 2011). Depression is associated with poor prognosis in people with CHD (Haws et al., 2011). Depression in conjunction to a LTC can also cause financial and housing difficulties and isolation (Barley et al., 2012). In one study, respondents reported that depression injures people’s self (Rogers et al., 2001). Those attributions represent a model of the consequences of depression in people’s lives which affects their whole life.

3.5.2. Theme 2: Attitudes and skills towards the diagnostic process of depression

3.5.2.1. Time constraints

Most of the GPs and PNs considered the process of diagnosing depression as time consuming. It is clearly identifiable that in the majority of the studies (15), the main obstacle in engaging with depression was time constraints and the fact that there was not adequate time available to discuss depression (Haws et al., 2011; Maxwell et al., 2013; Gask et al., 2005; Johnston et al., 2007; Chew-Graham & Hogg, 2002; Chew-Graham et al., 2000; Coventry et al., 2011; Rogers et al., 2001; Stavrou et al., 2009; Hyde et al., 2005; Manning & Marr, 2003; Telford et al., 2002; Burroughs et al., 2006; McPherson & Armstrong, 2009). For example, depression is viewed as requiring more time than other conditions presented in general practice. However, participants in one study did not view time as a barrier to diagnose depression (Pollock & Grime, 2003). Participants in another study
reported that the most time-consuming elements of treating patients with depression are working with comorbid conditions, followed by treating recurrent episodes of depression (Manning & Marr, 2003).

Some statements included ‘I don’t get paid any extra money for doing this job’ (Gask et al., 2005) and ‘there is no time to look after this huge demand’ (McPherson & Armstrong, 2009). Long consultations such as those for depression are also viewed as at the expense of other patients e.g. patients may complain because they cannot see the doctor (Chew-Graham et al., 2000; Chew-Graham et al., 2002). By screening for depression, a positive result would open “a can of worms” (Maxwell et al., 2013), or “a Pandora's box” (Burroughs et al., 2006) in time-limited consultations which HCPs have no time to deal with (Maxwell et al., 2013).

In two studies, (Stavrou et al., 2009; Hyde et al., 2005) HCPs reported that time constraints encourage a prescription and lead HCPs to refer patients for different treatment options, as counsellors can offer more time to patients who need help. Thus, time constraints affect the screening, recognition and management of depression in primary care (Hyde et al., 2005; Maxwell et al., 2013).

3.5.3. Views on guidelines and diagnostic tools

Diagnostic tools and guidelines are used for screening and are seen as important approaches to diagnosing depression (MacDonald et al., 2009; Chew-Graham & Hogg, 2002; Coventry et al., 2011; Barley et al., 2012; Haws et al., 2011). Diagnostic instruments and the two prompt questions are used in primary care (Haws et al., 2011) or seen as a reliable and helpful tool to initiate a discussion about depression routinely in a non-threatening way (Barley et al., 2012), which increases the rates of people with depression among those visiting the HCPs for discussing the LTC (Chew-Graham & Hogg, 2002; Coventry et al., 2011).

On the other hand, other studies reported that HCPs criticised both guidelines and diagnostic tools as ‘excluding important external cues’,
‘being of little help’, ‘impersonal’, or ‘deemed intrusive’ (Chew-Graham & Hogg, 2002; Maxwell, 2005; Kendrick et al., 2005; Coventry et al., 2011; Burroughs et al., 2006, Maxwell et al., 2013; McPherson & Armstrong, 2009). These tools were generally considered as unsuitable for use with patients for depression because depression is too subjective to be amenable to such tools (Maxwell, 2005; McPherson & Armstrong, 2009). Burroughs et al. (2006) criticised those tools as they exclude contextual clues such as important information about that particular patient’s life. In addition, Maxwell et al. (2013) criticised screening tools as ‘mechanistic’ and less professional, factors which negatively affect the clinician-patient relationship. Lack of time was also reported in this study to be the obstacle for using such screening tools.

MacDonald et al. (2009) suggest that NICE guidelines have influenced the rise in the prescription of antidepressants despite antidepressants not being the first line management recommendation. One study reported that only a minority of GPs (27%) follows guidelines for depression and its treatment (Manning & Marr, 2003).

3.5.3.1. Knowing the person

Continuity of care which enhances a good relationship between patients and doctors was cited as one of the most important ways to identify depression. This could help patients to reveal emotional symptoms (Chew-Graham et al., 2000; Pollock & Grime, 2003; Chew-Graham & Hogg, 2002; Coventry et al., 2011; Burroughs et al., 2006). Listening to patients’ problems is seen as an important skill for getting the patient ‘to open up’, building trust and maintaining a good relationship (Chew-Graham, et al., 2002; Chew-Graham et al., 2000; Johnston et al., 2007; Maxwell, 2005; Pollock & Grime, 2003). Active listening also helps patients to express their emotions (Johnston et al., 2007) which can be very therapeutic. Experience, intuition and ‘gut feeling’ were also seen as important ways in the process of recognising depression (Maxwell, 2005; MacDonald et al., 2009; Chew-Graham & Hogg, 2002; Barley et al., 2012; Burroughs et al., 2006). Knowing the patient well is seen as an important element in making HCPs feel more
confident about recognising and treating depression (Chew-Graham & Hogg, 2002).

3.5.3.2. Confidence (self-efficacy) and optimism in ability to manage depression

In eight studies, professionals reported that confidence to work with depressed patients, including beliefs about their efficacy to identify the signs and symptoms of depression and discuss depression with these patients (Haws et al., 2011; Oladinni et al., 2002; Stavrou et al., 2009; Chew-Graham et al., 2002; Dowrick et al., 2000; Maxwell, 2005; Pollock & Grime, 2003; Burroughs et al., 2006). When GPs feel confident about their skills, the diagnosis is perceived as more accurate and the outcomes as more positive (Chew-Graham et al., 2002; Dowrick et al., 2000; Maxwell, 2005; Pollock & Grime, 2003; Haws et al., 2011).

HCPs’ confident feelings about their treatment control and efficacy are depicted in five studies (Johnston et al., 2007; Chew-Graham & Hogg, 2002; Chew-Graham et al., 2002; Stavrou et al., 2009; Oladinni, 2002). Optimism about the improvement of depression outcomes and the belief that depression is a treatable illness were reported in five studies (Johnston et al., 2007; Chew-Graham & Hogg, 2002; Chew-Graham et al., 2002; Maxwell, 2005; Pollock & Grime, 2003). HCPs believed that treatment helps patients to deal with their symptoms and their illness and improves their quality of life (Chew-Graham & Hogg, 2002) or self-management (Barley et al., 2012).

On the other hand, there are HCPs who are not confident nor have the skills to help certain patients with depression (Naji et al., 2004; Byng et al., 2003; Richards et al., 2004; Livingston et al., 2000; Chew-Graham & Hogg, 2002; Barley et al., 2012; Burroughs et al., 2006; Maxwell et al., 2013, Haws et al., 2011; Stavrou et al., 2009). Low sense of self-efficacy regarding their management and treatment skills (Barley et al., 2012) and lack of confidence in dealing with the consequences of depression disclosure (Maxwell et al., 2013) made HCPs feel vulnerable. Some HCPs also
reported that they do not feel satisfied with the way they manage depression, as the patients need more than they are able to offer (Byng et al., 2003; Stavrou et al., 2009). Others were reluctant to diagnose depression because they felt they had nothing to offer (Burroughs et al., 2006; Maxwell et al., 2013). Finally, others reported lack of confidence towards the decision about which patients need medication (Byng et al., 2003). There are also HCPs who think that their role is very limited regarding depression outcomes, whether they are trained or not (Gask et al., 2005; Maxwell, 2005; Rogers et al., 2001; Burroughs et al., 2006). Such beliefs represent GPs and PNs’ limited feelings of personal control and expectations of what they could actually provide in terms of concrete help.

Some HCPs also reported ambivalence and uncertainty about depression management, thus they were demotivated and unwilling to engage with depression (Burroughs et al., 2006; Oladinni, 2002; Rothera et al., 2002; Maxwell et al., 2013). Such feelings indicate pessimism (Rogers et al., 2001; Gask et al., 2005; Naji et al., 2004; Chew-Graham et al., 2002) towards the capacity of the HCPs to help the patients’ outcomes of depression and this may affect the management of depression by following pre-determined treatment plans (Chew-Graham et al., 2002). For instance, some HCPs believe that there is little they can do apart from prescribing antidepressants for relieving the symptoms of depression (Rogers et al., 2001).

3.5.3.3. Knowledge, skills and training

In eleven studies, many HCPs reported lack of adequate training and knowledge of depression, its diagnostic criteria, its assessment tools, and its treatment (Maxwell et al., 2013; Byng et al., 2003; Naji et al., 2004; Dowrick et al., 2000; Livingston et al., 2000; Telford et al., 2002; Chew-Graham & Hogg, 2002; Gask et al., 2005; Burroughs et al., 2006; Rothera et al., 2002; Haws et al., 2011). In two studies, PNs reported that they have not had adequate training in the diagnosis and management of depression (Haws et al., 2011; Naji et al., 2004) compared to the GPs (Haws et al., 2011). All of the HCPs who reported limitations in their training, skills and capabilities
were unsure of their own remit. In light of this, a significant number of HCPs in nine studies expressed their need for mental health training. Such training is seen as important in increasing HCPs’ skills and self-efficacy, ‘sense of therapeutic optimism’, understanding of the nature of depression, and gaining skills for the recognition and management of depression (Gask et al., 2005; Chew-Graham & Hogg, 2002; Byng et al., 2003; Livingston et al., 2000; Chew-Graham et al., 2002; Dowrick et al., 2000; Naji et al., 2004; Haws et al., 2011; Maxwell et al., 2013). These beliefs were expressed even among those who reported confidence regarding the diagnosis of depression. In three studies, the HCPs who had received training were more positive about their role in the treatment of depression than those that had not (Haws et al., 2011; Maxwell et al., 2013; Stavrou et al., 2009). In three studies, some HCPs reported that training should focus on improving HCPs’ confidence, beliefs and attitudes towards depression (Chew-Graham et al., 2002; Dowrick et al., 2000; Naji et al., 2004).

The majority of GPs in two studies reported that they had adequate training in the diagnosis and management of depression and efficient knowledge of these areas (Rothera et al., 2002; Haws et al., 2011). However, the participants in Rothera’s et al. (2002) study expressed their need to get additional training.

3.5.4. Theme 3: Attitudes towards depression and patients with depression

3.5.4.1. Personal experience working with depression

The manner in which HCPs perceive the process of depression and patients with depression was reported as a draining, frustrating experience which affects the way they engage with its management. For example, studies reported that ‘working with depressed people is heavy-going’ (Naji et al., 2004; Oladinni, 2002) or unrewarding (Naji et al., 2004; Chew-Graham et al., 2002) and some claimed that they did not enjoy working with patients with depression (Chew-Graham et al., 2002; Byng et al., 2003). Other attitudes towards people with depression included statements such as ‘difficult patients’, ‘people who bore you’, ‘practical and emotional
burdens’, ‘not particularly attractive’, ‘manipulative’, ‘with miserable lives’, ‘horrible’, ‘heart sink’, ‘burdens on the doctors’ own psychological and professional resources’, ‘people who bore you and make you tired’ (Chew-Graham et al., 2002; McPherson & Armstrong, 2009; Chew-Graham et al., 2000; Maxwell, 2005). The problems of patients with depression have been called ‘insoluble which require a huge change but those patients do not have the confidence to do so’ (Maxwell, 2005). Frustration and stress were also common and were greater when patients did not respond to treatment (Johnston et al., 2007; McPherson & Armstrong, 2009; Chew-Graham, et al., 2002). Others conceptualised depression as a problem of their everyday work rather than as an objective diagnostic category (Burroughs et al., 2006).

HCPs in one study reported that ‘depression reflects a characteristic response in patients which is not amenable to change’ (Naji et al., 2004) whereas others believed that depression is intractable (Chew-Graham et al., 2000; Chew-Graham et al., 2002) or self-limiting (Rogers et al., 2001). When depression did not respond to treatment, HCPs tended to define depression in terms of social deviance rather than a medical label (McPherson & Armstrong, 2009; MacDonald et al., 2009). Negative attitudes towards people with depression are likely to affect its management (Murray et al., 2006; Chew-Graham & Hogg, 2002; Coventry et al, 2011).

On the other hand, many HCPs perceived their role as important in the recognition and treatment/management of depression, which is viewed as a legitimate task to do (Maxwell, 2005; Chew-Graham & Hogg, 2002; Stavrou et al., 2009; Oladinni, 2002; Maxwell et al., 2013; Haws et al., 2011) as they are seen as ‘a sounding board’ for patients’ problems (McPherson & Armstrong, 2009). When the outcomes of management by the HCPs are positive, HCPs report feelings of satisfaction (Gask et al., 2005). In addition, some HCPs reported that their work with depression is seen as rewarding, challenging and interesting (Maxwell; 2005; Chew-Graham et al., 2002; Oladinni, 2002). Depression is seen as important as other risk factors, such as dyslipidaemia for example, and as a high priority during consultations (Haws et al., 2011).
3.5.4.2. Unclear understanding of depression

HCPs recognise depression through a range of indicators, cues and symptoms, particularly focusing on physiological features such as social withdrawal, sleep and appetite problems, tiredness, or when patients keep missing appointments (Barley et al., 2012; Hyde et al., 2005; Burroughs et al., 2006). Other cues included lethargic manner, bowed stance, lack of eye contact and fixed gaze, and irritability (Barley et al., 2012).

Eleven studies showed that when it comes to diagnosing depression, participants were considerably less positive. For example, HCPs struggled to distinguish between ‘normal’ distress and depression or felt that diagnosis was not straightforward, which lead to problems with diagnostic accuracy (Barley et al., 2012; Johnston et al., 2007; Maxwell, 2005; Murray et al., 2006; Naji et al., 2004; Rogers et al., 2001; MacDonald et al., 2009; Rothera et al., 2000; Haws et al., 2011; Burroughs et al., 2006; Pollock & Grime 2003). Some HCPs struggled to understand mild depression (Maxwell, 2005) whereas others see depression as a vague and ambiguous condition (Johnston et al., 2007). Others indicated that it is difficult to elicit what is depression and what is a physical symptom of the LTC (Chew-Graham & Hogg, 2002; Barley et al., 2012). GPs were less likely than PNs to believe that depression is straightforward (Livingston et al., 2000; Haws et al., 2011). Rothera et al. (2002) also found that depression in the elderly is often masked by other illness.

Furthermore, GPs reported that a major barrier to diagnosing depression is the fact that patients attribute their symptoms to physical causes or complaints, and to an illness rather than to the consequences of the illness, and this can affect the recognition of depression (Murray et al., 2006; Chew-Graham & Hogg, 2002; Coventry et al., 2011). This may impact on HCPs’ management of depression as they believe that it is an intractable problem (Murray et al., 2006). In addition, some HCPs suggested that it is very rare for patients to report symptoms of depression due to guilt or shame (Murray et al., 2006; Pollock & Grime, 2003; Chew-Graham & Hogg, 2002; Coventry et al., 2011; Burroughs et al., 2006). On the other hand, one study
reported that some HCPs believe that patients now self-diagnose depression and volunteer their symptoms (MacDonald et al., 2009).

When consulting patients with LTCs, some HCPs were likely to disconnect physical from mental health and deal with the physical symptoms or the pathology of the patient they are presented with. This is a central issue for overlooking depression (Chew-Graham & Hogg, 2002; Coventry et al., 2011; Maxwell et al., 2013) especially as patients who are depressed are not likely to ask for help and given the limited consultation time provided for addressing mood in a routine consultation.

3.5.4.3. Stigma associated with depression and its treatment

In eight studies, HCPs acknowledged the stigma surrounding the diagnosis and treatment of depression and the patients’ perceived stigma (Chew-Graham & Hogg, 2002; Murray et al., 2006; Coventry et al., 2011; Barley et al., 2012; Hyde et al., 2005; Manning & Marr, 2003; Burroughs et al., 2006; Haws et al., 2011). Specifically, in several studies HCPs reported on their patients’ anticipated resistance to a diagnosis and treatment (Murray et al., 2006; Burroughs et al., 2006; Manning & Marr, 2003) due to stigma, as depression is seen by many patients as a sign of weakness or is a diagnosis that causes discomfort (Barley et al., 2012; Chew-Graham & Hogg, 2002; Murray et al., 2006; Burroughs et al., 2006; Coventry et al., 2011). Others reported that they were hesitant to diagnose depression because of not wanting to give a second label to patients with LTCs (Chew-Graham & Hogg, 2002). Stigma also affects treatment decisions due to its association with medications (Barley et al., 2012; Haws et al., 2011). Murray et al. (2006) and Burroughs et al. (2006) stated that HCPs struggle to initiate depression due to patients’ different backgrounds, ages and cultures, indicating that some patients do not to accept depression as an illness or a diagnosis may cause shame on the family and have serious consequences in some minority ethnic groups (Coventry et al., 2011). MacDonald et al. (2009), on the other hand, reported that stigma surrounding mental illness has decreased. Burroughs et al. (2006) reported that some HCPs referred to depression as loneliness or homesickness in an effort to persuade a patient
to accept the treatment.

3.5.5. Theme 4: Treatment control and management strategies

The results showed that the most preferable management strategy used by GPs is antidepressant prescription, followed by talking therapies.

3.5.5.1. Attitudes towards medication regimens

With regard to treatment management, the results indicated that in eleven studies, HCPs expressed positive attitudes towards the use of antidepressants (Naji et al., 2004; Oladinni et al., 2002; Telford et al., 2002; Manning & Marr, 2003; Maxwell, 2005; Johnston et al., 2007; Pollock & Grime, 2003; Rogers, et al., 2001; Barley et al., 2012; Haws et al., 2011). In particular, SSRIs were seen as more effective types of antidepressant medications with fewer side effects (MacDonald et al., 2009; Hyde et al., 2005; Manning & Marr, 2003; Oladinni, 2002) and could ‘help patients cope better’ (Maxwell, 2005; Hyde et al., 2005), ‘stop them crying and sleep better’ (Hyde et al., 2005) and lift their mood (Barley et al., 2012). One study found that GPs’ attitudes were associated with their preference of antidepressants as the best treatment option (Dowrick et al., 2000) whereas when GPs believed that patients prefer antidepressants, it was more likely for them to prescribe them (Kendrick et al., 2005). Antidepressants are also perceived as a fast and convenient method (Pollock & Grime, 2003) and a ‘coal face’ option (MacDonald et al., 2009; Hyde et al., 2005). Some studies concluded that HCPs with a biomedical orientation are likely to suggest medication as a treatment option (Johnston et al., 2007; Hyde et al., 2005; Kendrick et al., 2005). Such approaches suggest that GPs tend to treat symptoms more than the cause of depression (MacDonald et al., 2009).

GPs expressed positive attitudes towards antidepressants due to the satisfactory results in treating of depression in general practice (Stavrou et al., 2009; McPherson & Armstrong, 2009; Naji et al., 2004; Oladinni, 2002; Pollock & Grime, 2003; Hyde et al., 2005) and other conditions such as
panic and anxiety without the need for a specific diagnosis (Hyde et al., 2005). GPs in two studies were more likely than PNs to believe that antidepressants produced a satisfactory response (Livingston et al., 2000; Haws et al., 2011). Due to medication effectiveness, HCPs felt that there was no need for referral as patients respond well to antidepressants (Stavrou et al. 2009). Some studies reported that HCPs believed that if patients need antidepressants, they are better off with psychiatrists than with themselves (Naji et al., 2004; Pollock & Grime, 2003).

3.5.5.2. Attitudes towards talking therapies

The attitudes of HCPs towards psychological therapies tended to be positive (Chew-Graham et al. 2002; Oladinni, 2002; Naji et al., 2004; Stavrou et al., 2009; Hyde et al., 2005; Byng et al., 2003; Rothera et al., 2002; Haws et al., 2011) especially as an alternative method or in combination with medication. Many HCPs favoured managing depression through referrals to other specialists (Byng et al., 2003; Chew-Graham et al., 2002; Barley et al., 2012), especially when the patients’ depression did not improve with medication or their skills were not adequate (Stavrou et al., 2009).

HCPs in two studies (Chew-Graham & Hogg, 2002; Barley et al., 2012) reported that talking therapies were better than medication regimes for people with LTCs as they help them to come to terms with their condition. When patients were not improving with the treatment provided by the GPs, they would more likely be referred (Stavrou et al., 2009). For PNs, the most common strategy was to refer to a GP or to someone else (Naji et al., 2004; Burroughs et al., 2006). Talking therapies such as counselling tended to be considered as effective as anti-depressant medication for managing depression but limited resources forced HCPs to prescribe antidepressants (Haw et al., 2011; Stavrou et al., 2009; Burroughs et al., 2006). When HCPs believed that the cause of depression was difficult life circumstances, they were more likely to encourage patients to discover other possible treatment options such as talking therapies (Hyde et al., 2005)
Concerns for available treatment options

Concerns about the use of antidepressants were expressed by many HCPs (Maxwell, 2005; Chew-Graham et al., 2000; Chew-Graham et al., 2002; MacDonald et al., 2009; Pollock & Grime, 2003; Chew-Graham & Hogg, 2002; Barley et al., 2012; Burroughs et al., 2006). Some expressed ‘their own dilemma concerning whether they should prescribe medication for essentially social problems which leads to the over use of antidepressants’ (Maxwell, 2005; Chew-Graham et al., 2002). Other studies reported that HCPs were reluctant to prescribe antidepressants due to their side effects and interactions with other medications as well as patients’ fear of addiction to them (Chew-Graham & Hogg, 2002; Hyde et al., 2005; Kendrick et al., 2005; Burroughs et al., 2006; Manning & Marr, 2003), and the stigma associated with such medications (Barley et al., 2012; Haws et al., 2011). One study reported that HCPs’ prescription is affected by patients’ attitudes towards medication regimens and their severity (Kendrick et al., 2005). Others believed that antidepressants are an essential method to the treatment of depression due to limited access to primary and secondary mental health services (Telford et al., 2003; Chew-Graham et al., 2000; Chew-Graham et al., 2002; Pollock & Grime, 2003; Rogers et al., 2001; Stavrou et al., 2009; Hyde et al., 2005). Some felt uneasy about the increased use of antidepressants (MacDonald et al., 2009) or believed that patients are reluctant to use medication which affects the positive management of depression (Chew-Graham & Hogg, 2002; Barley et al., 2012; Burroughs et al., 2006).

Other studies showed that GPs believed that psychotherapy is unsuccessful for non-responsive patients (Naji et al., 2004; McPherson & Armstrong, 2009) or patients with intractable and chronic problems (Stavrou et al., 2009). Some others believed that depression may be self-limiting and could improve without medication (Oladinni, 2002; Hyde et al., 2005).

The majority of HCPs in eleven studies reported that access to the mental health services is limited or inadequate (Haws et al., 2011; Maxwell et al., 2013; Rogers et al., 2001; Pollock & Grime, 2003; Telford et al., 2002;
Chew-Graham et al., 2002; Chew-Graham & Hogg, 2002; Kendrick et al., 2005; Hyde et al., 2005; Burroughs et al., 2006) due to the fact that they are overwhelmed by seriously mentally ill patients (Rogers et al., 2001). HCPs in four studies also viewed the waiting list for access as very long or/and their access as even more limited when their area was deprived (Chew-Graham & Hogg, 2002; Chew-Graham et al., 2002; MacDonald et al., 2009; Telford et al., 2003). Therapies other than antidepressants are ‘scarce and patchy’ leading to the ‘coal face option’ of antidepressants (Hyde et al., 2005; McDonald et al., 2009). Maxwell et al. (2013) suggested that concerns about a lack of services or treatment options indicate HCPs’ lack of confidence and knowledge of the availability of resources for people with depression. It is suggested that lack of treatment control, long-waiting lists, time constraints and unavailability of talking therapies may result in over-prescribing medication regimes (Hyde et al., 2005). Such treatment provides security to the GPs who feel that they are being helpful by the ease of prescribing antidepressants (Chew-Graham et al., 2002; Chew-Graham & Hogg, 2002).

3.5.6. Facilitators and barriers to best practice

A multitude of barriers to optimal depression care has been identified in the review, including challenges related to; a) the complex conceptualisation of depression, b) the gaps in the knowledge, skills, attitudes and resources of HCPs, and c) the broader systemic and structural barriers.

First, attitudes and beliefs which are found to encourage HCPs to provide primary mental health care can, at the same time, act as a barrier to the treatment of depression (Murray et al., 2006; Chew-Graham & Hogg, 2002; Coventry et al. 2011). For example, beliefs about the cause of depression may influence HCPs’ decision to recognise and manage depression; a normalising understanding of depression conflicts the way depression is diagnosed and treatments offered (Maxwell, 2005; Rogers et al., 2001; Murray et al., 2006; Burroughs et al., 2006; Johnston et al., 2007). Stigma is believed to have an impact on HCPs’ decisions to explore depression (Murray et al., 2006; Burroughs et al., 2006; Manning & Marr, 2003; Chew-
Graham & Hogg, 2002) and on depression management (Barley et al., 2012; Haws et al., 2011).

Adequate training, efficient knowledge and skills also encourage recognition and treatment for depression in primary care whilst inadequate training and skills may act as barriers the recognition and management of depression (Haws et al., 2011; Maxwell et al., 2013; Stavrou et al., 2009; Chew-Graham et al., 2002; Dowrick et al., 2000; Maxwell, 2005; Pollock & Grime, 2003). For instance, in two studies HCPs were reluctant to diagnose depression because they felt they had nothing to offer (Burroughs et al., 2006; Maxwell et al., 2013).

Systemic discouragements can also act to deter treatment; for example, the majority of HCPs believed that talking therapies are effective or as effective as antidepressants but the lack of access to mental health resources results in the reluctance to treat depression or to its treatment with antidepressants (Chew-Graham et al., 2002; Chew-Graham & Hogg, 2002; Haws et al., 2011; Maxwell et al., 2013; Rogers et al., 2001; Pollock & Grime, 2003; Telford et al., 2002; Chew-Graham et al., 2002; Chew-Graham & Hogg, 2002; Kendrick et al., 2005; Hyde et al., 2005; Burroughs et al., 2006). Therefore, it can be assumed that increasing access to mental health services may help to subdue any reluctance that HCPs have to depression in primary care.

In addition, insufficient time was cited as a barrier to optimal depression care by limiting the HCPs’ ability to listen to their patients’ problems, but listening requires time (Burroughs et al., 2006; McPherson & Armstrong, 2009; Manning & Marr, 2003; Johnston et al., 2007; Rogers et al., 2001; Chew-Graham et al., 2002; Telford et al., 2002). Therefore, time and listening act as both facilitators and barriers in the way that more time will encourage discussions related to depression whilst listening is a facilitator of effective depression management.

The table 3.6 below summarises the studies that contributed to the themes that are likely to act as barriers or facilitators and to the effective recognition
and management of depression in primary care. This table is based on specific results reported in each of the studies included, which are presented in the themes in the previous section, as well as the discussion points in each study.
Table 3.6: Summary of barriers and studies contributing to each theme

<table>
<thead>
<tr>
<th>Themes identified as barriers or facilitators to best practice and relevant studies</th>
<th>Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>The threat's causal mechanism</td>
<td>Stavrou et al., 2009; Chew-Graham et al., 2000; Oladinni et al., 2002; MacDonald et al., 2009; Hyde et al., 2003; Rogers et al., 2001; Gask et al., 2005; Maxwell, 2005; Murray et al., 2006; Johnston et al., 2007; McPherson &amp; Armstrong, 2009; MacDonald et al., 2009; Chew-Graham et al., 2002; Burroughs et al., 2006; Barley et al., 2012</td>
</tr>
<tr>
<td>Time constraints</td>
<td>Haws et al., 2011; Maxwell et al., 2013; Gask et al., 2005; Johnston et al., 2007; Chew-Graham &amp; Hogg, 2002; Chew-Graham et al., 2000; Coventry et al. 2011; Rogers, et al., 2001; Stavrou et al., 2009; Hyde et al., 2005; Manning &amp; Marr, 2003; Telford et al., 2002; Burroughs et al., 2006; McPherson &amp; Armstrong, 2009</td>
</tr>
<tr>
<td>Guidelines /diagnostic tools</td>
<td>Chew-Graham &amp; Hogg, 2002; Maxwell, 2005; Kendrick et al., 2005; Coventry et al. 2011; Burroughs et al., 2006, Maxwell et al., 2013; McPherson &amp; Armstrong, 2009; MacDonald et al., 2009</td>
</tr>
<tr>
<td>Knowing the person</td>
<td>Chew-Graham et al., 2000; Pollock &amp; Grime, 2003; Chew-Graham &amp; Hogg, 2002; Coventry et al. 2011; Burroughs et al., 2006; Johnston et al., 2007 Maxwell, 2005; MacDonald et al. 2009; Barley et al. 2012</td>
</tr>
<tr>
<td>Confidence (self-efficacy) and optimism</td>
<td>Haws et al., 2011; Oladinni et al., 2002; Stavrou et al., 2009; Chew-Graham, et al., 2002; Dowrick, Gask, et al., 2000; Maxwell, 2005; Pollock &amp; Grime, 2003; Burroughs et al., 2006; Dowrick, et al., 2000; Maxwell, 2005; Pollock &amp; Grime, 2003; Haws et al., 2011; Johnston et al., 2007; Stavrou et al., 2009; Naji et al., 2004; Byng et al., 2003; Richards et al., 2004; Livingston et al., 2000; Maxwell et al., 2013; Rothera et al., 2002</td>
</tr>
<tr>
<td>Knowledge, skills and training</td>
<td>Haws et al., 2011; Maxwell et al., 2013; Stavrou et al., 2009; Chew-Graham et al., 2002; Dowrick, et al., 2000; Maxwell, 2005; Pollock &amp; Grime, 2003</td>
</tr>
<tr>
<td>Personal experience</td>
<td>Haws et al., 2011; Murray et al., 2006; Burroughs et al., 2006; Murray et al., 2006; Chew-Graham &amp; Hogg, 2002; Coventry et al., 2011</td>
</tr>
<tr>
<td>Unclear understanding</td>
<td>Haws et al., 2011; Chew-Graham &amp; Hogg, 2002; Coventry et al. 2011; Maxwell et al., 2013; Burroughs et al., 2006; Pollock &amp; Grime, 2003;</td>
</tr>
<tr>
<td>Stigma</td>
<td>Haws et al., 2011; Chew-Graham &amp; Hogg, 2002; Barley et al., 2012; Chew-Graham &amp; Hogg, 2002; Murray et al., 2006; Burroughs et al., 2006; Coventry et al., 2011; Manning &amp; Marr, 2003</td>
</tr>
<tr>
<td>Concerns for available treatment options</td>
<td>Haws et al., 2011; Maxwell, et al., 2013; Rogers et al., 2001; Pollock &amp; Grime, 2003; Telford et al., 2002; Chew-Graham et al., 2002; Chew-Graham &amp; Hogg, 2002; Kendrick et al., 2005; Hyde et al., 2005; MacDonald et al., 2009; Burroughs et al., 2006</td>
</tr>
</tbody>
</table>
3.6. Discussion

3.6.1. Summary of the results

This review has shown that the recognition and management of depression in primary care is a complex issue; different perceived barriers and attitudes towards depression were identified. A significant minority of GPs and PNs held beliefs and attitudes that are unlikely to facilitate discussions about depression. Identified issues included the lack of conceptualisation of depression, lack of knowledge and training in mental health, negative beliefs and attitudes towards patients with depression. The four most prevalent negative attitudes concerned the time needed to discuss depression and a perceived stigma of such discussions, unfavourable attitudes towards people with depression, and a perceived lack of skill or confidence in conducting such discussions.

HCPs varied widely in attitudes, confidence in, and knowledge of the recognition, treatment and management of depression. For instance, some GPs were confident about managing depression but it was seen as a ‘heavy-going’ task and the patients were described as manipulative. All these issues seem to complicate the management of depression. The most frequently expressed perceived barrier about discussing depression in primary care was related to limited consultation time to do so. This is not surprising, as increasing demands on primary care practitioners’ time are often reported (Dugdale et al., 1999).

This review shows that depression is mainly conceptualised by GPs and PNs in a traditional and dichotomous model of depression; that is a reactive (social) and a biological model. The first causal model indicates that HCPs believe in the normalisation of depression in the context of life stressors which is opposite to the second causal model of the medicalisation of depression. The way that HCPs view depression may be important in understanding why some engage with depression and other not. HCPs’ illness models of causes of depression are found to affect its management by influencing treatment decisions (Rogers et al., 2001; Chew-Graham et
al., 2002; Maxwell, 2005; Murray et al., 2006; Barley et al., 2012; Burroughs et al., 2006). Based on the foundation that attitudes affect intentions (Ajzen 1991), such attitudes may be significant predictors of intentions to the use of appropriate treatment (Van Voorhees et al., 2005).

When this review was first conducted in April 2010, no studies were identified concerning the attitudes towards depression of HCPs in people with LTCs. When the review was subsequently updated on two occasions, four studies on the management of depression comorbid with LTCs were retrieved (Maxwell et al., 2013; Barley et al., 2012; Haws et al., 2011; Coventry et al., 2011) whereas four studies discussed HCPs’ beliefs and attitudes towards depression in people with LTCs (Chew-Graham & Hogg, 2002; Coventry et al., 2011; Barley et al. 2012; Haws et al., 2011). Only a minority of HCPs discussed the causal relationship between depression and physical illness (Murray et al., 2006; Chew-Graham; 2002; Chew-Graham & Hogg, 2002; Coventry et al. 2011; Barley et al., 2012; Maxwell et al., 2013). It is also suggested that when depression is present with LTCs, depression diagnosis is complicated and this has an impact on its management (Murray et al., 2006). The detection of depression comorbid with diabetes or CHD may be more complicated given the similarity of symptoms (NICE, 2009). Given the paucity of research in this area, it was deemed necessary to conduct a qualitative study in order to explore HCPs’ attitudes and beliefs, and to investigate whether beliefs and attitudes affect the management of depression comorbid with LTCs.

3.6.2. Implications of the findings

Previous research demonstrates that practice behaviour is influenced by intentions, confidence, and attitudes (Osborn et al., 2010) whereas perceptions and beliefs of the seriousness of the illness may influence HCPs’ recommendations for treatment (Petrie & Weinman, 1997). Similarly, confidence (self-efficacy) is found to be associated with adherence to clinical guidelines for depression and HCPs who are confident in managing depression are more likely to provide effective care to people with such conditions (Smolders et al., 2010). This review did not assess the
link between HCPs’ actual behaviour and beliefs, attitudes or confidence
due to the heterogeneity of studies, although, based on the findings, it is
suggested that some attitudes and beliefs towards depression and its
management impact on HCPs’ decision making (Rogers et al., 2001; Chew-
Graham et al., 2002; Maxwell, 2005; Murray et al., 2006; Barley et al.,
2012; Burroughs et al., 2006). One study tested the association between
attitudes and clinician behaviour; Dowrick et al. (2000) indicated that there
was no association between the component ‘identification of depression’
and GP accuracy in diagnosing depression. Therefore, even if health
professionals perceive depression either as a normal response to life events
or as a biomedical model, they do not differ in their diagnostic ability.
Interestingly, GPs’ self-efficacy was negatively correlated with accuracy,
indicating that GPs with low self-efficacy were not accurate in their
diagnostic ability.

In addition, some HCPs were reported to be more confident than others.
This may imply that those with more training in the treatment of depression
may have a higher sense of self-efficacy and as such they are likely to
diagnose depression either due to their increased skills or their strong
perceived personal control. However, HCPs claimed that the low rates of
recognition and management of depression were due to the structural
barriers faced in primary care such as time-limited consultations, where
discussions about mental health cannot be contained, and lack of continuity
of care. Similar problems have been discussed in a study examining the
experiences of GPs and pharmacists who manage patients with
multimorbidity (Smith et al., 2010). In addition, GPs and PNs expressed the
belief that depression management is a personal as well as professional
duty. These findings suggest that, although HCPs have concerns about time
and efficacy, they generally accept that discussing depression is an
important part of their role, thus some attitudes may affect their intentions to
do so. The beliefs and values that influence the judgements made by HCPs
about whether discussing depression is an effective use of consultation time
warrant more investigation. Future research may explore whether
organisational barriers are associated with specific attitudes on people with
depression, perceived limited personal control and self-efficacy.
Moreover, the findings suggested that HCPs reported prescribing antidepressants as an initial treatment option even though most of them claimed to believe in the efficacy of talking therapies. Again, time constraints, lack of referral services, lack of self-efficacy and limited perceived treatment control may affect how HCPs manage depression i.e. the perceived lack of personal control to offer effective treatment due to limited referral services may influence the manner in which HCPs set their priorities.

HCPs, in majority, expressed interest in receiving training in order to gain skills in depression diagnosis and management. Strategies to improve the frequency and quality of the engagement of HCPs in depression management need to address the multifaceted influences on GPs’ practice, such as dysfunctional beliefs and attitudes towards depression and increase of communications skills and self-efficacy as essential components (Crisp et al., 2000; Smolders et al., 2010). These include beliefs and values that influence primary care physicians’ judgements about whether discussing patients’ feelings is an effective use of their time.

3.6.3. Comparison with other reviews

This review was the first to use a mixed-method approach to synthesise the existing evidence. It also uses a theoretical underpinning of personal models which include beliefs, attitudes and views, thus more models were identified than in previous or similar reviews (Barley et al., 2011; Schumann et al., 2011; McPherson & Armstrong, 2012). This may have happened because these reviews were focused on attitudes and they might have missed literature concerning similar constructs such as views, experiences and beliefs. This study was underpinned by a theoretical framework and had a wider focus including illness beliefs specifically for depression in the context of a LTC.
3.6.4. Strengths and limitations

The main strengths of this review are that it employed a comprehensive search of the literature following the guidelines for systematic and scoping reviews and used a systematic approach to synthesis. Strength of the review is also the fact that it integrated qualitative and quantitative data in order to obtain the richest possible dataset, which most reviews avoid due to the complexity of such processes. Even though there is no established methodology to integrate data from qualitative and quantitative studies (May & Pope, 1995), the literature was reviewed and it was decided to use a narrative summary to present the findings which is more likely to produce transparent heterogeneity between studies and issues of quality appraisal (Lucas et al., 2007). Narrative synthesis makes the context and characteristics of each study clearer and reports only the important findings without poor interpretations (Popay et al., 2006). However, Lucas et al. (2007) found that narrative synthesis is 'less good at identifying commonality' meaning that there is not an explanation why this method is the way it is, although it may be that organising according to themes, as the thematic approach does, is comparatively more successful in revealing commonality. It also involved collaboration between reviewers with diverse perspectives from different disciplines such as health psychology and sociology. This is important as the syntheses of descriptive data involved some interpretation (Dixon-Woods et al., 2006).

The limitations of the review are the heterogeneity of the included studies and the inability to determine the sources of this heterogeneity. Some other methodological limitations to this review are that results are based on self-reported responses and small sample sizes, thus all interpretations should be done with caution. Data drawn from actual clinical practice (observation of the consultations) could be more reliable and future research could use this as a procedure in order to obtain valid data. Another limitation was that the quantitative studies included were cross-sectional studies and the analyses were mainly descriptive. According to Von Elm et al. (2008) ‘the reporting of such research is often inadequate, which hampers the assessment of its strengths and weaknesses and of a study’s generalisability.’ A general lack
of validated outcome measures in many of the quantitative studies hinder
quality judgements based on the STROBE criteria. The checklist which was
derived from the STROBE guidelines was used in order to justify what data
should be included in order to perform an accurate and complete review for
those cross-sectional studies.

The design of the aforementioned studies provided a good insight into the
way HCPs think, perceive and manage patients with depression but the
relationship between their attitudes and beliefs with their behaviour was not
clearly linked. Only one study (Dowrick et al., 2000) addressed the
relationship between attitudes, illness beliefs and diagnostic accuracy. More
research is needed in order to link the personal models and the behaviour of
HCPs. Also, most of the data are from GPs, and more research is necessary
so as to understand PNs’ personal models which may be more significant in
understanding the issue of under-detection since they are taking an
increasing lead in the management of LTCs.

Moreover, another limitation is that the population studied is only from the
UK and may not represent the population of primary care practitioners
working with depression in primary care. It is therefore difficult to assess
how well the above findings represent HCPs worldwide. It would be argued
that because the scoping review was conducted with an aim to inform the
development of a new training intervention for UK practitioners, the
findings are in fact reasonably representative for the specific population.
Any conclusions in this review are drawn from a limited body of research
conducted in the UK, some with poor quality methodology or reporting.
There is therefore a need to utilise high quality research to gain a more
thorough understanding of HCPs’ experiences working with depression.

Limiting the scope of the review in UK primary care also meant that
important studies exploring HCPs’ experiences of working with depression
in primary care may have been dismissed. For example, Haddad et al.
(2012) identified 20 studies using the DAQ in different settings, countries
and populations. An inclusion of those studies would provide a greater
detail of cross-cultural attitudes and depression management. However, it
was decided to keep the focus on the attitudes of HCPs working in the UK primary care focusing on the current experiences in the UK, and a wider review would not have been pragmatic due to limited resources. Further studies which focus on the investigation of cultural and environmental influences on the recognition and management of depression may explain HCPs’ variability of behaviour in terms of depression management. Another limitation that arose concerns even at the beginning of the project was the difficulties of defining attitudes. The term ‘attitudes’ is complex and is used widely in the literature but without a theoretical explanation. It was decided to use health psychology theories such as the TPB, and the SCogT for the definition and to include those attitudes that can be explained from the theoretical concepts. The agreement regarding the concept definition in the scoping review was reached after discussion with the supervisory team who are experienced health psychologists.

3.7. Conclusion and further research

This scoping review has helped to conceptualise provider-related barriers influential to mental health care in primary care, but further investigation is required in order to provide an understanding of how these barriers influence the provision of mental health care. This review also provides a good understanding of HCPs’ experiences, beliefs and attitudes towards depression in primary care and their impact on depression management. This is important as the role of attitudes and beliefs has become an increasingly salient determinant to promote HCPs’ behaviour change (Eccles et al., 2005). This review reinforces the importance of understanding the HCPs’ beliefs about illness and the manner in which these beliefs affect the care they provide (Henderson et al., 2007; Hofstadt et al., 2003). It reveals that beliefs about the effectiveness of detection and treatment of depression, their own stereotypes and attitudes towards depressed patients, and several cognitive and attitudinal barriers, may be associated with the engagement of HCPs with the recognition of depression (Murray et al., 2006; Chew-Graham & Hogg, 2002; Coventry et al., 2011). This may be also important when exploring issues related to comorbid depression in patients with LTCs, in which the recognition and management is still
problematic (Goldberg, 2010; van Rijswijk et al., 2009). However, there is, to date, a lack of research exploring HCPs’ beliefs, attitudes and perceived barriers to recognising and managing depression in people with LTCs.

This review did not identify any studies using the CS-SRM to measure or explore HCPs’ beliefs towards depression. All of the studies in the review used the term ‘attitudes’ to capture HCPs’ beliefs towards specific aspects of depression. The themes in this review used concepts from health psychology theories such as the CS-SRM, TPB and SCogT. As analysed previously, these models are suitable to capture different beliefs and attitudes towards depression. Beliefs about health and illness predict behaviour in patients (Orbell & Hagger, 2003) and this review provides some evidence in the way that HCPs’ beliefs about depression may predict clinical decision-making and impede or facilitate effective depression management in primary care (Chew-Graham & Hogg, 2002; Howe et al., 2006; Hirschfeld et al., 1997). HCPs’ skills and positive attitudes can improve the care and satisfaction of patients, as well as their own patient-centeredness and empathy (Fiscella & Epstein, 2008).

The majority of HCPs in the studies included highlighted the need for training and continuous professional development in order to be more helpful to people with depression and LTCs, and discussed the need for extra support when working with this group. Therefore, it is crucial to provide collaborative, theoretical and skills-based training to HCPs, with a view to improving skills, knowledge and attitudes towards depression (Gask et al., 2005; DoH, 2012).

The influence of barriers may help to explain why HCPs experience such difficulties when managing depression in primary care. The identification and elimination of barriers to care is essential in order to provide quality care in primary care (Wright, 1996). Thus, a focused depression-training package for HCPs may have positive effects on depression recognition (Haws et al., 2011). Further interventions should focus on helping HCPs to recognise depression in people who are more likely to experience depression i.e. patients with LTCs.
The findings of the scoping review will inform the development of a pilot online training intervention to address the identified barriers and improve HCPs’ attitudes, confidence and skills with the ultimate aim to support them to effectively recognise depression in people with LTCs. Changes to organizational structures of care can help improve outcomes for depression (Gask et al., 2013) but this is beyond the scope of this research.

3.7.1. The next step

The results of the above scoping review provided the foundation for this thesis. The next step involved a qualitative study designed to explore HCPs’ personal models and perceived barriers to diagnose and manage depression in people with diabetes and/or CHD. This study may help understand what influences the behaviour of HCPs when managing comorbid depression. Such an understanding, alongside the findings from this scoping review will support the design of the new intervention aimed at tackling the identified issues. The next chapter will outline the research methodologies used for the data collection of the qualitative study alongside the findings and the implications of the research study.
Phase BETA
Exploration of HCPs’ Personal Illness Models
Chapter 4: A qualitative study exploring personal models of HCPs’ towards depression in LTCs

4.1. Chapter overview

This chapter presents the methods, analysis and the findings of the qualitative study of the thesis. HCPs’ experiences of management of depression comorbid with diabetes or CHD were explored through the emergent themes of illness representations about depression in people with a LTC, attitudes towards people with depression and LTCs, communication and consultation styles, and self-efficacy and perceived barriers. These themes were developed through framework analysis of the data, and were mapped onto the theoretical framework of CS-SRM to investigate how the experiences of HCPs working with people with LTCs and depression fitted within this framework. The chapter begins by introducing the study methods and its analysis, proceeds to describe the characteristics of the sample and recruitment factors, and finished with a presentation of the findings and their implications for the next step of the research.

4.2. Introduction to the qualitative study

The literature on barriers to the effective management of depression in primary care, which was presented in Chapter 2, and the findings of the scoping review on HCPs’ experiences, beliefs and attitudes of depression in primary care, which were presented in Chapter 3, revealed that though there has been much work concerning the recognition and management of depression in primary care by GPs and PNs, there is limited literature focusing on HCPs’ experiences of managing patients with depression comorbid with LTCs. These patients are managed mostly in primary care, and they are known to have increased symptoms of depression and high levels of medical comorbidity (Egede, 2005; Davidson et al., 2006). Depression in people with LTCs is under-detected and inefficiently treated despite the existence of effective treatments and guidelines to support HCPs
with depression recognition and management (Cepoiu et al., 2008). Hence, the reasons why GPs and PNPs struggle to recognise and manage depression in people with LTCs are still unknown. In light of this, recently, there has been an increased interest in research exploring and understanding the impact of comorbidity on the management depression in people with CHD or diabetes (Coventry et al., 2011; Barley et al., 2012; Maxwell et al., 2013). Thus, at this stage, a qualitative approach is employed in order to conduct a more in-depth investigation into HCPs’ perspectives of depression comorbid with LTCs. The specific research questions guiding the exploration of HCPs’ experiences of working with depression in people with diabetes and CHD were:

1. What are the experiences, perceptions and perceived barriers of HCPs of people with comorbid depression and how may these affect the recognition and shape the management of depression in the presence of a LTC?
2. How do GPs and PNPs view the identity, causes, consequences, timeline and controllability of depression in conjunction with diabetes and CHD?
3. What beliefs and attitudes are amenable to intervention in order to support HCPs to better manage depression in such LTCs?

The current study was conducted as part of a programme funded through the National Institute for Health Research Collaboration for Leadership in Applied Health Research and Care (CLAHRC). It sought to assess how models of illness representation might need modification in the presence of comorbidity. Specifically, the aim of this study was to explore HCPs’ personal models of depression comorbid with diabetes and/or CHD to consider their use in the design and development of a HCP theory-based intervention and finally provide data for the design of the measurement of illness representations.
4.2.1. The theoretical underpinning of this study

The current study was based on the CS-SRM, which provides an integrated and empirically validated model for dealing with beliefs (Kaptein et al., 2013 in Cameron & Leventhal, 2003). The CS-SRM (Leventhal et al., 1980) divides beliefs into cognitive and emotional components such as consequences, control and coherence amongst others (see section 2.9.3 for the models’ illustration). According to the results of the review, most of the existing literature on personal models has focused on patients and single conditions; however, there is a growing interest in research which explores the personal models of HCPs, healthy individuals and relatives, but less is known about the content of personal models in comorbidity and multimorbidity in any of the aforementioned populations. According to Bower et al. (2012), there are two a priori ways in which multimorbidity could impact on representations in the CS-SRM; a) the presence of multimorbidity may impact on the beliefs towards the individual conditions and b) presence of multiple conditions may lead to representations about their relationships that only occur in the presence of the conditions together. Research has shown that such representations impact on behaviour (Bower et al., 2012; Stack, Elliott, Noyce & Bundy, 2008). For example, HCPs, when working with depression comorbid with diabetes, may place more value on the diabetes treatment than the treatment for depression.

This is the first study that uses the CS-SRM to explore HCPs’ experiences and beliefs of depression comorbid with LTCs. The use of CS-SRM has been applied as the main theoretical framework for the design of the topic guide and informed the analysis process (see methods section below).

4.3. Methods

The following section will outline the methodological approach which was applied in order to explore the aims of this study, namely the process of designing the topic guide, the methods of recruitment, the data collection, synthesis and analysis.
4.3.1. Semi-structured interviews as a method

Interviews are commonly used in qualitative research in order to gain a more thorough understanding of the perceptions and experiences of participants than that offered by other methods such as focus groups (Taylor & Bogdan, 1998). Semi-structured interviews are considered the best way of collecting high-quality data of sensitive information due to the flexibility in their question order which allows participants to volunteer the information which they feel is relevant and judge the importance of the topics discussed (Green & Thorogood, 2011; Richie & Lewis, 2005). In order to explore and analyse the HCPs’ experiences and beliefs of depression comorbid with LTCs, semi-structured interviews were conducted using a topic guide designed under the theoretical framework CS-SRM and other questions aimed at the exploration of the themes identified in the scoping literature review. This method was deemed suitable for addressing the research questions as it can assist in the disclosure of sensitive information but also in providing an understanding into the theoretical mechanisms of behaviour. This method was also an appropriate way of collecting data which can be used for the subsequently developed intervention.

4.3.2. Ethical considerations

Ethical approval was granted by the NHS/HSC Research and Development offices (REC Ref 11/NW/0300). Additionally, ethical, research and development approvals were received from the Research Management and Governance office representing Greater Manchester Primary Care Trusts (PCTs); Research governance approval was granted for Central Manchester PCT, Stockport PCT, Trafford PCT, Bury PCT and Salford Foundation Trust. The study also obtained ethical approval from the Research Ethics Committee of the University of Manchester.

To ensure confidentiality of all personal data, the present study followed all the principles of Good Clinical Practice. All participants signed a form indicating their consent to this breach of confidentiality and all the audio recordings were anonymous, with individuals identified solely by a unique
The signed consent forms, contact details and interview data are all stored in locked filing cabinets in a locked office. Electronic versions of the data, including the audio files of the interviews, are stored in password-protected computer files, accessible only to members of the research team directly involved in the research. The participants signed their consent for direct anonymised quotations to be used for publication purposes, thus direct quotations have been used in the thesis to illustrate certain points but are presented anonymously.

4.4. **Data collection method / process**

4.4.1. Sampling method

The study used maximum variation sampling which is a type of purposeful sampling deliberately targeting characteristics known to be of relevance (Patton, 2002). The purposive approach is the most rigorous technique for qualitative research, because it is strategic and selects participants based on demographic characteristics, specific experiences or behaviours that are important for a detailed exploration of the chosen theme (Ritchie et al., 2003).

In this research, participants were recruited based on their occupation which had to be a GP or a PN. Snowball sampling, which is used when the sample is hard-to-reach (Faugier & Sargeant, 1997), was the method employed to recruit HCPs due to recruitment challenges faced at the initial stage of recruitment. Participants who had been recruited with the purposive approach recommended other HCPs who share views relevant to the study (Richie & Lewis, 2005).

4.4.2. Procedure

The recruitment method was designed to take place via emails, telephone calls and letters to practice managers throughout PCT practices in Greater Manchester. Invitation letters (See Appendix Z) along with a study
information sheet (See Appendix ZZ) were followed up with further contact by telephone. The inclusion criteria involved HCPs experienced with working with people with diabetes and/or CHD, including GPs and PNs. Practitioners that had previously engaged in a similar qualitative study as part of the group’s research programme and specialists with prior mental health training were excluded in order to prevent distortion of the research.

Participants were given up to one week to decide if they wished to take part and those willing to participate were given the chance to nominate a preferred date, time and venue for the interview. Suitable locations for the interviews included university and NHS trust premises. Participants did not receive any reimbursement and participation was voluntary. All were asked to sign a consent form at the time of interview. Practitioners from ten general practices within Greater Manchester agreed to participate in the study. Those who agreed to engage in the interview were also asked to pass on the information sheet to colleagues and other potential participants.

An initial deliberate sample was picked, the data was analysed immediately and then additional data was obtained through snowballing. This process was repeated until the collected data provided a thorough and rich exploration of the existing views, an idea similar to that of data thematic saturation (Richie & Lewis, 2005) where the investigators realise the data is enough to provide a comprehensive framework for the research objectives (Morse, 1995). Recruitment occurred from September 2011 to September 2012.

4.5. Sample and settings characteristic

In total, 16 interviews were conducted. The sample consisted of 13 GPs (eight males and five females) and three PNs (all females), aged between 22 and 62 years. Only three participants reported training in mental health after completing their university course. GPs and PNs worked in very varied settings, from surgeries in deprived areas, through to surgeries in more affluent areas. One-off interviews were conducted at the participants’ convenience either at their private consulting room or at university
premises. A summary of the participants’ characteristics can be found in Table 4.1.

Table 4.1: Breakdown of Participants Characteristics

<table>
<thead>
<tr>
<th>Code</th>
<th>Job title</th>
<th>Sex</th>
<th>Age</th>
<th>Experience in primary care (years)</th>
<th>Mental Health Training*</th>
</tr>
</thead>
<tbody>
<tr>
<td>D01PN</td>
<td>PN</td>
<td>F</td>
<td>22</td>
<td>6 months</td>
<td>At work</td>
</tr>
<tr>
<td>D02GP</td>
<td>GP</td>
<td>M</td>
<td>46</td>
<td>7</td>
<td>No</td>
</tr>
<tr>
<td>D03PN</td>
<td>PN</td>
<td>F</td>
<td>24</td>
<td>10 months</td>
<td>Yes</td>
</tr>
<tr>
<td>D04GP</td>
<td>GP</td>
<td>F</td>
<td>62</td>
<td>32</td>
<td>Yes</td>
</tr>
<tr>
<td>D05GP</td>
<td>GP</td>
<td>M</td>
<td>55</td>
<td>20</td>
<td>No</td>
</tr>
<tr>
<td>D06GP</td>
<td>GP</td>
<td>M</td>
<td>54</td>
<td>25</td>
<td>No</td>
</tr>
<tr>
<td>D07GP</td>
<td>GP</td>
<td>F</td>
<td>29</td>
<td>3</td>
<td>No</td>
</tr>
<tr>
<td>D08GP</td>
<td>GP</td>
<td>F</td>
<td>40</td>
<td>10</td>
<td>No</td>
</tr>
<tr>
<td>D09GP</td>
<td>GP</td>
<td>M</td>
<td>32</td>
<td>2</td>
<td>No</td>
</tr>
<tr>
<td>D10GP</td>
<td>GP</td>
<td>F</td>
<td>41</td>
<td>10</td>
<td>Yes</td>
</tr>
<tr>
<td>D11GP</td>
<td>GP</td>
<td>M</td>
<td>55</td>
<td>30</td>
<td>No</td>
</tr>
<tr>
<td>D12GP</td>
<td>GP</td>
<td>M</td>
<td>52</td>
<td>24</td>
<td>No</td>
</tr>
<tr>
<td>D13GP</td>
<td>GP</td>
<td>M</td>
<td>32</td>
<td>3</td>
<td>No</td>
</tr>
<tr>
<td>D14PN</td>
<td>PN</td>
<td>F</td>
<td>49</td>
<td>10</td>
<td>No</td>
</tr>
<tr>
<td>D15GP</td>
<td>GP</td>
<td>F</td>
<td>29</td>
<td>2</td>
<td>No</td>
</tr>
<tr>
<td>D16GP</td>
<td>GP</td>
<td>M</td>
<td>33</td>
<td>3</td>
<td>No</td>
</tr>
</tbody>
</table>

*Excluding mental health training at medical school
4.5.1. The interview process

All the interviews were conducted following two days training in ‘Depth interviewing skills’ by the NatCen Learning training centre in London in October 2011. The workshop focused on the use of active listening, open questioning and probing techniques in order to obtain more in-depth data. One-to-one interviews gave the participants time to express their personal experiences working with patients with diabetes or CHD as well as the opportunity to disclose their views about barriers to recognising depression. Following the interview, a debrief leaflet was disseminated in order to capture any queries or concerns participants might have regarding the study.

4.5.2. Topic guide

The interview topic guide was developed by the research team and it was designed to obtain HCPs’ views about depression in the presence of LTCs and their role in the recognition and management of depression. At the beginning of the interview, each HCP was asked to provide background information about their qualifications, years of practising, a description of their general practice, their clinical role for patient management and their experience working with LTCs. The topic guide was iterative and evolved to cover training needs as this was an important part for the next step of the research which is the development of a training intervention.

The topic guide was developed based on the CS-SRM dimensions of identity, cause, consequences, control/cure, and timeline. It was designed carefully to allow for flexibility for a detailed exploration of the participants’ views. The interviews were semi-structured following a standard schedule of open-ended questions. When further clarification was needed, prompts such as ‘what’, ‘when’, ‘how’ ‘who’, ‘where’, and ‘why’ were used. In general, the topic guide was used as a reminder to cover specific topics and not as a list of questions. An example topic guide for the interviews is presented in Appendix Q.
4.5.3. Recording and transcription

With the participants’ consent, all interviews were digitally recorded, handwritten field notes were digitalised and the audio files were transcribed verbatim by professional transcribers. Each interview took between 35 and 85 minutes to complete. The first two interviews were transcribed by the researcher, with the remaining fourteen by external professional transcribers. The quality of the transcriptions was checked by the researcher for accuracy and for re-familiarisation with the data. Microsoft Excel software was used to organise and code the data as well as report representative quotations for the presentation of the results.

4.6. Data analysis

The use of the theoretical framework of the CS-SRM enabled the exploration of the HCPs’ experiences and perceptions of depression comorbid with LTCs.

HCPs’ personal models such as views, attitudes and beliefs towards depression in the context of LTCs were units of analysis. Logical relationships between these personal models, as well as the personal models and the decision to recognise and manage depression, were also examined. The data was subjected to a framework analysis technique in which the search for associations occurred in a similar way to that of looking for correlations between variables in quantitative research. One of the main strengths of the framework approach is that it remains grounded in the data, making use of emergent as well as a priori analytic categories (Ritchie Spencer & O'Connor, 2003) which is the reason why it was employed for the purposes of this study.

The framework analysis was designed in collaboration with the supervisory team, who have a range of professional backgrounds and experience in health psychology, to increase the integrity of the analysis. The interpretation of themes is supported by a carefully chosen theoretically coherent framework with demonstrable credibility, which gives the
framework method an added advantage. The main analysis was conducted under the supervision of the experienced supervisors.

4.7. Framework analysis stages

The topic areas were decided *a priori* based on the theoretical framework used to conduct the interviews. The steps below describe how the framework derived by the CS-SRM was translated into related themes (Baldie, Entwistle & Davey, 2008).

1. Familiarisation
Thirteen of the interviews were transcribed by a transcription service, and were later checked for quality. Reading and listening to all the interview raw data assisted in the labelling and categorisation of recurrent themes but also in becoming immersed in the data. During this stage, the research team became familiar with the range and diversity of the data, which enabled recurrent themes and new ideas to be highlighted. New ideas or themes were handwritten onto the transcripts to allow future exploration. The summary of data used the participants’ own words in order to keep the originality of the source.

2. Identifying a thematic framework
The second stage involved the development of the thematic framework. As Srivastava and Thomson (2009) point out, the thematic framework is a subject open to consideration and refinement, requiring logical thinking and judgment about meanings and importance. During this stage, initial themes and concepts from the data were identified and categorised whereas new emerging themes that did not fit the initial template were added in order to develop the final conceptual framework. This stage was based on the CS-SRM, but with special attention given to specific issues related to comorbidity not captured by this mode (Appendix Y).

3. Indexing
The aim of the previous stage was to finish with a numeric index of all recurrent themes that can be used to label the data. At this stage, the
research team used numbers when making the judgment about which parts of the thematic framework apply to each passage of the data. This method was useful when charting the data at the next stage. The indexing stage was carried out in Microsoft Word and can be seen in Appendix Y.

4. Charting
In the fourth stage, the team synthesised the data by themes or concepts using headings. The labelled data was then taken from the original transcripts and moved into Microsoft Excel charts that consist of headings and subheadings. This data is chartered with page numbers and raw numbers, making them clearly identifiable in the main context, and can be seen in Table 4.2.

5. Mapping and interpretation
The final stage involved detailed matrices which were analysed to map and interpret the data in relation to the aims and objectives of the study. At this stage, an attempt was made to unite key characteristics of the data, and to map and interpret the data set as a whole (Ritchie et al., 2003). The aim of this stage of the analysis was to develop an explanatory account of the data to identify what personal illness models, attitudes and perceived barriers affect the recognition of depression in people with LTCs (Table 4.2). The initial categories, which constitute a descriptive level of analysis, were identified during the charting stage. This part of the analysis was oriented around a number of dimensions of experience: (i) beliefs about symptoms (illness identity), (ii) chronicity or recurrence of depression (timeline and cyclical timeline), (iii) consequences, (iv) personal control, (v) treatment control, (vi) illness coherence, and (vii) causes of depression. According to the CS-SRM, health threat stimuli elicit the activation and development of a representation of illness risk which subsequently informs behaviour. Subthemes also emerged during this phase. To develop the framework, it was necessary to move back and forth between different levels of interpretation or abstraction, both within and between cases; a central process to the framework analysis approach is when the data is re-organised and summarised into themes and sub-themes as an iterative processes (Ritchie & Lewis, 2005).
4.7.1. Framework and themes

The framework was then conceptualised by three groups of factors as follows:

1. The personal illness models of HPCs towards depression in the context of a LTC
2. Perceived organisational barriers and associated attitudes
3. Perceived lack of skills to manage depression in the context of a LTC.

The first group illustrates HCPs’ beliefs, views and knowledge towards depression and its management in patients with LTCs. The second group illustrates HCPs’ own perceived organisational barriers to effectively manage depression when presented in people with LTCs, while the third represents HCPs’ perceived skills and confidence regarding the recognition and management of depression in the context of a LTC. Within these factors, several distinct themes and sub-themes emerged. The analysis indicates that the three groups have a common-sense relationship with each other and all the themes and subthemes map onto the core concepts in the manner explained in Table 4.2
Table 4.2: Table of core concepts and main themes

<table>
<thead>
<tr>
<th>Initial themes</th>
<th>Initial categories</th>
<th>Final Themes</th>
<th>Core factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health care professionals’ attitudes towards people with depression and LTCs</td>
<td>Depression as a reaction&lt;br&gt;illness  &lt;br&gt;Depression is believed to go hand in hand &lt;br&gt;Vicious cycle of depression and a LTC  &lt;br&gt;Depression is unrelated to the LTC &lt;br&gt;Fixed characteristics of personalities</td>
<td>Recognising depression in people with LTCs (illness identity)  &lt;br&gt;Attitudes towards recognition and management of depression in people with LTCs as barriers</td>
<td>HCPs’ personal models  &lt;br&gt;Perceived organisational barriers and attitudes</td>
</tr>
<tr>
<td>Communication and consultation styles</td>
<td>Importance &lt;br&gt;Difficulties &lt;br&gt;Lack of communication</td>
<td>The necessary level of condition-related knowledge and understanding of depression in the context of a LTC</td>
<td>Perceived lack of skills to manage depression in the context of a LTC</td>
</tr>
<tr>
<td>Self-efficacy and perceived barriers</td>
<td>Factors influencing achievement &lt;br&gt;Barriers to implementation</td>
<td>Controllability of depression in people with LTC</td>
<td></td>
</tr>
</tbody>
</table>

4.7.2. Themes and subthemes overview

The subthemes of the main themes represent specific illness models, barriers and attitudes of depression as follows:

1) Recognition of depression in people with LTCs is complex (unclear illness identity):
   a) Lack of clear understanding of depression in the context of a LTC.
   b) Depression as a barrier itself.
2) Attitudes towards the recognition and management of depression in people with LTCs as barriers and enablers:
   a) Clinician’s expectations or their choice when to engage with depression when dealing with LTCs.
   b) Perceived stigma and fear of medicalising stress.
   c) Limited consultation time.
   d) Attitudes and feelings towards people with depression and LTC.

3) The necessary level of condition-related knowledge and understanding of depression in people with LTCs:
   a) A normalising discourse about depression in the context of a LTC
   b) Cause of depression is bereavement; grieving the healthy self.
   c) Depression is a consequence of not coping with LTC management.
   d) A vicious cycle or a synergistic relationship.
   e) Personal vulnerability, stressful life events, family history and socioeconomic deprivation.
   f) Biochemical understanding.

4) Controllability of depression in people with LTCs:
   a) Lack of perceived control towards depression management in conjunction with a LTC.
   b) Concerns about available treatment options.
4.8. Rigour

The supervisory panel collectively analysed samples of the interview materials for credibility check purposes. This procedure aimed to verify that the analysis is coherent and understandable. The panel also helped the process of coding the data and choosing representative quotations as well as making consensus decisions when discrepancies arose during this process. Collective labelling and interpretation was used to the increase trustworthiness of the analysis and conformability to the conclusions (Patton, 2002).

In qualitative research it is important to illustrate how themes fit together, thus the themes and subthemes are presented in Table 4.2 to show their relationship with one other and demonstrate their coherence. Last but not least, a reflexivity statement is provided in Chapter 7 to reflect on how the experiences of the author may have influenced the collection and analysis of the data.

4.9. Results

4.9.1. Recognition of depression in people with LTCs is complex (unclear illness identity)

The majority of the participants in the qualitative study believed that the recognition of depression when presented in people with LTCs is more complex when compared to depression on its own. Two subthemes were derived to depict HCPs’ views on recognition.

4.9.1.1. Lack of clear understanding of depression in the context of a LTC.

As illustrated by the quote below, HCPs viewed depression as a condition that has physical, cognitive and emotional symptoms with duration, severity and presentation that may vary:
“I think there's a distinction in there between depression and low mood and psychological symptoms. So yeah, so depression is a diagnosis that you have to have core features, so the biological features of depression that we've discussed.” (GP 15)

In some HCPs views, the difference between sadness and depression is a distinction that is not always easy to make, and can add a challenge to their consultations. In the question of how HCPs can tell the difference between sadness/low mood and depression in people with physical LTCs, different views were presented:

“That's quite difficult to measure actually. Coz the principle symptom really in depression is low mood.” (GP6)

“I think sadness is common and everyone gets sad at certain points, but it’s to do with the length of time, whether they can distract themselves from the sadness, whether it’s been going on for a long time, whether the sadness has some basis, so if a sadness is you’ve lost a friend you’re supposed to be sad, you’ve lost a dog, you’ve witnessed something that’s difficult. You’re supposed to be sad in those situations and to negate that bereavement, you don’t say; oh, that’s depression, bereavement is a process that involves sadness and that’s important to go through. But if the sadness doesn’t have any cause particularly, and if it’s affecting them functionally...So sadness, yeah, you would hope wouldn’t affect people functionally particularly, but if they’re starting to withdraw or not...self-care’s worse or sleep’s a big problem, that sort of thing.” (GP8)

A few HCPs reported that during their consultations with their patients it was difficult to decide whether distress associated with a LTC constitutes a diagnosis of clinical depression, anxiety, distress or low mood and sadness. As illustrated by the quotes provided above, some participants viewed depression as a clinical condition whereas sadness as a temporary feeling. However, they associated sadness with life events and loss whereas on different occasions HCPs identified life events and loss as causes of depression. People with clinical depression live in a society that uses the terms ‘sadness’ and ‘depression’ inconsistently without clear differentiation between sadness, depression and melancholia. The lack of understanding might be due to either limited mental health training or to the fact that depression is a term that it is not clearly understood within the medical model.
One GP articulated that depression is not difficult to diagnose. It requires common sense and experience;

“What are they sad about? Why are they sad? What's the purpose of being sad? How is it helping them? What will help them to feel un-sad or happy? It’s very easy. None of this is rocket science. You don’t need charts, you don’t need questionnaires, it’s all just common sense...and pure experience as well. You don’t have to be a doctor for 30 years to know this. After about six or seven years of being a GP not only have you learned all of these things in medical school and training but once you’ve been a GP in a place and seen patients day in and day out, families and so on...I see patients even before they’re born because I can see the twinkle in the mother’s eye that she wants to have a baby. What I’m saying is that sort of thing you get to know people and you know when people come in with depression or low mood or psychosocial problem. You can differentiate those things. It’s not that difficult.” (GP11)

“That is not depression. That is psychosocial stress. That’s what they’re undergoing. That’s not depression.” (GP11)

However the distinction is not always clear for some as demonstrated above. Some GPs view the emotional impact of living with LTCs as depression whereas others view it as stress, low mood or psychosocial problems. The confusion surrounding the issues of what is actually associated with physical illness is reflected in previous studies showing similar contradictory results. Such studies either discuss associations between depression and LTCs or serious psychological distress and LTCs. For example, Fisher, Mullan & Arean (2010) indicated that there is an association between distress and HbA1c but not clinical depression and HbA1c, whereas Dunbar et al. (2008) showed that depression was associated with HbA1c but not psychological distress.

Depression, anxiety and stress are often used interchangeably by the HCPs as terms in these interviews. This inconsistency can be partially explained by Gilbert’s (2002) suggestion that HCPs in primary care use an out-dated biomedical model of depression and rarely use psychological and social models of depression as they cannot fully understand them. However, the analysis of the data in the whole study indicates that HCPs’ models of depression represent a mixture of biomedical and bio-psycho social models of depression. Stress and anxiety are also perceived as common reactions to being diagnosed with a LTC but the reasons for being stressed must be
considered by the HCP in order to employ an action plan for prevention.

“Yeah, I think there’s probably a lot of under-diagnosed anxiety, I mean there is depression, yeah, and we screen for that and people get quite low, but I think there’s a lot of under-diagnosed depression and I think particularly with the breathing problems with COPD, I think sometimes it gets very confusing as to whether it’s actually a little bit of an arousal, an anxiety, because you can’t breathe, but then you become panicky that you’re not breathing and you’re worried that something bad is going to happen and then that triggers, what I would call, the arousal of the anxiety. And almost that they’re constantly in a state of not breathing because they’re worried that they’re going to start not breathing. It’s very difficult to unpick the anxiety, the arousal part of COPD.” (GP8)

Depression, anxiety, and stress are separate (but overlapping) conditions and patients often experience both conditions together (Nutt, 2004). Some of the respondents’ conceptual understanding of depression in the context of a LTC was poor and this implies that HCPs attempted to differentiate stress, anxiety, low mood and depression. HCPs believed that stress is related to living with a LTC but, on the other hand, they appeared to confuse stress and anxiety with depression.

4.9.1.2. The depression itself as a barrier

The results of the study showed that HCPs’ personal models of depression with a LTC were characterised by a lack of coherence between the physical and psychological symptoms. Two GPs described depression as ‘subjective’ and as frequently masked by physical symptoms; thus, the majority of the participants found it difficult to recognise depression in people with LTC;

“In LTCs things can get clouded over, symptoms can merge with one another, and if the doctor is not able to listen carefully to his patients, yeah, and if the doctor has this habit of treating each symptom by itself then they will miss depression. You have to take the symptoms together with the person behind those symptoms. It's not just...you don't treat symptoms, you treat the person.” (GP11)

“The problem I think lies in the fact that we sometimes miss depression because there are so many other physical problems going on, we are testing this, looking for that, checking this out and we miss the depression but once we find the depression we can treat it and it’s usually OK.” (GP10)
This complexity of managing depression in patients with LTCs may lead some HCPs, as instanced above, to lack confidence in terms of ruling out a correct diagnosis due to a combination of issues such as overlapping symptoms, lack of coherence and non-holistic consultations. This complexity was clearly identified and expressed by most of the participants indicating an ongoing problem in the consultations which impact on patients’ quality of life. Previous research has suggested that most patients with depression in primary care present somatic symptoms and such symptoms are more linked with depression or other mood disorders than LTCs (Ciechanowski, Katon, Russo & Hirsh 2003; Kroenke, Taylor-Vaisey, Dietrich & Oxman, 2000).

Therefore, these findings support the literature which suggests that physical complaints can actually merge or overlap with each other and a medical style of consultation might easily fail to effectively identify and manage depression (Bair, Robinson, Katon & Kroenke, 2003). The ambiguity between physical and emotional symptoms and the factor of pain might also have a significant impact on the coherence of HCPs’ models of depression. As Evans and Mottram (2000) pointed out, it is common to overlook depression as its symptom presentation is similar to the LTC. Depression symptoms appear in a different combination among patients or within the same patient with depression (Oquendo et al., 2004). This may lead symptoms to be attributed to other physical problems caused by the LTC or its treatment but, as it is suggested, it is important to treat the person holistically rather than the separate symptoms.

Participants were asked to think of scenarios in which they find themselves asking questions about depression when patients attend an appointment for their LTCs. Some HCPs in the study appear to be more comfortable using a more medical model in their encounter with the patients, despite recommendations to use a bio-psychosocial model (NICE, 2009). They suggest that medical diagnoses should be ruled out before provisionally accepting any emotional diagnosis by testing, examining and asking related questions. Two GPs demonstrated that the diagnostic route is a medical illness route to diagnoses, and is encapsulated in the quotes below:
"I suppose in the way that we're taught, which is quite biomedical and that you go down the route of when did it start, was there anything that precipitated it, like if it was pain could it be related to an injury? Is it something they've had before? Because that will help you determine what the cause is. So you're looking for the cause and you go through almost a list of questions really to do that. I suppose sometimes it becomes clearer over time, so if the patient's presenting with similar symptoms and you're not finding a cause or if they don't seem to fit with a medical illness or they're not fitting with a nice diagnosis, then that might be when you try and think of a psychological explanation." (GP13)

"The psychological will only become apparent as we go along. If I see somebody who for the first time walks in and gives me a set of symptoms saying tiredness or lack of interest or waking up three times at night or whatever, the first thing I want to make sure is they don't have diabetes. If it is somebody who's also obese I want to make sure that the person doesn't have thyroid problems. So there are things that we can rule out straight away." (GP11)

The two quotes illustrated that the psychological diagnosis is not made by default but it comes after ruling out other problems. In fact, it seems that if they reach a medical diagnosis, they may even skip looking at depression. Borrowing the terms ‘illness route to diagnoses’ from the study conducted by Peel, Parry, Douglas and Lawton (2004), it can be suggested that HCPs’ consultations are driven by a linear medical diagnosis schema of: symptoms presentation ⇒ testing ⇒ medical diagnosis⇒ psychological diagnosis. This route also suggests that HCPs prioritise physical health as more urgent or by risk of illness-related complications (Bower et al., 2011). HCPs in that case might be aware of the possibility of underlying depression but their priority is to exclude any diagnoses of physical causes. However, a misattribution to the symptoms might lead to a wrong, missed or delayed diagnosis which in turn can have a serious impact on the life of a patient.

Moving on to look at how HCPs make the diagnosis of depression when it is clear that patients present with low mood, it was evidenced that some HCPs used screening tools and questions. Some others reported that the diagnosis is made by the patients’ clinical presentation or their family concerns, as illustrated by the quotes below:

"Yeah, yeah. If there’s a family concern, if I feel that they’ve been...because often you do need to see these people over many years, if I feel that they’re just different somehow, that they’re not..."
maybe as bright as they were or they’re less cheery when they come in. Yeah, if there’s other things, they’re not maybe getting out as much etc.” (GP8)

“They come to me saying they’re very tired and they have pains everywhere and then when you check them out there’s nothing wrong with them, everything is fine and then if you ask them “are you feeling a bit low?” do you not feel like, do you feel like not doing anything and then you have a scoring system the PHQ-9, we do that. That’s when they find out, yes, they are depressed.” (GP10)

“I think there’s a distinction in there between depression and low mood and psychological symptoms. So yeah, so depression is a diagnosis that you have to have core features, so the biological features of depression that we’ve discussed and you can use scoring systems like the PHQ-9 and things like that, and that will give you a biological diagnosis of depression. But I think very much if you’re like I said, the patient with COPD, you can’t walk, is housebound because of their COPD, they’re going to feel down and miserable about that. But I think what you look for is...So two of the core features, the core symptoms of depression are persistent low mood and anhedonia, so lack of enjoyment. And I think probably I look for the anhedonia.” (GP15)

“Well you get...I think there’s a few basic things you’re looking for, you know, while they’re there, have they got anxiety and depression, have they got sleep problems, have they lost weight, have they gained weight, things like that which are a quick measure and also their affect, you can see that at a glance, how somebody is. Those things are probably the most important, which makes you think, oh, this might be depression.” (GP6)

These findings showed that most HCPs follow or are aware of the NICE (2009) guidelines in addition to their experience, knowledge of the patient and ‘common sense’. Some GPs, therefore, reported that identification and management of depression is not difficult, and that patients’ clinical presentations and some cues such as anhedonia and specific symptoms are important determinants of depression as both affect life functioning and patients’ daily activities. GPs often considered the condition of comorbid depression a “grey area” which was difficult to label. This problem might occur because the main goal moves from prevention to diagnosis when the HCP’s goal should be the early recognition and management of ambiguous signs in order to prevent a depressive episode, which in turn negatively affects patients’ health and quality of life (Moussavi & Loncar, 2007).
To summarise, HCP’s believed that the presentation of several ambiguous symptoms could lead to a delayed, wrong or even missed diagnosis of depression. From a cognitive-behavioural perspective and the illness representations literature, people are active processors of information and their behaviour and emotions are associated with their own illness representations. Therefore, data in this study show that HCPs decide to make a diagnosis based on their experience, medical knowledge as well as their own beliefs based on the type, duration and number of symptoms. However, additional challenges may arise because depression can manifest in different ways masking other symptoms. The manner in which HCPs think about depression in people with LTCs may be important in understanding why some HCPs engage with depression or not.

4.9.2. Attitudes towards the recognition and management of depression in people with LTCs

HCPs’ attitudes towards depression in the context of a LTC varied, as did their abilities to recognise it and manage it effectively. Three subthemes were derived related to attitudes to better depict HCPs experiences when managing co-morbid depression.

4.9.2.1. Clinician’s expectations or their choice when to engage with depression when dealing with LTCs

Several HCPs in this study agreed that their consultations were medically oriented, meaning that the LTC is a priority of them. Furthermore, they expected their patients to volunteer psychological symptoms when seeking help for a medical condition rather than them having to ask about it. Therefore, additional challenges for the clinician can arise when patients do not report emotional symptoms in the consultations. In answer to the question about whether they thought their patients recognise when they suffer from psychological problems, two HCPs said:
“Most of them do. Yeah, I think most of them do. But they might not present their psychological symptoms; you might have to ask questions to find out”. (GP5)

“You’ve just got too much else to think about in a consultation. I think unless they come and they present with it quite openly then maybe you’re less likely to think about it.” (PN 03)

This ‘expectation’ admittedly represents a dysfunctional attitude towards depression and its management; HCPs relied on patients’ tendency to report psychological symptoms and expect them to present with a self-diagnosis. They tended to adopt a reactive clinical style, in which the HCPs treat any symptom which they are openly presented with, or they first rule out medical causes before considering the possibility of depression.

“So somebody will come along and say something like, ‘Is there anything more you can give me? Can I have some stronger painkillers? This pain is really getting me down.’ And if they say, ‘This is really getting me down,’ that would be a trigger for me to ask, ‘how is your mood? Tell me a bit more about it.’ And it may become clear, that really the problem is depression and they need to get rid of that first, and then their pain may settle down a little bit. But self-reporting of psychological problems is not high, it’s a minority. Most of the time it depends on my mood and if I’m on the ball and willing to spend time or ask, and be astute, I will say, ‘So tell me about your mood.’ But, sometimes, I’m too busy or I just don’t connect.” (GP12)

The ability to provide holistic care was perceived to be limited by time; some HCPs might intentionally refuse to deal with depression or underestimate it when dealing with other problems. Especially, if depression is hidden by pain or other complaints, HCPs might find themselves in a situation in which their limited consultation time or a lack of personal connection with the patient can become a barrier for them to assess symptoms of depression. Hence, if patients’ emotional distress is not monitored routinely, then detection will always be problematic or otherwise rely on the enthusiasm of individual HCPs as is indicated above.

“A lot of the appointments will be about the physical part of the problem. I think unless people actually ask about it, I don’t know that people want to volunteer symptoms because they’ve got a LTC. So they maybe think that that’s how it’s going to be, they can’t see that it would maybe be different, if they’re feeling a bit hopeless or having problems with their mood then they might put it down to...and I don’t think it comes up naturally in a conversation.” (GP8)
The analysis shows that some HCPs’ intentions are closely related to their expectations to work reactively in the consultations; otherwise they are not likely to probe for depression. This is a problematic situation, because one of the features of depression is that people cannot access language to talk about it and they do not feel they deserve the attention and to have it talked about. A review about the effect of physical complaints and pain in diagnosis of depression showed that more than 50% of patients with depression present physical symptoms and 60% of physical symptoms are just pain complaints (Tylee & Gandhi, 2005).

HCPs described how patients’ perceptions about the clinicians’ role and their illness itself affect the recognition of depression:

“My pressure is when they don’t, there are some people who come straight away with symptoms of depression and they say straight away ‘I feel depressed’ when they come through the door. But some keep it for themselves for 10-15 minutes and then they start and that’s when the problem starts. Because normally I can’t carry on looking at the problem, that’s a problem.” (GP2)

“Well, some patients will have preconceived ideas -like doctors -some of them will have a preconceived notion that the GP is either not amenable or not interested or he’s not the right person to discuss it; or they may not make a connection between psychological symptoms and their physical symptoms, they may not have made the connection.” (GP9)

Limited time and conflicting demands led to the prioritisation of physical issues, and some HCPs felt that it was difficult or impossible to address psychological issues. In this study, HCPs believed that patients may not reveal symptoms of depression as they usually normalise depression when it is presented with a LTC. The analysis shows that HCPs were aware that, similarly to them, patients have the common belief that GPs and PNs in primary care deal mainly with physical symptoms. This creates an unspoken area of communication between patient and clinician. Hence, some HCPs believed that depression is also perceived from patients as an understandable response to illness or as a psychological consequence of the limitations of living with a LTC. The discussion of distress in a standard consultation can be very difficult especially if caused by sensitive psychosocial issues. Many patients might be reluctant to talk about their problems especially when they are not aware that they may be related to
their health or they normalise depression in the context of a LTC. At the
same time, HCPs seem reluctant to ask for sensitive information (Evans &
Mottram, 2000).

4.9.2.2. Perceived stigma and fear of medicalising normal stress

Emotional distress from living with a LTC is perceived by some participants
as a broad and heterogeneous condition and some of the HCPs
overestimated or underestimated psychological issues in their patients;

“That is not depression. That is psychosocial stress. That’s what
they’re undergoing. That’s not depression.” (GP 11)

Often HCPs found it difficult to distinguish depression from reactions to
medical circumstances. For example, reluctance to medicalise people’s
emotional response to a stressful event such as living with an illness was
frequently discussed to be closely associated with problems in
conceptualising depression.

“I don’t know if there is stigma, maybe there is stigma. I think
sometimes you're not sure if it's a true depression and so I find it
much easier to put a code in the notes of low mood and manage it
and I feel happy that I'm still managing it, but I've not given them the
diagnostic label of depression and I think that's because...why is
that? Because I'm not sure that it is a true depression and I think
that it can be managed by other ways than maybe the natural route
that you would go down if you were managing depression. So I don't
want to be limited almost.” (GP15)

“And if they say well, yeah, I really enjoy it when my grandchildren
come round or I still like knitting and I still do this, that and the
other, then I probably think okay, well, you're not depressed, you're
down because of your illness and let's see if we can improve that.”
(GP15)

“And they have gotten better – if that makes sense – over time,
without having the formal diagnosis, and perhaps without any
formal treatment; although sometimes even I have to get to the stage
of not diagnosing but using the treatment of anti-depressants with
the label of using it for chronic pain, if that makes sense, because
obviously they can be used as a chronic pain medication and they do
work well, but also knowing it would have a psychological impact at
the same time. So I suppose you can argue that’s very ethically...
kind of terrible to tell a patient you’re giving medication for two
reasons and one of them you’re not really being honest with them
about, but for some people, because of that label, because I think it’s
going to do more harm to... having gently suggested it, it’s going to
As can be seen from the quotes above HCPs often resisted using mental health labels to describe changes in patients’ mood. They also viewed stigma and fear of medicalising depression as barriers to care and effective communication with patients with LTCs, which in turn may affect the management of depression. Some HCPs expressed a desire to avoid discussing depression with patients with a LTC and presented the management of depression only from a biological perspective without labelling a second diagnosis. This was due to concerns about stigmatisation in order to avoid creating more negative feelings when treatment options are not acceptable. This was about being diagnosed but this may create ethical problems. Nonetheless, it is important to present the screening of depression as a normal and routine part of care of people with LTCs in order to reduce patients’ perceived stigma and feelings of shame.

4.9.2.3. Limited consultation time

A perceived lack of time was viewed as a barrier to engaging in discussions about emotional distress for the majority of the participants. HCPs deemed longer consultations as an important factor in the management of their patients’ comorbidity;

“As long as I’ve got enough time then it’s not such a problem, if I’m feeling rushed then it’s a big problem, you don’t feel as if you can give people the space to communicate well or allow the communication to develop. So I think that’s the most important thing, the time that’s available. And also the rapport that you’ve had in the past, I mean some patients you don’t, you won’t ever click with, it doesn’t matter what time you’ve got but...so I suppose it depends if I know them previously or if we’ve got a good rapport and if I’ve got enough time, if I know what I’m expecting as well, yeah, that’ll be okay. Probably with the patients I don’t know particularly well, having got enough time, that’s when it all fails apart and is difficult.” (GP8)

As illustrated above, time is a barrier for most HCPs in terms of recognising and treating depression effectively but, more importantly, rapport building
also stands in the way of a better patient-clinician relationship. This can be improved by increasing the length of consultations, but it may be more realistic to improve the way time is spent within the consultation.

“I think the structures in general practice limit the quality of the health care and the quality of the interaction with the healthcare professional. If you say, all appointments will be 10 minutes, then I think that's going to have a negative impact on those patients with chronic health problems with depression, because often it's a more complex consultation that needs longer time. So I think it's the structures that we have in place, say for example, the practices that have 15-minute appointments or who allow double appointments for elderly patients or patients with complex health conditions. I think that's quite forward thinking and they are providing a better health service for those types of patients.” (GP16)

As suggested above, time extension per session may help to improve the quality of service provided in primary care. However, this suggestion is not very pragmatic despite the fact that increased consultation time, more appointments, and knowledge of the patient were seen as necessary changes to address additional issues.

“Most important value is knowing the patient for a period of time and seeing them through other issues of their health and other matters, and then when they come and sit down and talk or whatever it is they're talking to you over a period of time you’ll know when to pick up depression, and then you also verify with this, that or the other.” (GP8)

“I think it’s mainly because I get to know the patients and if it was somebody that I was just seeing as a one-off, it wouldn’t obviously be as easy as somebody that I’ve known well their family for three or four or five years. I suppose it isn’t as easy as a one-off to recognise depression early on in a relationship unless it’s very evident that they’re not making eye contact with you, they’re not engaging.” (PN14)

Relational continuity of care was seen as very important to all participants as when it is present between HCPs, the patient and their family over a long period of time, it can allow HCPs to familiarise with patients’ functioning and make it easier to identify changes.
4.9.2.4. Attitudes and feelings towards people with comorbid depression

The frustrating aspects of working with some patients were raised in some interviews. Emotions revealed from dealing with patients with depression and LTCs as well as due to pressure and difficulties in relation to time constraints.

“Having limited time with patients, full stop is a bit frustrating. But, on the other hand, spending time with patients who over the years you know are impossible to help is also a waste of time, you know, it’s not a good use of time...A GP has got to learn how to manage time so that he works efficiently and also protects himself from feeling like a squeezed-out sponge by the end of the day. We’ve got to look after ourselves as well.” (GP5).

“I wouldn’t say angry or something. But it does put pressure on me...and sort of, because I know that I have another 15 patients waiting for me, or even 20 sometimes and I am already late and so...it does a lot of pressure on me. That’s why after a lot of surgeries I feel mentally very tired, myself.” (GP2)

Participants mentioned the exhaustion felt when dealing with people with depression; expressions like ‘a squeezed-out sponge’, ‘mentally very tired’ may also show how HCPs respond to the distress of their patients.

Diverse attitudes were expressed by some study participants. Some negative attitudes included unfavourable views of people with depression such as ‘help-rejecters’ whereas others were positive about the outcomes of depression management.

“It depends on the patient; if the patient is an absolute pain, you know, a winger and a help-rejecting complainer, and then you don’t feel very positive about it. If they’re help-rejecting complainers then those sorts of patients irritate doctors and you just want to get them in and out as quickly as possible. And we’ve got to use our time efficiently; it’s not an efficient use of time to spend time with a help-rejecting complainer.” (GP5)

“I like the challenge and when patients come back feeling better I feel very good. I like to see patients getting better; it’s very rewarding for me.” (GP10).

“Oh, how many problems are they coming with, because nobody comes with one problem? So you know if I might be interested in their diabetes but they are more interested in telling me about their toe-nails or something so that’s what I’m thinking, how many problems have they got and will I be able to, you know fit everything into 10 minutes.” (GP10)
The varied experiences of professionals suggest that HCPs’ experiences may be different, depending on the patient and how busy the practice is. These findings have helped us gain an understanding of the emotions professionals face due to limited consultation time and how such barriers affect their attitudes to managing depression in people with LTCs. Research suggests that more time for consultations with patients with complex needs can reduce HCPs’ stress and enable them to offer more proactive and coordinated care (Mercer et al., 2007). However, this is not cost-effective, thus this recommendation is likely to fail. A more pragmatic approach may be to ask patients to return for a follow-up appointment for a more detailed discussion about their emotional issues. Providing the patient with a depression questionnaire to be completed before the consultation will also save time (Lemelin, Horz, Swensen & Elmslie, 1994).

4.9.3. The necessary level of condition-related knowledge and understanding of depression the context of a LTC

This theme with the subsequent subthemes explored how HCPs in the study conceptualised and explained depression in the context of a LTC. This themes revealed that HCPs hold a normalising discourse about depression that influences its recognition in people with LTCs.

4.9.3.1. A normalising discourse about depression in the context of a LTC.

Participants in the study appeared to have different understandings of depression in terms of how it interacts with LTCs. However, most HCPs interpreted depression as a ‘natural’ response or reaction to living with a LTC providing a number of reasons for this:

“*I think it’s just the nature of the condition that gets people depressed.*” (GP10).

“*I think that these two things like physical condition and depression often go together, they come together. That’s very common. A lot of people feel depressed because of the condition, having diabetes.*” (GP2)
“I think they have to go hand in hand. Older people tend to be the more chronic conditions that they accumulate. There is a higher prevalence of depression anyway. People with chronic disease have higher prevalence of depression often because of the consequences of the illness as well.” (GP16)

As can be seen from these quotes, HCPs were aware that depression and LTCs often co-exist and depression is interrelated with serious disability, as both a cause and its consequence. Depression is a common condition that many people develop in the context of LTCs but it is clear that some respondents held a simplistic model of causation (Ghaemi, 2009), or a linear or reductionistic cause-effect medical model of illness (Borrell-Carrió, Suchman & Epstein 2004). For example, ‘normal’ (natural) and ‘common’ often used interchangeably in this study, indicating a dysfunctional model of depression, which may in turn negatively affect its recognition and management. Depression is a common consequence of living with a LTC and a LTC is a common cause of depression but in reality, multiple interacting or unrelated causes contribute to its onset. This confusion between ‘common’ and ‘normal’ may explain why some doctors believe that it is easy to diagnose depression when others do not. In addition, HCPs holding a 'normalising' understanding of depression in people with a LTC found it difficult to distinguish between sadness and depression and this may affect making a diagnosis.

“I: How would you tell the difference between sadness and depression in people with physical LTCs?

“That’s quite difficult to measure actually. Coz the principle symptom really in depression is low mood.” (GP6)

Generally, it was apparent that some of the HCPs in the study did not have a clear, evidence-based model of depression as a comorbid condition, and they appeared to confuse the state of low mood with depression, thus recognition and eventually management would be difficult. The findings also indicated that normalising depression may affect the recognition process. Some GPs in the study viewed depression not as a disease but just as a reaction to stressful events and the illness. If it is accepted that suffering from a LTC translates directly into an illness such as depression, it is important to think how this might affect its management:
“I think it’s very difficult to draw a line between what is simply a reaction to the illness and what could be a developing psychological problem. However, it’s also very difficult to differentiate between how much are symptoms of depression perhaps and how much is actually pain. It can be challenging to decide between the two diagnoses really.’ (GP13)

“I suppose if there’s a comorbid condition and you treat the comorbid condition, their depression might get better, that’s the only difference.” (GP5)

These HCPs’ views might explain why some avoid diagnosing depression or they simply manage the LTC, believing that the emotional impact of having a heart attack or diabetes will improve when the patient recovers from an acute episode or adjusts to the illness. Studies have shown that simply managing physical symptoms of the LTC in patients who also suffer from depression does not necessarily improve their mood, although many believe it should (Evans & Mottram, 2000). A study conducted by Coventry et al. (2011) found that HCPs and patients normalise depression in the context of LTCs and this impacts negatively on HCPs’ ability to recognise and manage depression effectively. In another case, a GP encapsulated that normalising depression helps its recognition in people with LTCs. This belief was supported by the knowledge of the fact that ‘depression is more common in people with LTCs than on its own’;

“Yes, I think depression, well, we're always told depression is more common in patients with LTCs than in patients without and there's lots of research to back that up. So I think we are aware of that now, I'm aware of that as a GP and we do probably look for it or consider it more. And very often patients will present themselves, so we're not always having to dig for it, a lot of the time patients will come themselves and say they've been feeling down or depressed. I think patients are quite good at actually discussing it, presenting with it.” (GP15)

This view indicates that HCPs are familiar with the association of depression and LTCs, thus they are likely to diagnose depression. On the other hand, this knowledge might lead them to a diagnostic error; a) HCPs might be driven by this knowledge (depression and LTC go hand in hand) and make an inaccurate diagnosis, or b) the patients’ representations of their symptoms might prevent the correct diagnosis of the symptoms and affect the appropriate management of their health.
4.9.3.2. Cause of depression is bereavement; grieving the healthy self

HCPs that normalised depression in people with LTCs attributed its causes to a symbolic loss of a patient’s healthy identity, much like bereavement. For example, HCPs interpreted that depression alters patients’ healthy identity which may ‘lead to patients avoiding an identity-changing diagnosis’ (Alderson et al., 2014). Hence, depression was perceived as a grieving process of getting a diagnosis of a LTC; an adjustment process or a reaction to having a LTC:

“Well, if they’ve not had depression before, I think it’s the loss of what they had, like grief. You become a different person if you have a LTC. You’ve lost the healthy person you were. That person’s now gone. You’re now somebody new and you have to adjust. So it’s an adjustment reaction, almost like bereavement.” (GP12)

“It’s a bit like the chicken and the egg which comes first. But I think, you know, myself I don’t like being ill but it’s very good then when you start to feel better and you know that you’re getting rid of something but the thoughts of like having something for the rest of my life, I think I can understand that they would get depressed about it and all the medication that goes with it.” (PN14)

HCPs viewed the diagnosis of a LTC as an inherently stressful event, yet they believed that it could range from being manageable for some patients to overwhelming for others. In this study, many HCPs saw depression as a reaction, an adjustment or a bereavement process. Even though having a LTC is a stressful situation for a person to be in, the likelihood of suffering from depression is dependent on a combination of different factors including reasons related to the LTC. Some of reported reasons were: patients living with complications, long-term medication regimes, hospitalisation, and reduced quality of life;

“A lot of people also feel depressed because of the condition, having diabetes. They have to take a long term medication and basically they can’t live without medication and there are a lot of them also who don’t really comply because they are a bit in denial. They don’t want to admit that have a condition like that. ‘It’s quite frequent as well… I see a lot of African patients that they are very reluctant to…or sometimes Asian patients very reluctant to accept the diagnosis. But this can also cause some psychological problems because they are in conflict. They know that they have some illness but they don’t want to admit to it, to themselves or to their relatives, as well. That’s a big problem sometimes.” (GP2)
HCPs agreed that having a LTC is stressful and that stress triggers a physiological and psychological reaction. Thus, it was highlighted that depression may be a delayed emotional reaction to physical illness. Some HCPs stated that patients might need time to understand the full implications of living with a LTC, therefore anxiety, anger, and denial were often seen as the first emotional reactions to the diagnosis. HCPs understood that patients might not accept the diagnosis or have feelings such as anger towards it. Anger can be also a symptom of low mood or depression.

“I think there are a lot of patients that become very angry when they get a diagnosis of anything and in particular I do think diabetes. Patients generally don’t want to have anything wrong with them, a lot of them. And even if you explain that it can be hereditary, genetic, a sibling has it or parent they still don’t want a label and a diagnosis of diabetes. Some of them are very reluctant to start medication so you have to work with them a long time persuading them about the long term health risks if they don’t take medication and start to look after them.” (PN14)

“People can become quite negative and depressed as part of the illness, having an illness, having a physical condition eventually is very hard to cope with.” (GP8)

Research has suggested that patients who feel angry about their illness are at increased risk of developing depression. A defence mechanism of anger is denial and HCPs must acknowledge that anger is a significant source of conflict for patients prone to depression (Busch, 2009). Denial may interfere with a patient’s self-management and intentions to seek treatment and it is also an additional barrier for HCPs to recognise their patients’ emotional response. However, denial is a normal and reasonable reaction to a life-threatening illness, and can be explained as a defence mechanism by which patients avoid accepting a diagnosis, reporting symptoms and seeking treatment. Thus, denial also plays the role of a coping strategy for controlling emotional reactions by a subconscious avoidance of realisation of the risks accompanying a LTC (Ketterer et al., 1996).

The belief that ‘patients are in denial or angry for being diagnosed’ might impact on HCPs’ intentions to provide appropriate treatment to those patients. Research in cancer communication has shown that patients may
have intense emotional responses such as anger to serious diseases, and also an increased risk of depression (Massie, 2004). Since denial and anger are associated with depression, there is a need to understand that acknowledging those feelings as important and managing them alongside the LTC is a way to mitigate depression. Moreover, by realising that defence mechanisms and coping strategies are common in people with LTCs, the process of communicating with patients in denial might be different; it might take more time for patients to take on information about a LTC and comply with their illness’ demands. Patience and acceptance are important tools for HCPs to help patients and prevent further emotional reactions.

4.9.3.3. Depression is a consequence of not coping with a LTC’s management

HCPs differed in their beliefs on why some people with LTCs develop depression. Where some believe that a patient’s loss of healthy identity, denial and anger are the key causes for depression, others believe that people, due to various difficulties of living with a LTC and possible complications, are at risk of developing depression;

“Coz why would diabetes make you depressed on its own, only in that you’ve just got all of the other problems to deal with.” (GP6)

“I think if they've had lots of blood tests and they have it, is there something actually inherent in the disease process that makes them depressed or is it just the experience of the disease itself for having to have recurrent blood tests and all these different invasions in your sort of health, you know, instead of just being healthy, you have to continuously monitor this and that.” (GP11)

It became clear that HCPs understand that living with a LTC and its complications is not easy. Patients in reality have to cope with their illness over a long-term period in several ways. They only have contact with their HCPs for a few hours per year whereas it is estimated that 95% of illness management is self-management (or self-care). Coping strategies refer to the actions that someone takes to in order to avoid being harmed by the demands of their life. Self-management involves personalised care planning; implementing medication regimens, attending general practice or hospitals for treatment, self-monitoring, adjusting and targeting goals tailored to
patients’ needs. It also involves life changes such as quitting smoking and reducing alcohol intake, and working closely with HCPs in order to achieve these goals (Katon, Lin & Kroenke, 2002). A GP (below) stated that LTCs’ timelines affect peoples’ moods due to the tiredness of having to monitor the condition their whole life;

“There’s a lot of people who are coping with something that’s as difficult as the illness you’re coping, sometimes after many years of having to cope will get low or struggle to cope with symptoms and start to feel a bit hopeless, do you?” (GP8)

“And so, yeah, then there’s obvious depression or, yeah, just difficulty with coping really that can all be...potentially be helped. I’m quite a fan of narrative-based medicine and I think sometimes that’s part of it, the psychological thing that you need to help to not see themselves just as a patient but see themselves as trying to cope with their condition. But, yeah, it’s very difficult, yeah, a large proportion, I wouldn’t like to put a figure on it”. (GP8)

Some of the HCPs considered and understood depression and physical problems synergistically. This relationship was sometimes viewed also as a vicious cycle where the consequences of living with depression became the causes of depression and by developing depression, the LTCs deteriorated. HCPs’ cyclical beliefs indicate that they view patients as feeling a sense of futility about long-term management and coping with both conditions. This is explored later on as it was found to be a common personal model of HCPs. Moreover, some HCPs viewed depression as a normal reaction to infections, and other problems such as fear of mortality, and limited mobility caused by such LTCs;

“So, people with diabetes, they have complications, for example with their feet, which may limit their mobility. But they may be prone to hypos which affect their confidence in terms of going out and doing the normal day to day activities that someone else might do. They may have a lot of contact with HCPs with a lot of time keeping in terms of attending appointments at their general practice and in hospital, which again can limit them.” (GP15)

“Then if they get an infection, they feel they have to run up to the doctor because they’ve got diabetes. They have to see a doctor if they get a chest infection or a water infection or whatever. So that’s an added thing. All of these facets of the care of diabetes affect them. And also in the case of males it can cause impotence, it can cause erection problems, which again adds to the overall causes for depression. And it affects the family life or married life.” (GP11)
“Obviously because they're feeling unwell maybe or repeated infections or foot problems, you know, mobility can become a problem and all things like that. And then we've got other patients who, after years of maybe being a bit negligent with taking medication and non-compliant really with that going on, then to develop renal problems and having to go onto dialysis and then that is major depression circle.” (PN14)

Decreased sexual desire, erectile dysfunction, and limited libido are known effects of depressive symptomatology as well as part of diabetes and hypertension (Balon, 2006). Hence, some HCPs acknowledged that important causes of depression are the burden of impotence and erectile dysfunction in men or limited libido in women which are caused by diabetes or other LTCs. These problems are viewed to affect patients’ relationships and may have an impact on their family quality of life and consequently their mental health. HCPs also discussed the effects of diabetes on participants’ social lives and personal relationships, and they identified a variety of biological, psychological and social factors contributing to the onset of depression which also related to the LTC.

“So often it's someone who was previously very active, who because of their chronic health problem causing them symptoms like breathlessness or chest pain or whatever it is, they can't be as active, they can't take on the roles that they previously had to, if they're had to retire early because of ill-health they might miss their job and they become socially isolated. I think social isolation which can be a product of a physical health problem, again, because you're less able to get out and about. Just getting older, because physical health problems are more common in older people than aging, depression's more common in older people. But then ultimately if you want to say what's the cause of depression you could say well, it's a really biological cause, it's a low level of neurotransmitters in the brain and it could just be one of those things, there might be a family history of depression, they might have had depression in the past. So it's not necessarily even related to their other physical health problems.” (GP15)

Reduced quality of life, inability to work, stigma, social isolation, financial difficulties, reliance on others and lack of social support were reported to be the consequences of living with a LTC. Some HCPs believed that older patients are more likely to suffer from depression due to the stress and anxiety that is associated with their age, the illness monitoring, and the unpredictable future of the condition.
“I think if somebody is physically unwell and they have recurring problems and they have to go to hospital there's a lot of anxiety and worry. With aging, there's always another worry then, isn't there, if you get another disease or another outpatient appointment, another surgery to look forward to or some other thing. So if there's a chronic condition you tend to just have to more anxiety and depression built up around that.” (PN01)

“Everybody is prone as you get older because you get more problems and things to deal with.” (GP6)

As seen in the above quotes, stress, worry and depression are used interchangeably. It is also implied that old people are already prone to develop emotional disturbances, therefore a LTC adds to this problem. Nevertheless, research shows that aging and hospitalisation are associated with more anxiety and depression but not more than in the general population (Evans & Mottram, 2000).

Depressive symptoms might be perceived as a normal response to ageing or HCPs might assume that depression and aging go hand in hand. Such normalisation can also make it challenging for HCPs to realise that some physical symptoms are signs of depression. Moreover, HCPs use worry and anxiety synonymously with depression without indicating any difference between them (which in turn is conceptualised as normal). This may, on the one hand, lead to a delay or a misdiagnosis of depression or, on the other hand, might result in an over-diagnosis, because stress is a very common feeling when people have to deal with a physical illness. Worry and anxiety were also believed to characterise depression both as symptoms as well as causes. As a result, when HCPs believe that depression is an understandable reaction to aging, the LTC and the associated worry and anxiety, they are likely to overlook depression or explain depressive symptoms as part of aging.

4.9.3.4. Is there a bidirectional link?

As discussed, almost all participants described a one-way relationship between depression and diabetes or CHD and believed that diabetes is the cause of depression or a contributing factor due to the pain, complexity, and
consequences of living a LTC and the constant burden of LTCs management and awareness of their chronic nature. The data showed that in only two cases, HCPs expressed a lack of clear understanding in relation to both the separate natures of depression and LTCs and the causal direction of this relationship;

“Sometimes it’s very difficult to say whether the physical illness started before the depression or the other way around. So it’s difficult to say which causes which.” (GP2)

“So a depressed patient walking in is not going to be diagnosed with diabetes because he’s depressed. Most patients with diabetes, once they’ve been diagnosed with that, they may also have depression at the same time, but if not they sooner or later get depressed, depending on how they manage it and what response they’re getting and so on.” (GP11)

“I think I feel quite confident managing depression and I feel quite confident managing most physical health problems individually. But yes, when they have a combination, it just is more complex because of interactions with their medication or side effects, and also because not knowing as we talked about whether the symptoms are related to a biological depression or whether they’re related to a physical health problem.” (GP 15)

Research shows that there is bidirectional link between depression and diabetes or CHD. In fact, people with depression are twice as likely at risk of developing diabetes and four times as likely to have a heart attack. Moreover, people who do not have depression but suffer from a LTC are at an increased risk of developing depression due to their illness (Egede & Dismuke, 2012; Pan et al., 2010, Pan et al., 2011; Golden et al., 2008).

Consequently, the absence of a clear understanding of the relationship between depression and LTCs creates additional barriers for some HCPs; a lack of awareness of the causes of depression might affect its recognition and management while a lack of awareness of depression as a risk factor for diabetes or CHD might affect the recognition and management of the physical symptoms as a separate, unrelated condition. Consequently, missing a diagnosis for depression and/or a LTC or failure to treat symptoms effectively can result in serious consequences in patients’ lives.
A vicious cycle or a synergistic relationship

The findings showed that most HCPs viewed depression and LTCs as a vicious circle. They believed that people with diabetes or CHD suffering from depression are at greater risk of reduced self-management and adherence to medication and diet regimens, which collectively can have adverse effects on physical health and potentially prompt complications both to do with the condition and independent from the condition;

“Well, it’s…symbiotic is the wrong phrase isn’t it? They’re co-existent, and they affect each other. There is a word for that in English isn’t there? Maybe, synergistic is a good word. Synergy...S-Y-N-E-R-G-Y. Synergy means one thing makes the other thing worse or better, but they’re working together and producing something greater. So you’ve got a problem with the long term condition, problem with depression, put them together and it’s worse than each individual…it’s multiplied, yes.” (GP12)

“So, that can be difficult, sometimes, it’s difficult to get across, especially with someone who has got things, like, they might be depressed, it’s difficult to make them see the worth of the treatment, so they might not feel like they want to take it...their disease gets worse, their depression gets worse and you might find yourself in a vicious cycle.” (GP09)

“They put them in more risk. I would say that it doubles the problems and the risk. It (depression) can aggravate it (physical illness) severely. I would say that if a patient has a LTC and depression is in trouble (laughter).” (GP02)

“I think you can probably see most people with LTCs like this, where they initially have their problem so their mood goes down, they get quite depressed. Maybe that’s just temporary adjusting. Then they get a little bit better, and they adjust to their new situation, so they become less depressed. And then gradually, they realise this is for life, and their mobility starts getting affected, their quality of life starts getting affected, so they start going down again. And then they reach this level where they think, ‘Well I suppose this is the way it’s going to be.’ And yet they’re quite depressed, maybe for a long time.” (GP12)

HCPs also called this relationship as synergistic; by leaving depression unaddressed additional complications could arise, but by treating it, the LTC will be improved and vice versa. If we apply the CS-SRM to this comorbid relationship, the causes of one condition become the consequences of the other. In addition, the consequences of one condition affect the
controllability of the other, the time trajectory (timeline) of one condition is viewed as the cause of the other and so on. Thus, similarly to patients, HCPs’ illness representations and perceptions of depression in the context of a LTC create a common sense relationship with each other and they all become interlinked.

Last but not least, the perceived seriousness of one condition or the other would affect the decision of which of these conditions should be given treatment priority. HCPs differed in their illness representations towards seriousness of depression and illness treatment priority. For example, some HCPs believed that priority should be given to the management of the most urgent condition at that point, i.e. severe depression leads to suicide and that is a reason to prioritise these conditions. On the other hand, others suggested that priority should be given to the physical condition when often there is limited time for consultations and the patient does not comply and then book another appointment for depression.

“He’s a diabetic, he hasn’t seen anybody for 18 months, what’s his sugar doing, what’s his kidney function, what’s his pivotal circulation, what’s his retina doing? These are all very urgent ones. So you try to find out those things and then you tell the person, ‘Let’s do all of these things and let me see you in two or three weeks’ time.’” (GP8)

“So it's this competing priorities, isn't it, and as I say, part of that is led by the patient. The patient might come and say my breathing's really bad and I want that sorted out, and you might agree with that priority, and so you'll do that. Sometimes you'll have conflicting priorities, so they'll want to deal with their breathing but you're more worried about their heart or whatever, or sometimes they want to deal with mood but you think the physical thing needs dealing with first. So it's a balance. Certain things are never going to be on the patient's priority list, that's why I think shared decision making is difficult because, well, it's shared, isn't it?” (GP15)

4.9.3.6. Other causes

Personal vulnerability was identified by a few HCPs as a cause of depression in people with LTCs. For example, some respondents discussed ‘fixed’ psychological causes of depression and discussed depression as a
character defect;

“Pre-morbid, depression kind of personality will maybe take less care, do less exercise and are more prone to smoking, more prone to risky behaviour, and maybe won’t have those strategies in place to cope and will get unwell quicker.” (GP8)

“Coz maybe there's certain pre-morbid sort of personalities who are prone to get depression.” (GP6)

The model of depression as ‘pre-morbid personality’ is a contested finding. This view can be interpreted in different ways but might also imply a negative evaluation of the person who suffers from depression. These views illustrate a deterministic model of depression which implies that depression is a condition that affects ‘weak’ people or personalities. Thus, some HCPs might believe that depression is the person’s fault, as these pre-morbid personalities engage in health risk behaviours such as smoking, drinking and unhealthy diet. Such causal attributions could lead to stigma and shame in patients with depression and may also discourage patients from seeking help for their problems.

In fact, personal vulnerability to depression has been discussed and examined among cognitive theorists and researchers. Cognitive models focus on maladaptive cognitive patterns and negative thinking when people experience stressful life events and their relationship with the onset of depression. On the other hand, if we accept that negative cognitions lead to depression, HCPs should explore the origin, nature and context of those cognitions in order to prevent depression or further episodes of depression. These origins might be associated to family history; therefore parental depression might contribute to the development of negative cognitive styles which in turn contribute to the development of depression in other family members. From a theoretical point of view, this association is the result of an implicit or explicit learning process such as modelling (Alloy, 2001).

Continuing this theme, HCPs in the study mentioned that family history and past history of depression are causal factors for depression. This indicates a biological model of depression which is supported by the literature as one of the most important causes of depression in people with or without a LTC (Fiske, Wetherell & Gatz, 2009).
“There might be a family history of depression; they might have had depression in the past. So it's not necessarily even related to their other physical health problems.” (GP15)

In addition, some participants quoted several established factors likely to cause depression in people with, or without, a LTC which are within the social environment; stressful events such as bereavement, divorce, unemployment and inability to work, retirement and other financial difficulties, as well as family history of depression and family disruption. For instance, HCPs also mentioned that a low economic status often leads to depression or triggers depressive symptoms.

“I think from my experience, it’s often socioeconomic deprivation really is one of the main factors that contribute to depression in the patients that I see.” (GP 16)

Some HCPs acknowledged that people with LTCs are likely at risk of unemployment due to illness complications. Unemployment in turn can cause depression.

“It may be more difficult for them to work. People who are unemployed are more likely to have emotional problems and poorer mental health as well. So I think they’re just some of the reasons.” (GP14)

A small minority viewed depression as a biochemical abnormality which is not inevitable and needs treatment only.

“It’s a disease on its own right, so it should be treated. Because my own view is that’s a chemical imbalance that needs to be put right, because it’s a problem.” (GP4)

HCPs in this study generally tended to focus on the LTC as the main cause of depression. This can be explained by the fact that the interviews were focused on examining parameters regarding depression in people with LTCs. Although only a minority held a biochemical understanding of depression, the majority expressed their preferences in antidepressants as a management option. Applying the CS-SRM in the findings, HCPs’ perceptions of the causes of depression were expressed as having a common sense relationship with their treatment control perceptions. For example, the cause of depression influences the choice of treatment offered to patients. This theme is further discussed in later section (1.9.4 theme).
In summary, HCPs firstly presented a variety of unique central causes of depression but the overall analysis of the causes indicated that several variables explain the link between depression and a LTC. Secondly, the HCPs that participated in the study also indicated that each patient might present other mental health conditions under a broad definition of depression and a different combination of symptoms caused by different factors. Thirdly, HCPs frequently offered a single cause for the patients’ condition rather than a combination of neurological, genetic, psychological and environmental components. Only one respondent demonstrated a more complete and inclusive understanding of the interactive bio-psychosocial model of depression;

“Well, I think limitations on what they can do and a change in their circumstances. So often it’s someone who was previously very active, who because of their chronic health problem causing them symptoms like breathlessness or chest pain or whatever it is, they can’t be as active, they can’t take on the roles that they previously had to, if they’re had to retire early because of ill-health they might miss their job and they become socially isolated. I think social isolation which can be a product of a physical health problem, again, because you’re less able to get out and about. Just getting older, because physical health problems are more common in older people than others, depression’s common in older people. But then ultimately if you want to say what’s the cause of depression you could say well, it’s a really biological cause, it’s a low level of neurotransmitters in the brain and it could just be one of those things, there might be a family history of depression, they might have had depression in the past. So it’s not necessarily even related to their other physical health problems.” (GP 15).

The above quote regarding the causes of depression in people with LTCs is perceived as an elaborate causal model of depression and it includes different risk factors; living with a LTC and its demands, life events, genetics and family history, social environment and previous experience of depression.

More elaborate causal models, which provide a more inclusive understanding of depression, could be more helpful and less stigmatising compared to linear-simplistic causal models. A simplification of the causes of depression can affect HCPs’ ability to identify depression in people suffering from a LTC, particularly when patients present several physical symptoms in the consultation. In fact, different health care professionals as
well as people with or without depression make different attributions for depression and they are heavily influenced by personal and interpersonal experiences. Whether depression is a brain disease and a chemical imbalance or a condition caused by environmental factors and stressful events, sensitivity to the language used is essential in order to reduce stigma and stereotypes in people suffering from mental health conditions.

4.9.4. Controllability of depression in people with LTC

This theme was divided in two subthemes to explore how etiological explanations for depression in the context of a LTC influenced the views of HCPs regarding perceived controllability of depression as well as perceived effectiveness of depression treatment.

4.9.4.1. Lack of perceived control towards depression management in conjunction with a LTC

When HCPs accept biological, psychological or social factors as important causes of depression, recognising this in one model makes the management of depression quite complex and harder to offer a simple effective treatment. Therefore, during the interviews important statements were generated regarding their perceived personal control beliefs about the management of depression in patients with LTCs:

“I don’t have that much control. All we can do is just give them the medication and see what happens.” (GP6)

“So sometimes you have a sense that there’s only a very limited amount to what you can do. But I think the way you feel in control is you prioritise and you say well, I might not be able to solve everything and I might not be make this patient better, but I can make this little bit better, I can...yeah.” (GP15)

As the above statements indicate, some HCPs did not feel that they had a lot of control over their patients’ symptoms and recovery but they did what it was possible to help them. A possible reason could be that they were unable to accurately identify the causes of depression and thus were unable to control the symptoms of depression effectively. For instance, if depression is caused by biological factors, medication might help for some time but if
the medication is reduced or stopped then positive environmental and social factors will help the mood and behaviour stability.

The lack of a clear understanding of depression as a condition in addition to the HCPs’ tendency to use simplistic or linear models to explain the causes of depression might impact on its management. Linear models of causality might help in understanding a clinical situation (e.g. a LTC might cause depression) but the practical actions (e.g. the management of depression) are better justified by more elaborate models of an illness (Borrell-Carrió et al., 2004). Thus, a linear explanation might help to indicate the causal factors for depression, but the management of depression is not fully understood by using a linear model. Therefore, the causes could be multiple and interrelated and a single treatment would not provide the ultimate solution.

“You think maybe we over prescribe; I'm not too sure now with this what we think. But it's fairly reflex isn't it to almost give the medication sometimes. That's a tricky situation to be in, isn't it, to know when not to prescribe?” (GP 6)

The analysis suggests that HCPs mostly rely on medication because their techniques are inefficient in identifying the root cause of depression. Therefore, medication appears to be the first option regardless of the intensity of the condition. Thus, HCPs probably struggle to explain the causes and they feel monitoring patients overtime might help them find answers for the real causes and new treatment strategies since they do not have much control over the symptoms anyway.

“I don’t think I’ve got much control over the patients. Not much else we can do apart from monitoring when they come to see us.” (GP5)

This statement again indicates that some HCPs find medication to be the answer as there is no other strategy they feel will be potent enough for treatment.

4.9.4.2. Concerns about available treatment options

There was a strong perception that talking therapies are not widely available and accessible whereas medication is perceived as an effective and quick
way to manage depression. Similar research has shown that GPs considered medication as the only option due to lack of availability (Rogers et al., 2000). Nonetheless, despite HCPs’ beliefs about medication effectiveness or availability of talking therapies, the findings showed that guidelines for prescribing or other interventions are not followed. NICE (2009a) recommends that medication should be prescribed depending on the severity of the depression in consideration to patients’ acceptance for such interventions. Moreover, medication as a treatment option falls in the category of a medical model. When HCPs were asked to indicate how they prioritise symptoms’ treatment and causes of depression, a biomedical understanding was normally expressed. As illustrated in the following statement, some HCPs give the same importance to both conditions by treating them using a medical model, thus giving preference to medication.

“It's much easier now to prescribe medication than to refer to a psychologist, it's just not accessible. So the normal thing is really for us to use medication and refer only certain types of patients' maybe. Ones that have failed to respond to medication, that you still think have depression.” (GP7)

“Right, we’d probably treat both conditions together if we could. But to treat the psychological condition with the med, physical condition... say if someone has heart-disease and depression we can start them off on the tests for heart-disease and on the tablets for depression. We could do both together, there is no problem.” (GP10)

Historically, medical education employed a biomedical model of consultations which focused on history, examination and investigation. Biopsychosocial models which focus on biological and psychosocial factors and rely on a good relationship between HCPs and patients have proven to be more effective in treating depression. Even though psychological services are not very accessible, other options should be provided for treatment of depression especially in the context of a LTC, such as computerised CBT, a group-based peer support (self-help) programme or a structured group physical activity programme (NICE, 2009). None of the aforementioned interventions were considered by the HCPs in the current sample. However, HCPs were aware that patients with a LTC usually take a considerable amount of medication for their illness and struggle to comply with it when suffering from depression.
“There’s encouragement to prescribe from the pharmaceutical industry so there’s a lot of people on medication; the access to talking therapies for those conditions is very poor in the National Health Service so people tend to… I think there’s a tendency to put people on medication where quite a lot of them would probably do fine with talking therapies but we don’t have good access to that.” (GP5)

This may portray the reality of why medication is prescribed the majority of the time and talking therapies were not considered as the first option. CBT and cCBT have been proven to be clinical and cost effective in certain cases such as mild to moderate depression (Kaltenthaler et al., 2002). Therefore, HCPs should display better judgement when deciding the best treatment strategy in each individual case.

“This think doctors are uncomfortable when they are out of control. So I think when complex patients come with maybe a whole host of social problems which in my patients there are huge issues, so they're unemployed and they've got financial concerns or they're a victim of domestic violence, all these kind of things that really I can't do very much about, that's when I think doctors struggle and we feel quite out of control. Because we know that all of that is impacting both their physical and their psychological health, but actually me giving them an antidepressant isn’t going to solve the fact that when they go home they're still going to be worried about money and they're still going to be in a difficult relationship with their partner.” (GP15)

This quote indicates that new strategies and techniques should be developed which can be incorporated in the existing system to provide a variety of facilities to cater for a variety of requirements. Hence, individuals can be treated using different ways of coping with their symptoms; e.g. talking therapies to explore psychological issues, healthy lifestyle and social activities to help with social isolation and unhealthy lifestyle, and medication to help with biological causes.

Moreover, complementary therapies including yoga, breathing techniques, mindfulness meditation, conscious movement and nutrition advice can be suggested in order to provide an alternative treatment method for the management of both LTC and depression (Miller, Fletcher & Kabat-Zinn, 1995; Uebelacker et al., 2010). This will give the HCPs and patients a variety of options to choose from in relation to the individual needs of the
patients. Research has shown that yoga, breathing exercises, and meditation are effective at decreasing stress levels, promoting healing, increasing energy and enhancing quality of life in patients with depression, anxiety, stress and insomnia (Woodyard, 2011; Uebelacker et al., 2010).

4.10. Summary of results

The qualitative data presented in this chapter reflect the finding of other studies that have highlighted the burden of comorbidity for GPs and PNs (Coventry et al., 2011; Barley et al., 2012; Maxwell et al., 2013). This study described HCPs’ struggles to manage depression in people with LTCs. HCPs differed in their ability to explain and recognise depression in the presence of LTCs, but the majority engaged in attribution styles that normalised depression. In addition, HCPs’ models of depression and LTCs were characterised by a lack of clarity between physical and psychological symptoms. HCPs believed the causes of depression in patients with diabetes or CHD were the loss of a healthy identity, coping with a LTC and reduced quality of life. Depending on the cause of depression, the timeline of depression could be seen as shorter, longer or persistent. For example, when depression was viewed as being caused by the LTC it was seen also as a chronic problem. Moreover, HCPs viewed the consequences of living with a LTC and depression to be poor self-management and exacerbation of the LTC, which in turn worsens depression leading to a vicious cycle of deterioration. They also reported a lack of perceived treatment control due to limited available resources for talking therapies.

This study allowed a more detailed exploration of HCPs’ feelings and personal consequences when working with depression comorbid with LTCs. Participants expressed feelings of frustration, pressure, and tiredness and explained how time limited consultations impact on their own personal stress levels and functioning. These data are consistent with other evidence suggesting that some HCPs’ experience frustration when patients with unexplained symptoms or complex needs attend time-limited consultations (Blakeman, Bower, Reeves & Chew-Graham, 2010).
The data showed that the constructs in Leventhal’s CS-SRM (symptoms, cause, consequences, timeline, and controllability) influence each other. For instance, perceived causes of depression can influence perceptions of the consequences of living with a LTC and depression which in turn influences the perceived frequency of future episodes of depression or morbidity relating to the LTC. HCPs reported confusion about how to manage symptoms of depression that overlap with symptoms of the LTC, which may indicate difficulties in trying to manage a complex and circular problem in a biomedical consultation. The lack of coherence in HCPs’ personal models appears to have an impact on their ability to recognise and effectively manage depression in people with LTCs. Whilst HCPs tended to attribute time constraints to explain poor recognition of depression, this analysis indicated that specific beliefs, attitudes and a lack of understanding of depression in the context of diabetes and CHD were barriers to the effective engagement with patients about their mood.

4.11. Implications for the development of a HCPs’ personal models instrument and online intervention

This work draws attention to some important areas in which previous literature of depression in primary care was limited. This study a) provides an improved understanding of HCPs’ experiences of depression in people with LTCs, b) identifies specific HCPs’ perceived barriers affecting the recognition and management of depression in people with LTCs, c) methodologically explores illness representations about the identity, the causes and the consequences of depression in people with LTCs. Moreover, the interviews allowed an ‘estimation’ of the impact of those beliefs and perceptions on the strength of their intention to diagnose depression in patients consulting for their LTC.

This study points to the need for an intervention to support the HCPs with managing comorbid depression. Further developmental work will be conducted to develop a training intervention aimed at addressing barriers to effective management. It aims to optimise HCPs’ understanding about the presence of depression in people with LTCs and to increase communication
skills and confidence which empower HCPs to engage with discussions about emotional distress in time-limited consultations. Several findings from this study can be applied to the intervention’s development. For example, some participants discussed difficulties in understanding whether depression was normal in the context of a LTC. Others expressed the belief that depression comes after LTC management. Within the intervention that was subsequently developed, these areas were addressed through comic illustrations applying guidance about how to better engage with depression discussions. Chapter 5 provides an in-depth description of the development of the online intervention and how the scoping review and this qualitative study shaped its content.

It has already been discussed in previous chapters that educational interventions that focus on implementation of guidelines or knowledge acquisition have established limited success in primary care (Gilbody et al., 2003). Rather than designing an educational intervention which provides diagnostic and management skills, a training intervention that supports HCPs to shape their own approach to diagnosis and management was designed. This intervention uses role modelling to manipulate beliefs and attitudes and provides a new patient-centred consultation style, based on the illness representations constructs, which may facilitate improved depression care in LTCs. The main findings of this phase will inform the development of a measure for HCPs’ personal models by item generation. The measure may enable the identification of process variables as well as key outcome variables which may include actual changes in clinical practice, such as improved detection rates of depression, the rates of prescription or intervention with other treatments or referral, all of which would indicate the improvement of patient care.

This chapter concludes with a conceptual model that accounts for HCPs’ personal models of depression and its management and potential barriers to recognise and manage depression effectively in people with LTCs in primary care. In summary, the dimensions of HCPs’ personal models upon depression in people with LTCs are described in Table 4.3.
Conceptual Framework and Dimensions

1. Illness identity: ways of recognising depression in people with LTCs

2. The necessary level of condition-related knowledge and understanding of depression in the context of a LTC

3. Attitudes towards recognition and management of depression in people with LTCs as barriers

4. Perceived personal and treatment control depression in people with LTCs

| Table 4.3: Framework: The four dimensions of HCPs’ personal models towards depression in patients with LTCs |

4.12. Summary

- The chapter presented findings from 16 participants where data analysis has indicated that GPs and PNs’ experiences of managing comorbid depression with LTCs were many and varied.

- The data covered four key themes of HCPs’ experiences of MS care; illness identity: ways of recognising depression in people with LTCs, the necessary level of condition-related knowledge and understanding of depression the context of a LTC, attitudes towards the recognition and management of depression in people with LTCs as barriers, perceived personal and treatment control depression in people with LTC. These themes were discussed in relation to Leventhal’s CS-SRM framework and the literature.

- HCPs’ models of depression and LTC are characterised by a lack of clarity and confusion. Depression comorbid with LTCs is a difficult condition to manage.

- The lack of coherence in HCPs personal models appears to have an impact on HCPs’ ability to recognise and effectively manage depression in people with LTCs.

- HCPs reported that access to secondary services for talking therapies is poor.

- Chapter 5 will present the development of a measure for HCPs’ personal models by item generation and the development of a HCPs’ online intervention.
Phase GAMMA

Intervention Development and
Feasibility Study
Chapter 5: Development of an on-line training intervention

5.1. Overview

This chapter is divided in two parts. Part A presents the methods and development of the intervention. Part B describes the outcome measures, design, piloting, and pre-testing of the intervention measurements.

The literature and scoping review and the qualitative study, presented in previous chapters, enabled us to assess which barriers are present at the individual and organisational level including illness beliefs, attitudes and perceptions, knowledge, lack of referral services for effective treatment and limited consultation time. It is still uncertain whether barriers at the level of the individual tend to be more important than those at the level of organisational context. There is no simple answer as to what the best way is to overcome barriers and improve the management of depression in people with LTCs. However, a key solution to overcoming barriers has been deemed to be effective training interventions (Chinnock, Siegfried & Clark, 2005; Gilbody & Bower, 2003) aiming to enhance HCPs’ knowledge, skills, attitudes, habits and self-efficacy (Baker et al., 2001). These factors have been shown to have the potential to improve behaviour (Cheater et al., 2007; Michie et al., 2005). Thus, this intervention is designed to enhance HCPs knowledge, skills, attitudes and beliefs relating to depression in the context of a LTC building on the concept of effective training as a key solution to overcoming barriers to effective depression care. This work is built on previously published methods for designing theory based interventions (Foy et al., 2007; French, et al., 2012; Hrisos et al., 2008). The results of the feasibility study and its methods to assess the acceptability of the intervention and design are presented in Chapter 6.

5.2. Background information

In the past 10 years, there has been an increasing recognition of the importance of psychological theories in understanding behaviour and
designing behaviour change interventions. Research suggests that when these are developed with and driven by appropriate theory, the interventions can be more readily replicated and their effectiveness is easier to test. In addition, theory-based interventions have been suggested to be more effective than pragmatic-based interventions and their use provides a useful basis to improve theories across different contexts and behaviours (Michie, Johnston, Francis, Hardeman & Eccles, 2008; Painter, Borba, Hynes, Mays & Glanz, 2008).

Implementation interventions are interventions designed to change clinical practice and to improve the uptake of evidence into practice. These are, however, limited in their efficacy, partially due to the lack of an explicit rationale for the choice of such interventions and possibly due to inappropriate methods for designing them (Grimshaw et al., 2004). The importance of basing complex interventions, such as clinical training and behaviour change interventions, on theory has been advocated in the MRC guidelines for the development of complex interventions (Eccles et al., 2005) and NICE guidance on behaviour change (NICE, 2009). Although this guidance is helpful as a general approach, it does not specify how to choose and apply appropriate theories or how to design a theory-based intervention.

A systematic review of research on primary care HCPs’ training to manage common mental health problems showed that the majority of the interventions lack valid outcome measures, exhibit poor descriptions of interventions, and is insufficiently underpinned by theory in its design and evaluation (Perryman et al., 2011). Perryman et al. found that skills practice and use of theory to inform interventions improve the management of common mental health disorders such as depression and anxiety in primary care. Moreover, a review by Gilbody et al. (2003) showed that most interventions designed to enhance the management of depression in primary care focus mainly on patient outcomes or clinical effectiveness rather than their effect on HCPs’ behaviour, knowledge, attitudes, or illness beliefs. They also stated that educational interventions were successful at increasing the rates of recognition of depression or improving its management only
when they were accompanied by complex organisational interventions. These included nurse-led case management, collaborative care, a depression management educational programme, and other intensive quality improvement initiatives. Given that at this stage, this intervention is only developed and tested for its feasibility; further modifications should consider the importance of delivering the intervention with such systemic changes (Craig et al., 2008).

The development of FoR.D was informed by the two research projects; a) a scoping review on HCPs’ attitudes and perceived barriers affecting depression management in primary care presented in Chapter 3 and b) a qualitative study with HCPs (Chapter 4). It was designed as a stand-alone project supporting the notion that HCPs’ interventions should be linked to the participants’ experiences (Thompson et al., 2001). Thus, these two studies enabled the collection of information regarding HCPs’ experiences beliefs and attitudes towards depression in people with LTCs and their needs, and challenges. This source of data became one of the key themes of the intervention illustrated in comics. The second stage involves a proof of concept study or otherwise a feasibility study, with the participation of HCPs to ensure that the development of FoR.D is acceptable and reflects their training needs. This study is presented in the next chapter.

During this PhD project, the literature was reviewed to identify the key theoretical framework to inform the intervention. Within the clinical training intervention arena, the more commonly used theories are the SCogT and the TPB. These theories have conceptually overlapping constructs which are amenable to change, i.e. knowledge, attitudes, beliefs, self-efficacy, behavioural intentions, or the level of skills and motivation (Eccles et al., 2007) that are useful for understanding or explaining HCPs’ behaviour and behaviour change (Eccles et al., 2012; Hrisos et al., 2009). At the same time, individuals’ behaviour is also known to be externally influenced (Foy et al., 2007) by invariable factors such as personality, gender, age, and experience (Walker et al., 2003). Both theories have been tested in robust research in healthcare settings and there is no systematic approach to determine which predict HCPs’ behaviour most accurately.
This thesis was informed by the Theoretical Domains Framework (TDF) to design parts of the FoR.D intervention. Briefly, the TDF is developed by Michie et al. (2005) using an expert consensus process and validation to identify theories relevant to clinical behaviour change in HCPs. Some of the theories identified in this process included the framework used in this thesis (TPB, SCogT and CS-SRM). The TDF consists of “12 domains covering the main factors influencing practitioners’ clinical behaviour and behaviour change: knowledge, skills, social/professional role and identity, beliefs about capabilities, beliefs about consequences, motivation and goals, memory, attention and decision processes, environmental context and resources, social influences, emotion, behavioural regulation, and nature of the behaviours” (French, et al., 2012). These domains can be helpful for researchers designing interventions to alter HCPs’ behaviour and enhance clinical practice. They also provide a greater range of potential intervention components (French et al., 2012). The FoR.D employed the TDF as it partially aimed to change the identified perceived barriers to managing depression in primary care.

5.3. The current intervention and the future aims of the FoR.D

My proposal: The FoR.D is a theory-based online training intervention that is rooted in behavioural change theory and focuses on a practical approach, drawing from the previously presented evidence (literature review, findings of the scoping review, results of the qualitative study, and associated evidence).

Employing theory to understand the factors that might affect behaviour and behaviour change, it focused on barriers and potential unhelpful attitudes towards depression in people with LTCs and their skills, knowledge, and self-efficacy, which were identified in previous stages of the research. Training interventions that aim, through behaviour change techniques, (BTCs) to enhance knowledge, skills and attitudes are considered behaviour change interventions (Michie et al., 2005). The techniques were required to
manipulate these aforementioned key constructs which have been shown to govern HCPs’ behaviour by designing a training intervention that would modify these attitudes and provide useful information that can improve their consultations according to NICE (2009) guidelines. The intervention is presented in its development phase which aims at this stage to examine its feasibility and acceptability. Its ultimate aim is to improve practitioners’ skills of diagnosis and appropriate disease management. Future testing should also aim to assess whether this intervention improves the recognition and management of depression in primary care as well as patients’ outcomes.

In summary, this online theory-based intervention is designed to a) enhance attitudes, beliefs, self-efficacy, intentions and minimise barriers to diagnose depression in people with LTCs with the view to promote its optimal management based on NICE guidelines (2009) and b) explore its feasibility and acceptability evaluated by an ‘attitudes to depression’ questionnaire, response rate, engagement with tasks, and completion of the FoR.D intervention (presented in Chapter 6).
Part A: Developing a pragmatic theory-based training intervention for HCPs to detect depression in people with LTCs; FoR.D.

5.4. Methods

There are three characteristics of an intervention that may influence the impact on behaviour; its theoretical basis, the BCTs used and the mode of delivery (Webb, Joseph, Yardley & Michie, 2010). This section details a description of the methods and the steps of developing the FoR.D intervention based on the three characteristics in three steps as follows:

5.4.1. Step 1: What is the problem?

The first step involved a review of the literature and prevalent theories to identify problematic issues and specify possible measures to improve the recognition and management of depression in people with LTCs. To start the design of FoR.D, the results of the scoping review partially informed the aims, content, and target behaviours. The key research questions for designing the intervention were ‘Why do GPs fail to diagnose depression in people with LTCs?’ and ‘How can we help HCPs better detect depression’?

5.4.2. Step 2: Selection of the theoretical framework and a qualitative study for the identification of constructs to target for change

Social cognitive models such as the CS-SRM, TPB and SCogT were used to inform the design of the interventions and specify the targeted components of behaviour in the intervention as suggested by Eccles, Grimshaw, Walker, Johnston & Pitts, 2005; Michie et al., 2011). The selected theoretical framework was considered to be most likely to change HCPs’ attitudes, perceived barriers, knowledge, self-efficacy, and perceptions in order to improve HCPs’ behaviour and was proven to be effective at predicting the behaviour based on empirical evidence (Michie, Johnston, Francis, Hardeman & Eccles, 2008). This step also involved formative fieldwork with a qualitative study to define the intervention content of FoR.D on
www.fordepression.co.uk. The theoretical constructs found to be important at explaining behaviour were then mapped onto the TDF.

5.4.3. Step 3: Selecting BCTs and modes of delivery

Even with the consideration of previous theoretical approaches, the identification of the target constructs, and the engagement with the TDF, there were no clear instructions on how to design a theory-based intervention. To decide on the intervention strategy and key content, recommendations of Abraham and Michie (2008) were followed, which suggested that researchers who develop interventions should a) choose an appropriate framework that has been proven effective at predicting the behaviour based on empirical evidence, b) identify the specific behavioural determinants which need to change and c) select BCTs which could be mapped onto the latter. In 2008, a taxonomy of 26 BCTs was developed which was based on theories of behaviour such as the TPB, SCogT, Implementation Intentions (II), and Learning Theory (LT). Recently, the taxonomy has been increased to 93 BCTs (Michie et al., 2013) and has increasingly been used both to design implementation studies and to derive measures for the constructs of these motivational and action theories. Thus the second step employed this taxonomy in order to determine appropriate BTCs to overcome previously identified barriers and promote change. In this stage, the mode of delivery was decided upon for the techniques and the content of the intervention. Due to time and resource constraints, it was agreed to keep the intervention brief, to use only feasible BCTs such as modelling and information provision, and to opt for the effective and easily accessible delivery modes of illustrations and internet.

5.5. Results

The intervention involved three materials: a set of illustration strips, educational information about depression and its management and an exercise. The illustrations combined authentic quotes from the qualitative data with didactic information. The mode of illustration was used to
manipulate key elements of HCPs’ behaviour. FoR.D was delivered via internet and accessible via www.fordepression.co.uk. This website was the major platform of the intervention designed by the author and technical staff.

5.5.1. Step 1: What is the problem? What do we need to change?

In the first step a review of the literature was carried out to locate recent evidence-based information which was used to design the intervention’s components and content. In the light of the intervention’s future aims to improve HCPs’ management in the context of depression and LTCs by targeting behavioural determinants, HCPs-related barriers, identified in the scoping and other systematic reviews (Barley et al., 2011; Schumann et al., 2011; McPherson & Armstrong, 2012) are likely to affect effective disease management. In these studies, important stumbling blocks in the recognition and management of LTC-associated depression in primary care have been identified as HCPs’ attitudes, illness representations (symptoms identity, causes, consequences, controllability), perceived barriers (limited consultation time), and lack of self-efficacy. Furthermore, HCPs’ attitudes and illness beliefs can be used to explain why depression is not sufficiently recognised in primary care. For instance, the review demonstrated that stigmatising or negative attitudes are perceived to be prevalent among HCPs who may be less than optimistic about outcomes for people with depression or other common mental health problems.

Many important findings emerged from the qualitative study, which involved semi-structured interviews with sixteen HCPs, who had experience working with patients with depression comorbid with LTCs. In this study, some HCPs expressed uncertainty about depression in the context of a LTC and a lack of clarity between physical and psychological symptoms and whether having such symptoms is a ‘normal’ response to living with diabetes or CHD. HCPs reported confusion about how to manage symptoms of depression that overlap with symptoms of the LTC. The results of the qualitative study were used as the basis for designing the content of the later online intervention.
Attitudes, illness representations and self-efficacy are determinants of behaviour, thus they were targeted in this intervention, and they were supported by theory to be potentially modifiable. These key constructs delineating the specific barriers at a theoretical level allow to singling out BCTs that were likely to be effective (Conner & Norman, 2005).

5.5.2. Step 2: Selection of the theoretical framework and identification of constructs to target for change

The literature review was important in shaping the theoretical framework which would inform the pathways of change. The TPB, SCogT and CS-SRM, which are described below, were among the cognitive and behavioural theories selected to identify barriers to behaviour and explain the phenomenon of behaviour. These models provide a basis for understanding the determinants of behaviour and behaviour change; they have been developed to focus on a range of factors influencing behaviour determinants, including factors a) within a person (such as thoughts, feelings, and beliefs), b) within groups or relationships, and c) within organisations, communities, and governments (such as structures, regulations, policies, and laws; Conner & Norman, 2005). Thus, the TPB, the SCogT, and the CS-SRM support the emphasis of the intervention on personal illness models, attitudes, intentions and self-efficacy as determinants of behaviour.

5.5.2.1. Theory of Planned Behaviour (TPB)

The TPB is itself an extension of the Theory of Reasoned Action (TRA; Fishbein & Ajzen, 1975) and both have been the main theories used to explain behaviour in research on health-related behaviour. According to the TPB, individuals’ beliefs about the social world play an important role and include elements assessing individuals’ own attitudes and their beliefs about other people’s attitudes towards a given behaviour. The key determinant of an individual’s behaviour is the intention to engage in that behaviour. Intentions represent a person’s motivation to perform a specific behaviour.
Behavioural intentions are determined by three cognitions: (a) the individual's attitude toward or overall evaluation of the behaviour (b) the perceived social pressure to perform the behaviour or not (i.e. subjective norm) and (c) perceived behavioural control (PBC) which is the extent to which a person feels able to enact the behaviour. Therefore, person’s performance depends on the motivation, intention, and ability to make the change. Dilorio (1997) stated that ‘the TPB predicts that the more positive one’s attitude, the greater the degree of approval by others, and the more PBC, the greater will be one's intentions to perform the behaviour (Dilorio, 1997). Thus, the effect of attitude and subjective norm on behaviour is hypothesised to be fully – and the effect of the PBC on behaviour partially – mediated by intentions. In addition, the effects of other beliefs such as behavioural, normative, and control beliefs of intention and behaviour are mediated through attitudes, subjective norm, and PBC (Armitage & Conner, 1999).

Subjective norms are formed by two components: beliefs about how other people would like an individual to behave (normative beliefs) e.g. ‘I feel pressure from patients to refer them for talking therapies) and the positive or negative evaluations about each belief (outcome evaluations) e.g. ‘in regard to my decision to refer the patient for CBT, doing what patients think I should do is essential for his well-being). Finally, PBC also possesses two defining aspects: a) individuals’ control over the behaviour and b) individuals’ confidence about being able to perform or not perform the behaviour (Ajzen, 2005). PBC is also determined by control beliefs. For example, ‘whether I measure a patient’s anxiety levels or not is entirely up to me’ and ‘I could measure my patient’s anxiety if I wanted to (Francis, et al., 2004). The TPB has done a very good job in predicting behaviour. In particular, meta-analyses have shown that intentions account for between 20% and 30% of the variance in health behaviors (Albarracin, Johnson, Fishbein & Muellereile, 2001; Armitage & Conner, 2001; Conner & Sparks, 2005; Hagger, Chatzisarantis & Biddle, 2002; Sheeran, 2002; Sheeran & Orbell, 1998). Therefore, this theory is important for consideration when designing interventions.
5.5.2.2. The Social Cognitive Theory (SCogT)

The SCogT (Bandura, 1986) and Socio-cultural theory (Vygotsky, 1978) are two learning theories which assume that learning is a social activity and learning occurs when the individual and the environment interact. The SCogT is a complex framework to illustrate as it is a synthesis of cognitive and behavioural social and learning theories involving a variety of concepts. This section therefore explores only the elements of the SCogT that are most relevant to this thesis research project.

Bandura’s SCogT recognises the influence of external environment on learning and identifies that change in the cognitive process of learning occurs through information gathering and processing. Based on the ScogT, individuals form attitudes and learn through a range of sources in their social environment e.g by observing people. It claims that the origins of thought and actions are social but cognitive factors mediate individuals’ motivation (Bandura 1977, 1986). The main idea of the SCogT is the reciprocal interaction, which is the dynamic or bidirectional interaction between cognitions (personal factors such as beliefs, cognitions, and skills), behaviour (of that person), and the environment in which the behaviour is performed. The key concepts within the SCogT are categorised into major determinants of behaviour, including environment, outcome expectations, outcome expectancies, behavioural capability, self-efficacy and methods for behaviour change, such as modelling (observational or vicarious / indirect learning) and reinforcement (Parker et al., 2004 cited in the work of Glanz, Rimer & Lewis , 2002).

Self-efficacy and PBC from the TPB are seen as almost synonymous constructs. However, self-efficacy is more precisely related to one's capability and to future behaviour (Sheeran, 2002). Self-efficacy also does not reflect a person’s actual skills but rather one’s evaluations of what one can do with whatever skills (behavioural capabilities) one possesses (de Vries, Dijkstra & Kuhlman, 1988). For instance, HCPs with strong self-efficacy to diagnose or treat depression through their personal skills such as knowledge, training and treatment variety are more likely to accurately
diagnose and treat patients with LTCs and depression efficiently.

In ScogT, learning occurs through action without the need of imitation and involves learning from the consequences (of one’s actions), called vicarious learning, which can inform and motivate via observation of modelled performances. These performances can be live, filmed or symbolic behaviours and protect people from undesirable consequences (Bandura, 1977b). Learning of complex skills, however, it happens both enactively and vicariously (Ryan, 2012). For example, HCPs learn by observing other clinicians as role models in mental health training and while they practice their skills, trainees provide feedback and correct mistakes; thus through observation, practice, and feedback, HCPs are able to improve their diagnostic behaviour.

Learning through modelling allows people to acquire beliefs, cognitions, perceptions skills and behaviours from observing the social environment and also shape their lives through their choices. For example, HCPs who want to improve their skills may attend seminars and training programs. There are three types of vicarious process: response facilitation, inhibition/disinhibition and observational learning. Response facilitation occurs when modelled actions serve social motivations. Inhibition occurs when models are punished for their actions whereas disinhibition occurs when models perform prohibit actions without negative consequences. Response facilitation and inhibition/disinhibition perform as motivational effects on behaviour whereas observational learning (through modelling) performs as new learning. This concept is used to design this training intervention for HCPs.

Observational learning occurs when people are exposed to new behaviours performed by models and entails four components; motivation, attention, retention and production. Attention is affected by individuals’ beliefs about the importance of the modelled behaviours. In addition, retention occurs through rehearsal, cognitive organisation and transformation of information for storage in memory. Production encompasses the translation of cognitive conceptions of modelled actions into behaviour. In this component, when
people have to learn a complex behaviour, they are very likely to learn only some of its features. Behaviour can be only learned fully through practice, feedback and further modelling. Ryan (2012) stated that observers are more motivated to observe, gain, retain and produce behaviours from models when they are perceived as credible and important, such as teachers or trainees; they are likely to engage with behaviour or task when it is believed that the information and behaviour is relevant to them and especially when it attracts their attention. People are selective and form expectations, therefore learning require elements that can fulfil these expectations.

5.5.2.3. Self-regulation and self-efficacy

The self-regulatory process plays a central role in the exercise of personal agency by its strong impact on motivation, thoughts, emotions, and actions (Bandura, 1991). By visualising self-generated consequences, people are able to regulate their own behaviour (Bandura, 1977). Self-regulation entails strategies that people use to match their behaviour to an ideal standard and people gain their own knowledge by making attributions for others and ourselves (Hogg & Vaughan, 2014). Prior to engaging with behaviour, people set goals and strategies to complete the tasks and then regulate their behaviour in order to achieve the goals. Goals are important for motivation, but alteration of goals and strategies may occur though their evaluation and further regulation. Reflection may follow which empowers individuals’ beliefs about their capability (self-efficacy) to perform the tasks. Strong self-efficacy motivates people to continue learning. Other beneficial effects of self-efficacy are motivational outcomes such as effort and persistence, achievement, and self-regulation (Ryan, 2012).

5.5.2.4. A combined framework to design the content of the FoR.D intervention

Until recently, the choice has been to adopt one or other of the aforementioned conceptual frameworks as the basis of interventions. Although TPB, SCogT and CS-SRM are constructed differently, there is a
common ground between them; people’s 'personal illness models' comprise their beliefs, understanding, attitudes, emotions and behaviour towards an illness, person, group or a situation. Thus, elements from SCogT and the TPB were chosen as they focus on motivation, proposing that motivation determines behaviour. Elements from the CS-SRM were chosen due to its useful constructs in explaining illness perceptions. Specifically, the five constructs (cause, identity, consequence, controllability and timeline) were used to inform the storyline of the illustrations used in the FoR.D intervention. Further analysis of this is presented in section 5.5.4. Overall, backed by the finding that they were important determinants of HCPs’ behaviour (Eccles et al., 2007), these theories became key constructs for the outline and design of the intervention.

Elements such as HCPs’ attitudes, illness beliefs, and self-efficacy about managing depression that had been determined using the framework were explored in the interviews too. They emerged as theoretical constructs that would be targeted in the intervention and that became the key focus of this research project. During this step, the theoretical constructs found to be important in explaining HCPs’ behaviour were then mapped onto the TDF. This step leads to developing strategies for the intervention. Table 5.1 presents the constructs and theoretical domains used to inform the FoR.D intervention. How constructs within each of the aforementioned theories are used for the design of the intervention as explained in the next section.
Table 5.1: Key Determinants of Behaviour (Table adapted from Michie et al., 2005)

<table>
<thead>
<tr>
<th><strong>Domains</strong></th>
<th><strong>Target Constructs</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>General knowledge, knowledge about condition, scientific rational, illness representations</td>
</tr>
<tr>
<td>Beliefs about capabilities</td>
<td>Perceived barriers, self-efficacy control, professional identity, role, social norms, self-confidence, self-esteem, PBC, optimism</td>
</tr>
<tr>
<td>(Self-efficacy)</td>
<td></td>
</tr>
<tr>
<td>Motivation and goals</td>
<td>Intentions</td>
</tr>
<tr>
<td>Beliefs about consequences</td>
<td>Attitudes, outcome expectancies, beliefs, positive reinforcement (emotional relief)</td>
</tr>
<tr>
<td>(Anticipated outcomes,</td>
<td></td>
</tr>
<tr>
<td>attitudes)</td>
<td></td>
</tr>
<tr>
<td>Social influences</td>
<td>Social support, social comparisons, learning, modelling</td>
</tr>
<tr>
<td>Emotion</td>
<td>Affect, positive effect</td>
</tr>
<tr>
<td>Behavioural regulation</td>
<td>Barriers</td>
</tr>
<tr>
<td>Nature of behaviour</td>
<td>Breaking habit, habit, direct experience</td>
</tr>
<tr>
<td>Skills</td>
<td>Skills, skills development</td>
</tr>
</tbody>
</table>

5.5.3. Step 3: Selecting BCTs and modes of delivery

For the FoR.D intervention, the selection of the BCTs was informed by a table matrix that mapped different BCTs to the theoretical domains which were initially linked with different theoretical constructs. The FoR.D intervention was developed using ten of the BCTs identified by Michie et al. (2008) using reviews, brainstorming, and textbook consultation. They were perceived to be effective in changing HCPs’ beliefs attitudes, and self-efficacy and reduce perceived barriers, and to improve diagnostic and therapeutic behaviour and are well-established intervention components. FoR.D mainly focussed on tackling illness beliefs (CS-SRM) and self-efficacy (SCogT) through the use of BTCs such as examination of beliefs, skills training and modelling. The table 5.2 presents a short definition of what each technique involved, as outlined by Michie et al. (2008).
A systematic review of studies using the internet to promote behaviour change found that the most commonly used techniques were providing information on the consequences of behaviour and identifying barriers and/or problem solving as well as modelling. ‘Stress management’ and communication skills training were associated with the greatest behavioural changes (Webb et al., 2010). The FoR.D intervention aimed to improve attitudes by providing information about barriers to recognising depression and increase communication skills by providing an effective consultation as suggested by Phillips et al. (2012). More information about the role of illustrations in stress management and communication skills is provided in the section ‘Illustrations’.
<table>
<thead>
<tr>
<th></th>
<th>Definitions of Chosen Behaviour Change Techniques</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Information regarding behaviour, outcome: Information about the benefits and costs of action or inaction, focusing on what will happen if the person does or does not perform the behaviour</td>
</tr>
<tr>
<td>2.</td>
<td>Comparison: provide comparative data (cf. standard, person’s own past behaviour, others’ behaviour)</td>
</tr>
<tr>
<td>3.</td>
<td>Instruction: teach new behaviour required for performance of target behaviour (not as part of graded hierarchy or as part of modelling), e.g. give clear instructions</td>
</tr>
<tr>
<td>4.</td>
<td>Provide information on consequences and causes of (behaviour) illness (TPB, SCogT, CSSRM): General information about behavioural risk, for example, susceptibility to poor health outcomes or mortality risk in relation to the behaviour (not recognising depression in patients with diabetes or CHD)</td>
</tr>
<tr>
<td>5.</td>
<td>Barrier identification: Identify barriers to performing the behaviour and plan ways of overcoming them</td>
</tr>
<tr>
<td>6.</td>
<td>Social support (emotional): others listen, provide empathy and give generalised positive feedback</td>
</tr>
<tr>
<td>7.</td>
<td>Verbal persuasion/persuasive communication: credible source presents arguments in favour of the behaviour. Note, there must be evidence of presentation of arguments; general pro-behaviour communication does not count.</td>
</tr>
<tr>
<td>8.</td>
<td>Modelling/demonstration of the behaviour by others and vicarious reinforcement: observe the behaviour of others and the consequences of others’ behaviour (SCogT)</td>
</tr>
<tr>
<td>9.</td>
<td>Setting homework: Experiential task to change motivation (Self-affirmation)</td>
</tr>
<tr>
<td>10.</td>
<td>Cognitive restructuring: changing cognitions about causes and consequences of behaviour</td>
</tr>
</tbody>
</table>

*Table adapted from Abraham & Michie (2008)*
The intervention was framed partially around the TPB, which suggests that changes in attitudes and perceived control may lead to corresponding changes in intentions and ultimately in behaviour. Means of persuasion such as providing information on the consequences of HCPs’ behaviour were used aiming to change HCPs’ negative attitudes and to improve their ‘behaviour’, i.e. consultations. The illustrations acted as an information pool by providing evidence-based information and as a means to correct misinformation about depression management.

The intervention also implemented the main BCTs such as modelling, vicarious reinforcement, and persuasive communication (verbal persuasions), which are derived from the SCogT. These BCTs increase self-efficacy which is an important determinant of motivation, behaviour, and behaviour change (Bandura, 1997; Michie et al., 2008). Bandura’s (1977) stated that self-efficacy is created from four sources; one's previous performance, vicarious experience of observing others perform tasks, social persuasions individuals receive from others and somatic and emotional states.

One strategy employed in FoR.D to increase participants’ self-efficacy was the observation of a successful symbolic model depicted in the illustrations; observing the success of models contributes to the observers' beliefs about their own capabilities. The strategy was to design the content using real scenarios of successful consultations with a patient with diabetes in order to motivate positive beliefs, perceptions, emotions, and understandings of depression in people with LTCs. The SCogT proposes that HCPs are important sources of interpersonal influence that can increase individuals’ engagement with relevant behaviours. When positive emotions are associated with particular behaviours, people are more likely to engage with similar behaviours. Vicarious learning is proved to be very powerful and individuals are likely to engage particularly with specific behaviours when they see similarities and assume that the model’s performance is important for their role and diagnostic for their own capabilities (Pender, Murdaugh & Parsons, 2002) The illustrations aimed to represent a doctor-model in order to trigger participants affect (positive emotions) and increase their self-
efficacy, commitment, and engagement with recognition of depression in people with LTCs. Last but not least, a health psychologist, serving as the credible source in the illustrations, was used to provide verbal persuasions which are an important source of self-efficacy; positive persuasions may work to encourage and empower HCPs to engage with depression. Illustrations were also employed to provide evidence-based information, increase participants’ sense of personal achievement, and decrease stress by observing a consultation that misses the diagnosis of depression.

Furthermore, the development of the illustrations’ content was specifically designed to modify HCPs’ attitudes via three possible pathways as suggested by the ABC model: affective (feelings), cognitive (beliefs), and behavioural (actions). These three components form an individual’s attitude to a subject (Breckler, 1984). In addition, the illustrations were designed to attract participants’ attention, which is fundamental to learning. Specifically, if there is a novel aspect to the situation, people are far more likely to dedicate their full attention to learning. Thus, the storyline of the vignettes targeted a) HCPs’ affect by avoiding a didactic or patronising style and by using lay language, b) HCPs’ cognition by providing new information towards recognition and management of depression, and c) HCPs’ behaviour by helping them to see modelled and rehearsed optimal clinical behaviour (recognition and management of depression in people with diabetes). Positive affect towards behaviour results in greater perceived self-efficacy, which can increase the likelihood of engaging with behaviour and results in fewer perceived barriers (Pender, 2011).

Tables 5.4 and 5.5 provide details of the development process of the FoR.D intervention, showing the content of the illustrations linked with theoretical domains and the BCTs used to tackle the domains and the mode of delivery. For example, research shows that one obstacle to recognising depression is the presentation of ambiguous symptoms in people with LTCs (Bair et al., 2003). Similarly, some HCPs in the qualitative study suggested the ambiguity of symptoms and the presentation of depression with physical symptoms as reasons for missed diagnoses. Consequently, the illustration 6 (Table 5.5) was designed using a quote from a GP who participated in our
A website’s presentation obtains and sustains the user’s attention and engagement, and a ‘friendly tone’ of delivery may help users’ information processing (Berk et al., 2013; Deady, Kay-Lambkin, Teesson & Mills, 2014). Thus, an internet-based mode of delivery of the intervention was chosen because, considering HCPs’ time constraints and the geographical spread of the sample, greater efficiency would be obtained if the intervention could be delivered online. Recently, studies have focused on the use of the internet for the development and delivery of behaviour change and LTCs management interventions (Barak, Hen, Boniel-Nissim & Shapira, 2008). Such interventions are convenient for providers as digital technologies are widely used and the cost of design and intervention is perceived as low (Epton et al., 2014) with the added advantage of saving in both travel and associated costs (Piskurich, 2006).

From a theoretical point of view, the internet as a non-linear instructional medium may encourage a deeper processing and cognitive flexibility in learners by integrating new information with the learners’ existing knowledge (Spiro & Jehng, 1990). Additionally, the fact that online interventions can be designed using a combination of instructional methods such as text, video, pictures, audio, and graphics may lead to greater effectiveness and internet-based interventions were perceived to be more effective than other delivery methods. Nevertheless, research on the feasibility and effectiveness of behaviour change in online interventions is limited. Thus, internet interventions, as with all other treatments, must demonstrate feasibility and efficacy using accurate scientific testing (Ritterband, et al., 2003). Table 5.3 summarises the main advantages and disadvantages of undertaking online research as described in literature.
Table 5.3: Advantages and disadvantages of online research and interventions

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Effectiveness for geographically spread audiences.</td>
<td>• Requires a degree of computer literacy to engage with the research</td>
</tr>
<tr>
<td>• Ability to allow real-time access to subject matter experts with minimal loss of their productivity.</td>
<td>• It is not effective for all types of intervention</td>
</tr>
<tr>
<td>• Ability to provide continuous learning.</td>
<td>• Participants may not come back to complete the intervention or learning tasks</td>
</tr>
<tr>
<td>• Participation of many people at the same time.</td>
<td>• Design time is usually greater than face-to-face</td>
</tr>
<tr>
<td>• Easier learning process for both facilitators and participants to use.</td>
<td>• Learners can easily lose interest or attention</td>
</tr>
<tr>
<td>• Ability to provide interactive or collaborative learning.</td>
<td>• Requires personal discipline by participants and a disciplined corporate learning approach</td>
</tr>
<tr>
<td>• Cheaper software.</td>
<td></td>
</tr>
<tr>
<td>• Participants learn and use the intervention at their own pace.</td>
<td></td>
</tr>
</tbody>
</table>

*Table adapted from Piskurich (2006) and Wright (2005).

Internet-based interventions are likely to promote behaviour change through the use of theory; however Webb et al. (2010) stated that the only way to evaluate whether it is more effective than other modes of delivery is to compare similar materials presented via the internet with other modes such as print. They suggested that internet-based interventions are able to vary significantly in their specific mode of delivery; for instance, the intervention content may be presented in a more or less interactive manner or it may use additional channels such as videos, email, telephone, forums for discussion. Considering the benefits and pitfalls of an online mode of delivery and the target group of participants, designing a theory based online intervention was favoured rather than more conventional method such as face to face intervention in a class (Webb et al., 2010).
5.5.3.2. The use of on-line illustrations as an intervention delivery method

The term ‘cartoon’ can sometimes be misleading, since individuals usually associate it with humorous characters from childhood and comic books. In the present study, the label ‘cartoons’ was replaced with the more neutral term ‘illustrations’.

Illustrations have been used for a number of years in several ways: for training and educational purposes, as thinking and problem solving techniques, in patient information leaflets and books including HIV, diabetes, and mental illness with, as yet, unmeasured effectiveness (Harvey, 1997; Pieper & Homobono, 2000; Johnstone, 2006). They have enormous power to tell stories and convey messages as well as facilitate the effective communication of complex information (Green & Mays, 2010). Kennedy, Rogers, Blickem, Daker-White & Bowen (2014) developed illustrations in order to support and engage people with LTCs so as to promote self-management as they “can provide clarity, insight, and understanding” when patients seek support for their LTC (Mays et al., 2011). In addition, a review of the use of pictures and illustrations used for the improvement of communication between doctors and patients showed that illustrations accompanied by written text were more effective than text alone (Houts, Doak, Doak & Loscalzo, 2006). However, the use of illustrations, which was employed in this intervention, is uncommon in health professional training, where learning is mainly structured in a traditional way, e.g. face to face.

As explained above, the mode of illustrations was employed as research has demonstrated that they can be an effective means of learning especially in the context of health care professional education. They provide an engaging, powerful and accessible method of delivering information and they are efficient at attracting readers’ attention by presenting information in an alternative and memorable way (Green & Myers, 2010). In addition, visual art and graphic stories used in medicine have been shown to enhance diagnostic, communication and empathic skills as well as observational and
interpretive abilities (Naghshineh et al., 2008). The visual impact of illustrations can be immediate; providing information with illustrations can promote understanding, increase attention and interest, and motivate individuals’ learning. Another advantage of using illustrations to convey health information is that readers are able to create an overall meaning by relating the words and images to their own interpretations and experiences (McNicol, 2014). The use of illustrations can also improve readers’ productivity, creativity and positive thinking (Parrott, 1994). Finally, Green & Myers (2010) claimed that illustrations are a novel and creative way to learn and teach about illness and that they are a valuable tool for medicine.

Overall, the use of illustrations as the FoR.D intervention delivery mode functioned as a BCT on its own; modelling the behaviour by others utilised from the SCogT. The reader becomes an active participant in the narrative and often identifies with the characters in the illustrations (O’Luanaigh, 2010). Since observational learning through modelling has been found to be the most common way of learning (Bandura, 1986), adding further BCTs to the illustrations by characters modelling problem solving and goal setting to overcome barriers may be an effective way for promoting behaviour change (Thomson et al., 2013). When readers perceive illustrated characters as similar to themselves and find the storyline interesting and immersive, behaviour change can be even more effective (Lu, Thompson, Baranowski, Buday & Baranowski, 2012).

Use of illustrations and positive communication were considered together during the development of FoR.D in order to a) establish a positive, friendly and professional interaction with the participants and foster a sense that their experiences as HCPs were understood, b) explain the purpose of managing depression optimally.

5.5.4. Illustrations’ storyline

Although the illustrations and storyline depicted depression in association with diabetes, this method of intervention aimed to change HCPs’ attitudes towards depression in people with LTCs more generally. The illustrations
were designed to attract HCPs’ attention, enhance change, and promote positive clinical behaviours towards depression in people with LTCs, while the content was designed to represent the ‘real world’ of a consultation to approximate it to the HCPs’ experience.

The story unfolds in 24 illustration strips. Most of the dialogue in the storyline of these strips was based on actual quotes derived from the qualitative study. HCPs’ quotes regarding barriers to diagnosing and managing depression in people with LTCs were considered in the design of the strips. New ideas for making consultations with complex cases effective, the rationale for dealing with depression when presented in the context of a LTC, and evidence-based information to support clinical decision making was presented as a discussion with a health psychologist.

Overall, the FoR.D illustration strips highlighted the reported barriers, complexities, and obstacles that HCPs face in recognising depression in patients with LTCs. The underlying idea behind their use was to introduce difficult, complex, or taboo topics in a non-intrusive manner that would be difficult to achieve in a direct manner. Additionally, the illustrations could facilitate the participants’ reflection and understanding of problems that might not have been acknowledged previously, such as patients’ reluctance to present depressive symptoms’. The use of illustrations and the inherent storyline had also the potential to raise HCPs’ self-awareness, which in turn could help shaping positive attitudes.

The intervention was designed to deliver powerful and immediate visual messages promoting an understanding of the importance of recognising and treating depression in ways that text-based messages could not. The use of simplified language, clear meanings, and diagrams were used to increase participants’ engagement with the material. All illustrations were hand drawn by a professional graphic designer in collaboration with myself. The supervision team advised on the use of wording when needed and some were changed to ensure appropriate use of technical language or tone. One strip was excluded after some concerns were raised regarding the appropriateness of the illustration.
The excluded illustration is depicted below;

Illustration 1: Excluded strip from FoR.D

The overall aims, strategy, and presentation of the illustrations and scenarios are presented in a flow chart below

Figure 6: Aims, strategy, and presentation of illustrations
5.5.5. Design of clinical vignettes and characters

Both the clinical vignettes and the characters were developed using data and evidence-based information from the literature, the interviews with HCPs, ideas generated by/within the research team, and wider healthcare academic experts in the Centre for Primary Care. Vignettes are usually used in studies to elicit participants’ knowledge and opinions or to prompt attitudes and beliefs in a hypothetical scenario. They are also used as a method of measuring hypothetical behaviours (Schigelone & Fitzgerald, 2004). However, the development of the vignette in our study was crafted to assist the development of the main intervention; the author and the illustrator modelled a patient’s behaviour and a real event in an illustration for the intervention strips.

![Picture 1: Characters in the FoR.D intervention](image)

The four protagonists are characters with different looks and personalities; their styles are linked to specific behaviours. The characters were designed using real quotes from GPs in the qualitative study in order to have similar characteristic with the readers. The two HCPs and the health psychologist serve as role models by demonstrating key BCTs and a coping style in order to overcome potential barriers related to diagnosing depression in the patient Maria.
Maria, as the main character of the intervention, was developed initially as a vignette using data from the qualitative study, and the literature (Aina & Susman, 2006) with recommendations by collaborating HCPs. Firstly, the analysis of the qualitative interviews indicated that HCPs miss depression in patients with diabetes or CHD who present symptoms such as tiredness, back pain, low self-management, inactivity, and increased appetite. Similar research also suggests that it is common to miss depression in people with LTCs when physical features such as weight gain or loss, sleep disturbance, fatigue, and low glucose levels are presented and that this can be misinterpreted as features of diabetes (Evans & Mottram, 2000). The quote below inspired the development of the first draft of the real case clinical scenario;

“Again, with diabetes it’s very similar in that it’s not a clear cut diagnosis, so often people have glucose tolerance tests, maybe have a little bit of a weight problem and then, eventually, will have a diagnosis of diabetes, whereas they might be coming for years for blood sugars monitoring if they’d been deemed to be at risk. And so it slips, it’s quite difficult, in a way, for the diagnosis to...you can sometimes feel as if it’s slipping in. I mean I’ve written a letter just recently that said, ‘you now have a diagnosis of diabetes and depression’, which is quite difficult because this lady’s been coming for glucose tolerance tests for a few years and so it’s a bit ‘oh, so what’s suddenly changed?’ But to them it’s quite difficult to see that as a sort of cut off”. (GP 8)

The literature was reviewed (Wong & Dudl, 2006; Bownan & Duld, 2002) to develop appropriate vignettes and inform a second draft of the vignette, which was assessed for its accuracy and face validity by a GP colleague in the Centre for Primary Care, following suggestions for improvement by the supervisory team which drafted the final version of the vignette. The vignette described a ‘real patient’ in a consultation: A 55-year-old overweight woman who smokes and does not engage in physical activities but with no history of other health problems is visiting her practice nurse. The clinical vignette 1 is presented below in box 5:1 followed by the illustration based on it.
Box 5.1 Patient Case Scenario- Maria as adapted from Wong & Dudl (2006) and Bownan & Duld (2002).

A new patient in the general practice, Maria, 55 years old, visited the diabetes nurse to receive the results from her diabetes check-up. The diabetes nurse told Maria that her blood sugar was 300 mg/dL (16.65 mmol/L) and that she is overweight with a BMI 28. Maria also learned today that her blood pressure was elevated at 150/90 mmHg, her LDL cholesterol level was high at 160 mg/dL (4.14 mmol/L), and her HDL cholesterol level was low at 35 mg/dL (0.91 mmol/L).

Thyroid results as normal, lungs are clear, extremity examination is normal. Maria has no foot ulcers, and the dorsalis pedis pulse is barely palpable bilaterally. Her current medications include 70/30 insulin (25 U in the morning and 15 U at dinnertime), lisinopril (10 mg/day), and carvedilol (6.25 mg twice daily).

Maria is a smoker, not very active or into sports or outdoors activities but works in a very busy clothes shop in Manchester. No drug history, no alcohol consumption. Maria has no known family history of rheumatic disease, nephrolithiasis, stroke, cancer, haematuria, proteinuria, or renal failure. The diabetes nurse asked Maria to book an appointment with a GP to discuss the results however she feels anxious about visiting a new doctor.

As a result, the first illustration of Maria below was designed to awaken HCPs’ interest and engagement. To ensure this, the factor of stress was included in the illustration. Specifically, Maria is presented as someone who experiences stress even before visiting the practice nurse. One of the aims of this strip was to trigger the participants’ belief system – what would they do in a similar situation? Would they pay attention to the emotional verbal and non-verbal cues? Based on theories of social cognitions “visual or auditory signals of contextual stimulus are sensed by the perceivers and they convert them into psychologically meaningful representations that define their own experience of the specific stimuli” (Bodenhausen & Hugenberg, 2009). In this example, the word stress was used in a visual context (illustrations) to stimulate HCPs’ interest in order to generate a response that a) results in
engagement with the intervention and b) sensitises them towards emotional cues and signs of psychological distress from their patients. The literature supports the notion that patients under stress often present with mood-relevant descriptions (Bradley & Mathews, 1983 in Gilboa-Schechtman, Erhard-Weiss & Jeczemien, 2002) such as 'I am worried, I am anxious’ like Maria.

Another key aspect of the first illustration was to demonstrate that HCPs in a consultation are likely to focus on different health symptoms depending on clinical presentation or unhealthy lifestyle choices and thus often miss emotional cues. In this case, the PN pinpointed the risk of a heart attack due to Maria’s smoking habit and the laboratory results showing high blood pressure, increased weight, high blood sugar, and elevated cholesterol levels.

Illustration 2: Maria’s presentation

5.5.5.2. The ‘professional’ characters

The characters Dr Bennett and Dr Tipping aimed to represent the two typical GPs during a consultation in a general practice. Their main role was
to provide medical care as part of a team together with PNs that manages patients with LTC. Both GPs and PN managed Maria’s symptoms differently reflecting two possible consultation approaches. Mrs Blake was designed to represent a health psychologist and researcher undertaking a study about comorbidity in LTCs.

5.5.5.3. Dr Bennett; a doctor-centred clinician

The scenario depicting Dr Bennett was presented to reflect the style of a doctor-centred consultation as adapted by Price (2003) to represent recent depictions of clinician-centred models (Charles, Gafni & Whelan, 1997; Byrne & Long, 1976; 1985). According to these models, HCPs are the experts, have the appropriate skills and medical knowledge and the patients agree to what the clinician considers best for them during the consultation (Charles et al., 1997). Byrne & Long (1976, 1984) described the six stages to a clinician-centred consultation which were used for the development of the next illustration.

The stages were adapted to our storyline as following:

- The doctor is trying to establish a relationship with Maria.
- The doctor tries to explore the reason why Maria attended.
- Dr Bennett examines Maria’s history
- Dr Bennett, in consultation with Maria, considers the condition.
- Treatment or further investigations are discussed.
- Dr Bennett brings the consultation to a close.

Box 5:2 presents the scenario developed to represent Dr Bennett’s approach, followed by the corresponding illustration 3.
Mrs Blake: Could you please describe your general approach to the patient?

Dr Bennett: I’d start by thinking about the risk of complications and then what we can do to prevent them. So, I would ask her again questions about her work situation and whether she complies with her medication regimes. I’d want to ask how she monitors her disease at home: Does she check her blood pressure at home, her diet, and her feet. How often does she check her blood glucose level and I’d ask about symptoms of autonomic or peripheral neuropathy; nausea, vomiting, dizziness, and numbness of the extremities.

I would point out some of the “good news” about her health condition (e.g., normal coronary angiogram, lungs clear at examination), while expressing my confidence that some areas could be improved, but I would also be honest and tell her that she is in a high risk of having a back surgery, or hospitalisation about her foot problems in the next ten years if she doesn’t stop smoking, change her diet and her lifestyle.

I would suggest an appropriate diet, exercise, and several commonly used medications, in order to help her take control of her diabetes and relieve the back pain. This would probably proceed down a markedly altered path from that of oncoming complications. At the end of the consultation I would suggest that she should come back after two weeks to check the blood sugar levels and check for peripheral neuropathy, orthostatic blood pressure, and pulse.
Illustration 3: Consultation focusing on diabetes

It is noticeable that Dr Bennett focused on his patient’s diabetes, associated symptoms, and possible complications. His interviewing style was aiming to reach a merely organic diagnosis of Maria’s complaints. Her back pain and complaints were approached in a biomedical way of thinking; back pain was linked to Maria’s job and her poor health was blamed on smoking and poor self-management. Thus, his approach focused on clinical events and symptoms, representing a clinician-centred approach to Maria’s consultation. Furthermore, the Illustration 3 aimed to show that Dr Bennett acted in the best interest of Maria. He was concerned about her situation and treatment plan but his approach primarily suits a rather disease-oriented model; the doctor is the expert and has the ultimate control whereas the patient is expected to agree with his medical advice. Maria, however, was presented to be unhappy with this consultation as she had expected Dr
Bennett to ask about her feelings. This concept was added based on a) research indicating that some patients may be sometimes reluctant to reveal feelings or HCPs are similarly reluctant to question sensitive topics (Evans & Mottram, 2000), and b) results of our qualitative study showing that many HCPs focus on the physical part of the symptoms:

“You’ve just got too much else to think about in a consultation. I think unless they come and they present with it quite openly then maybe you’re less likely to think about it”. (GP 3)

For this reason, the strip was designed to show in an indirect, non-offensive way that a more patient-centred consultation can increase patients’ satisfaction, leading to better patient outcomes (Clarke, McCall & Rowley, 2002).

5.5.5.4. Mrs Blake, the health psychology researcher

In the storyline, Mrs Blake visited the general practice to interview HCPs about co morbidity in LTCs after reviewing patients’ consultations. Mrs Blake also took on an instructional role to help the GPs with the management of patients with diabetes and psychological distress. She provided training on how to improve their consultations by using their time effectively.

In the storyline, Mrs Blake meets the GPs separately. Initially, the health psychologist met Dr Bennett after reviewing Maria’s consultation. She provided evidence-based information to support or argue with Dr Bennett’s consultation style (see Illustration 4 below).

Illustration 4: Health psychologist
The storyline about Mrs Blake and Dr Bennett (and later Dr Tipping) was developed using selected interview quotes of different HCPs who participated in our qualitative study. They were grouped together into two main categories and acted as the two doctors’ responses to Mrs Blake. To achieve this, an interview scenario was created and the answers were quotes of the qualitative study. As an example of its evidence-based nature and employment of theoretical background, the content of the illustration utilises consequences of illness and it is also mapped into a behavioural change technique, which is one of the main constructs of the CS-SRM. It demonstrates ‘how depression affects people with LTC’ and aims to provide participants with information on consequences and causes of an illness. Based on the LT, the behavioural change technique ‘providing information about the consequences of an action from a credible source’ may affect attitudes towards the target behaviour (Abraham & Michie, 2008).

The remainder of the illustrations (Appendix R) presented the discussion between Mrs Blake and Dr Bennett, reflecting his beliefs about perceived barriers to assessing Maria’s case for depression. Opinions, health beliefs, and attitudes towards depression are documented in each illustration. Examples are presented in Tables 5.4 and 5.5, alongside the quotes from the qualitative study that were used to create the content of the strips. Each was mapped onto BCTs identified to be effective at changing behavioural components (Abraham & Michie, 2008). The mapping was validated by a research psychologist (KP, Ph.D.), and any disagreements were resolved by discussion in supervision meetings. The new taxonomy of 93 BCTs was published in 2013 (Michie et al., 2013), making it likely to be applied to intervention content and mode in future work. Example illustrations of Dr Bennett’s vignette are presented overleaf.
Illustration 5: Barrier to recognise depression

<table>
<thead>
<tr>
<th>Focus of the illustration frame (mode)</th>
<th>Barrier to recognise depression (illustration)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Data source:</strong> Quote from qualitative study</td>
<td><em>I think I have to rule out the physical illness first, as it can lead to more complications. The problem here for me lies in the fact that I sometimes don't engage with my patients' mood because there are so many other physical problems going on; we are testing this, looking for that, checking this out and we miss the depression. (GP, male)</em></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Target Construct</th>
<th>Constructs’ Domain</th>
<th>BCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Increase knowledge, personal control and Intentions (TPB, SCogT) • Outcome expectancies, risk perceptions, attitudes and self-efficacy (SCogT, TPB, CS-SRM)</td>
<td>• Professional role, beliefs about capabilities, social influence and motivation • Memory, attention</td>
<td>• Comparison • Prompt barrier identification</td>
</tr>
</tbody>
</table>

Content: Dr Bennett as a peer expert discusses a barrier to identify depression in a patient with diabetes (Maria). He focuses on diabetes as he wants to prevent complications caused by Maria’s poor self-management. The illustration adopts 2 BCTs; it provides an opportunity for reflection and comparison. The reader will identify (or not) himself in the model (Dr Bennett) and analyse their own performance by comparing and evaluating their abilities to recognise depression. This BCT targets self-efficacy and PBC to reduce stress if the personal reflection is similar to the model.

Table 5.4: Quote, content, BCT and construct for illustrations (example 1)
Illustration 6: Barrier to recognising depression

**Focus of the illustration frame**

**Tackle barriers to recognise depression**

**Data source: Quote from qualitative study**

I think it’s very difficult to draw a line between what is reaction to the illness and what is developing psychological problem, but it’s also very difficult to tease apart how much is a depression perhaps and how much is actually pain. It can be challenging to decide between two diagnoses really.

**Target Construct**

** Constructs’ Domains**

<table>
<thead>
<tr>
<th>BCTs</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Provide opportunities for social comparison</td>
</tr>
<tr>
<td>• Prompt barrier identification</td>
</tr>
</tbody>
</table>

**Content:** Dr Bennett as a peer expert discusses a barrier to identifying depression in a patient with diabetes (Maria). He primarily attributes Maria’s symptoms to physical causes. The illustration serves as a heuristic to help participants remember that depression can manifest with physical symptoms and provide support to evidence that depression may present through physical symptoms and this may impact in recognition of depression (Burton, 2003). The health psychologist serves the role of credible source; the BCT is ‘Identify barriers’ to performing the behaviour and she provides information of overcoming the barrier i.e depression assessment. Perceived barriers can constrain commitment to action, a mediator of behaviour as well as the actual behaviour (Pender et al., 2002)

Table 5.5: Interview quote, content, BCT & construct for illustrations (example 2)
Dr Tipping, the patient-centred clinician

The second set of illustrations (Appendix S) was developed to present an alternative way of addressing the identified perceived barriers in a consultation. The storyline continues with an illustration depicting the patient Maria ‘still not feeling better’ (see illustration 7).

Illustration 7: “Maria does not feel better”.

Maria was then shown to book an appointment with another clinician, Dr Tipping, a month after seeing Dr Bennett. Dr Tipping’s character was designed to represent the role of a patient-centred clinician who understands the patient’s experience of illness. Dr Tipping focused on exploring Maria’s feelings, thoughts, and behaviour towards her diabetes as well as pointing out risks, such as back surgery and hospitalisation.

The scenario showing Dr Tipping’s consultation is presented in Box 5.3 followed by the resulting Illustration 8.
**Box 5.3 Mrs Blake-Dr Tipping Scenario as adapted from Price (2003)**

| Mrs Blake: | Could you please describe your general approach to the patient? |
| Dr Tipping: | Maria’s medical situation is quite complex and I would need more than one visit to rule out what’s going on. I would like to know more about her life situation, and what she is doing to manage her diabetes condition. I would make clear that I look forward to establishing a long-term partnership with her and to working with her to better manage these symptoms. I would say that she is in a high risk of having a back surgery, or hospitalisation about her foot problems but we could better manage some problems such as HbA1c level, and CHF. |

I would like to have a better understanding of her main concerns, the effect of her diabetes on her life, how well she is self-managing it, and what motivates her.

I will ask such questions as “How does your heart problem make you feel emotionally?” and “What do you think is the cause of ‘not feeling well’?” I would also ask something like “How are your health problems affecting your daily activities, work, and family, for example what does diabetes stop you doing?”, as well as “What are you hoping I can help you with in order to control diabetes and your emotions more effectively?” I’d also like to know more about her social life, including work and family.

At the end of the consultation I would prescribe pain relief medication for her lower back and ask her to come back after two weeks to check the blood sugar levels. I will give her the PHQ-9 questionnaire and ask her to complete it the day before her next appointment. I would mention the importance of doing some relaxation techniques and regular exercise, change her diet and stop smoking as her life style choices have a serious impact on her diabetes.
Illustration 8: Dr Tipping and Maria’s consultation

Dr Tipping (as shown in Illustration 8) reflected a new approach, being more interested in the psychosocial aspects of Maria’s problem. This part of the intervention was developed using recommendations by the RCGP Curriculum (2010) and Phillips et al. (2012) suggestions and a vignette developed by Price (2003) for a more effective consultation. It targets self-efficacy and decision-making strategies which have accumulated significant support (WHO, 2012). Dr Tipping asked Maria questions to explore her agenda including her beliefs, concerns, and expectations regarding her illness.

Specifically, the modelling technique in illustration 8 aimed to show participants an interviewing style based on the CS-SRM as proposed by
Phillips et al. (2012). The open-ended questions were built around the main constructs of the model, such as causes, consequences, emotional representations, and controllability. Thus, Dr Tipping’s questions are focused on Maria’s feelings, beliefs regarding the causes of her diabetes, her views about the consequences of living with diabetes, her perceived personal control over diabetes management, and ideas on what the treatment should be.

Phillips et al. (2012) proposed that addressing patients’ illness representations is more important than HCPs’ interpersonal skills for improving patients’ adherence. This is due to the fact that patients are able to understand the complexity or develop a more coherent model of their condition alongside the relevant medical knowledge. As a result, this part of the intervention aimed to introduce a different patient-centred consultation; the clinician (Dr Tipping) explores patient’s (Maria’s) illness representations and discusses the outcomes. This may encourage Maria (patient) to express their own feelings and concerns about the presented ‘problem’, while the GP is able to consider his own beliefs. Phillips et al. (2012) also suggested that when HCPs provide patients with an adaptive understanding of their health problems, patients will comply more, with the additional benefit of problem resolution after one month.

Furthermore, this form of practice was presented in order to provide a contrast with a consultation such as Dr Bennett’s in terms of deciding how to manage Maria’s symptoms. Dr Tipping focuses his medical attention on Maria’s mood and concerns during the diagnostic phase in order to use the outcomes from the discussion to guide the management of the presenting problems. Consequently, management is influenced by Maria’s experiences and preferences and indicates a shared-decision making procedure, which may increase patient’s satisfaction, treatment adherence and quality of life (Joosten et al., 2008). Therefore, the BCT of modelling was used to show HCPs a new approach in the consultation towards decision making: interviews based on questions around the main concepts of CM-SRM, and management based on patients’ expression of their concerns, beliefs, and preferences.
Illustration 9: A different ‘holistic’ consultation

<table>
<thead>
<tr>
<th>Focus of the illustration frame (mode)</th>
<th>Introduction of a different consultation (illustration)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Data source</strong></td>
<td>Research team ideas</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Target Construct</th>
<th>Constructs’ Domain</th>
<th>BCTs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outcome expectancies, attitudes and self-efficacy (SCogT, TPB, CS-SRM)</td>
<td>Professional role and identity, beliefs about one’s capabilities, social influence and motivation and goals Increase knowledge, beliefs about consequences, memory</td>
<td>Provide information about others’ approval and encouragement Provide information on consequences</td>
</tr>
</tbody>
</table>

Content: Credible source provides encouragement for Dr Tipping’s consultation. Her approval aims to increase reader’s self-efficacy and attitudes towards recognition of depression especially when the reader positively evaluates his own performance by reflection.

Table 5.6: Quote content, BCT and construct for illustrations (example 3)
Illustration 10: Importance of managing depression in people with LTCs

**Focus of the illustration frame**

**Data source:** Quote from qualitative study

Symptoms of diabetes, CHD and depression are quite similar. I usually try to understand what is more urgent to deal with in 12 available consultation minutes. So maybe there's a clinical priority but if there's no problems with that urgency, ideally in terms of my approach I want to integrate the physical and the emotional perspectives. (GP 6)

**Target Construct**

<table>
<thead>
<tr>
<th>Constructs’ Domain</th>
<th>BCTs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skills and social influences Professional role, beliefs about one’s capabilities, social influence, and motivation Changing cognitions about consequences of behaviour and motivation Memory, attention, decision process, and action planning</td>
<td>Modelling/demonstration of the behaviour by others (SCogT) Provide opportunities for social comparison Provide information about consequences Prompt barrier identification</td>
</tr>
</tbody>
</table>

Content: Dr Tipping serves a model peer expert who shows the readers how to correctly perform the behaviour. Readers are likely to commit to and engage with recognition of depression when significant others model the behaviour.

Table 5.7: Quote, content, BCT and construct for illustrations (example 4)
**Illustration 11: A smart consultation**

<table>
<thead>
<tr>
<th>Focus of the illustration frame</th>
<th>A SMART consultation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Data source</strong></td>
<td>The Health Promotion Model (Pender, 2011)</td>
</tr>
<tr>
<td><strong>Target Construct</strong></td>
<td><strong>Constructs’ Domain</strong></td>
</tr>
<tr>
<td>• Increase knowledge, personal control, and intentions (TPB, SCogT)</td>
<td>• Skills and social influences</td>
</tr>
<tr>
<td></td>
<td>• Memory, attention, decision process and action planning</td>
</tr>
<tr>
<td></td>
<td>• Provide instruction</td>
</tr>
</tbody>
</table>

**Content:** This strip demonstrates a key behaviour change strategy ‘provide instruction’ to help readers adopt a new consultation style based on action planning and goal setting to help them overcome problems related to recognition of depression in patients with diabetes such as Maria.

Table 5.8: Source, content, BCT and construct for illustrations (example 5)
In summary, the intervention was developed focusing on four main BCTs:

a) Modelling/demonstration of the behaviour by others (SCogT)
b) Social comparison (SCogT)
c) Providing information on consequences of behaviour and barrier identification (TPB, SCogT, CS-SRM)
d) Providing instruction

Barrier identification, modelling, and social comparison techniques were aimed to help the participants to identify their own perceived barriers through modelling or comparison that might make it more difficult to diagnose any kind of psychological distress in patients like Maria.

5.5.6. Online activity

An online activity devised for participants to practice was designed as a part of the FoR.D intervention (see Picture 2 below). It is consistent with the principles of CBT; thoughts affect feelings and together thoughts and feelings influence behaviour, i.e. what HCPs believe about depression may affect the way they engage with the recognition or the management of depression in people with LTCs. This part of the intervention was designed to help participants acknowledge and overcome potential cognitive barriers faced when dealing with patients suffering from a LTC and depression.

The exercise was divided into specific steps and included two examples. Participants were also asked to complete an exercise, in the first step, participants were asked to identify their strengths in recognising and treating depression. This technique is recommended as an effective self-affirmation strategy to change cognitions and health related behaviours (McQueen & Klein, 2006). Self-affirmation can also increase acceptance of unwelcome messages (Epton & Harris, 2008) and reduce the psychological discomfort associated with cognitive dissonance (Katon, 2011). In this work, the technique has not been used to change clinical behaviour, but it has the potential to affect HCPs’ positive reactions to the task.
The second step involved reading patient vignettes. Participants were asked to imagine that they were the attending physician of the patient in the scenario and to express their immediate thoughts, feelings, and intuitive actions towards each patient scenario. The third step involved a CBT technique: after writing down their impressions, participants were requested to determine if there were problematic thoughts that need to be challenged. After identifying and challenging negative thinking, participants were asked to try to come up with an alternative thought as a more balanced and realistic approach. This technique is based on the CBT principles: identifying unrealistic and unhelpful thoughts that lead to negative emotions and then replace them with more helpful ones. All steps were accompanied by examples giving a clear idea of what each step involves.
5.5.7. Development and additional content of www.fordepression.co.uk

Admittedly, a website’s presentation can obtain and sustain the attention and engagement of the users, and a ‘friendly tone’ of delivery may help their information processing (Deady et al., 2014). Therefore, it was deemed essential to assign the design of the www.fordepression.co.uk website, which hosted the FoR.D intervention, to a professional web-developer in order to ensure that both the content and the presentation would be efficiently delivered.

5.5.7.1. Choosing a name for the intervention and the domain name

In order to link the theme of the storyline and enhance appeal, special consideration and effort was put into choosing the name of this project. The research team, alongside the developers of the website and the illustrator, had several meetings in order to agree on an appealing name which could also generate ideas for the ideal logo and domain name. Eventually, the team nominated ‘Focus on Recognising Depression’ as the name of the intervention, which could be abbreviated to the acronym FoR.D and worked out as a mnemonic.

FoR.D is not only an easy and memorable word but its meaning (a river crossing) illustrated the transcending aim of the intervention by equalling the overcoming of barriers. Secondly, FoR.D allowed for the creation of a website domain that included the aforementioned acronym: Thus, when doctors could think of the website, they could think of it by name – a website “for depression”. Thirdly, FoR.D helped with the creation of appropriate logos that would capture the aim of the study. A magnifying glass and a target were designed as depicted in Picture 3.
5.5.7.2. Learning support information

Information about depression in people with LTCs was included on separate pages on the website, allowing HCPs to obtain supporting information when needed. The content included symptoms of anxiety and depression, the symptoms for diabetes or CHD and depression, common barriers to identifying depression, causes and risk factors for depression, the impact of depression on individuals, and information about different treatments for depression. It was obtained and developed from the literature (Chapter one), the NHS website, and resources from the National Collaborating Centre for Mental Health (2009). Any information appearing on www.fordepression.co.uk is issued as general information and it is linked to NHS websites to ensure its accuracy and reliability.

5.6. Summary

Table 5.9 summarises the overview of Chapter 5 by justifying the aims of designing the intervention, the anticipated changes or outcomes, the strategy and its evaluation.
### Table 5.9: Summary of Chapter 5; FoR.D intervention

<table>
<thead>
<tr>
<th>Aims of FoR.D</th>
<th>Anticipated Outcomes</th>
<th>Strategy/Approach</th>
<th>Evaluation</th>
</tr>
</thead>
</table>
| **Create awareness of the problem**  
  ◦ Prevalence and significance of depression in people with LTC | The HCPs will gain improved knowledge and as a result improve awareness of depression in LTCs.  
  ◦ Unhelpful attitudes and beliefs will be changed and proactive attitudes will be developed.  
  ◦ Amelioration of self-efficacy and intentions to diagnose and manage depression. | A patient’s scenario (Maria) is presented showing how people with diabetes or other LTCs suffer from hidden depression.  
  ◦ A brief presentation of facts on “Prevalence” and “Significance” will be provided in text bubbles based on evidence based information | A questionnaire will assess whether beliefs and attitudes towards the causes and consequences of depression have changed after participating in the intervention.  
  ◦ The questionnaire will assess perceived barriers, self-efficacy, and intentions. |
| **Define the problem**  
  ◦ Causes and consequences of depression in people with LTCs, barriers to identify depression in people with diabetes | The participants will distinguish between depression in the context of a LTC and depression on its own.  
  ◦ Participants will be aware of barriers to diagnose depression and report less perceived barriers. | A clinical example is presented to illustrate why depression is considered an illness.  
  ◦ Examples of how depression affects patients functioning are illustrated.  
  ◦ Examples of barriers | As above |
| **Improve Management** | The participants will engage with assessment of depression and anxiety in people with LTCs. | Illustrations depict a role model aiming to increase self-efficacy and intention to manage patients with LTCs and depression | No evaluation |
| **Improve Communication** | The HCPs will gain improved communication skills.  
  ◦ They are exposed to dialogue in bubbles which explains how to better communicate with patients presented with a LTC and low mood. | Using a scenario of a GP interacting with a patient | No evaluation |
Part B: Development of the FoR.D questionnaire

5.7. Illness perceptions and attitudes to depression measure

This part describes the methodology employed to develop and refine items for inclusion in a questionnaire which was used during the feasibility study of the FoR.D intervention which is the new measurement of HCPs’ IPAD in people with LTCs and depression, and scales measuring self-efficacy, intentions, perceived barriers and treatment preferences. This part outlines three phases of work:

1. Generating items for inclusion in the measure
2. Undertaking initial item refinement
3. Initial piloting after development

The IPAD was developed by modifying the IPQ-R tool (Moss-Morris et al., 2010), which uses seven different dimensions of cognitive illness representation (timeline-acute/chronic, timeline-cyclical, serious consequences, personal control, treatment control, illness coherence, and emotional representations) to measure a model (personal models or illness perceptions or representations or beliefs) based on CS-SRM (Moss-Morris et al., 2002; Leventhal et al., 1984, 1997). In IPAD, the adherence to the model ‘illness perceptions’ is measured by evaluating six dimensions on five dimensions which are split up into 23 items. As the IPAD is based on the IPQ-R it uses a validated operationalisation of CS-SRM and measures adherence to this specific model of personal illness beliefs. The conceptual definitions for the personal models of illness for this tool also adhere to the definitions given by the CS-SRM.

The IPAD measure was part of a 5-sectioned questionnaire which was used before and after the feasibility testing of the FoR.D intervention. This chapter therefore presents the development process of all the sections of the questionnaire named IPAD, generalised intentions, general self-efficacy, perceived barriers and treatment preferences. Therefore, this questionnaire was based on the CS-SRM, TPB and SCogT constructs which are used to design the content of the intervention. The application of these theories into
measures allows researchers to identify individuals’ perceptions of an illness and their behavioural intentions as well as to assess the level of their self-efficacy in terms of their ability to perform a targeted behaviour (Francis et al., 2004). The development of candidate items for the whole questionnaire was based on these theoretical considerations, existing scales (IPQ-R and DAQ for some attitudes items), the literature, and the qualitative interviews conducted for this thesis.

5.8. Theoretical models, constructs and measurement

A model is a theoretical assumption about reality and can contain several inter-related constructs. In CS-SRM, the ‘personal illness models or illness representations’ are the theoretical constructs. Constructs can have a number of different dimensions. Since these constructs can often not be observed directly they operationalised into observable variables which can be evaluated through an instrument or measure (Wilson 2003) to quantify these variables (Kimberlin & Winterstein, 2008). Theoretically, operationalisation is a transformation of a theoretical concept into an empirical reality (De Groot, 1969). Since a variable is one of several possible operationalisations of a construct, a range of variables can be used to capture one construct (Wilson, 2003). For example, ‘symptoms identity’ may be operationalised as ideas about the label and nature of the condition and the links between these, and the related measurement tool may ascertain data on the symptoms count. In addition, constructs such as self-efficacy, intentions and perceived barriers are attributes that often cannot be measured directly. They can, however, be assessed using a number of indicators of the presence of the constructor or manifest variables (Cronbach & Meehl, 1955; Messick, 1995). In the behavioural and social sciences, constructs are measured indirectly by a number of items grouped into scales (DeVellis, 1991). For example, scales for depression often consist of 10 to 20 items or more, and the score for depression is a sum of scores on these items.
5.9. **Focus of the questionnaire**

DAQ is a validated measure of knowledge and attitudes towards depression (Botega et al., 1992) but this measure does not tap into cognitions precisely enough to quantitatively explore key beliefs about depression, or make relevant associations with clinical behaviours such as recognition of depression in people with other medical conditions. Hence, after reviewing the literature which suggests that IPQ-R is a valid and reliable measure across populations, a modification (e.g. rewording) of items to capture illness beliefs of HCPs towards depression in people with LTCs was planned as part of the intervention design.

The first aim of the initial phase of developing the FoR.D questionnaire was to develop items using sources such as the qualitative interviews and the literature. The second aim was to refine items based on feedback received by HCPs and academics in primary care in order to be able to produce a reliable measure to assess HCPs’ illness representations, and attitudes towards depression in people with LTCs.

This new measure would be useful to explore HCPs’ personal models and behaviours and any possible changes after receiving an intervention designed to shift attitudes to management of depression in people with LTCs. It is necessary to predict future clinical behaviour, such as the rates of detection of depression in people with LTC, rates of prescription, other treatments, or referral, and has the potential to improve patients’ health outcomes. This measure was used as part of the feasibility phase in the development process of the intervention.

5.10. **Item sources**

The first step involved generating and obtaining items relevant to the question and the targeted population. Specific themes identified during item development included illness perceptions, beliefs and attitudes towards depression in people with LTCs, and attitudes towards its management. Items were generated from three sources, which were applied...
simultaneously as part of an organic process of developing a rich item pool:

1. Literature search: selection of items from existing measures of illness beliefs and attitudes towards depression and the theoretical framework (CS-SRM, TPB, SCogT)
2. The previous in-depth semi-structured interviews designed for this purpose (Chapter 3)
3. Items generated by the research team

5.11. Literature search

Streiner and Norman (2008) suggest that existing published validated measures relevant to the research topic are the best sources for item development. To address this, the literature was reviewed to identify these. The findings showed that:

- Firstly, as evidenced, there is a lack of validated measures available to explore HCPs’ beliefs about illness in general. On the other hand, patients’ attitudes and beliefs are thoroughly examined through different questionnaires.
- Secondly, as the scoping review showed, there is a lack of research of HCPs’ illness beliefs and attitudes and their impact on recognising and managing depression in people with LTCs.
- Thirdly, the literature review yielded only one validated specific measure of HCPs’ attitudes and beliefs about depression: The DAQ, which assesses attitudes that are likely to play a significant part in its management (Haddad, 2007)
- Fourthly, the literature suggested that the IPQ-R with minor modifications could be a reliable measure of HCPs’ perceptions of depression and LTCs. The IPQ-R was found to be the most useful instrument to identify, understand, and target patients’ illness representations.

As a result, items of the IPQ-R and the DAQ populated the initial item pool (Appendix T). The research team also developed a section of self-efficacy and intentions items, which were linked to clinical behaviour such as the
diagnosis and management of depression in people with LTCs based on Bandura’s recommendations for developing self-efficacy scales (Bandura, 2006) and Francis’ recommendations for developing generalised intentions’ items (Francis et al., 2004).

5.12. Qualitative interviews

The second step involved 16 qualitative semi-structured interviews (presented in Chapter 4) with HCPs to explore their beliefs about managing depression in patients with LTCs. The interviews were built around specific questions using a topic guide informed from the initial draft of the measure (IPQ-R, DAQ) and key concepts from the theoretical framework.

The interview results informed item development in two associated ways. Firstly, the Framework Analysis was employed to develop a conceptual framework of the main domains that the new instrument would explore, then each interview was analysed by two of the research team together with a list of the a priori domains and their definitions. Each transcript was reviewed twice. The process of coding started with open coding during the first reading, while in the second reading verbatim quotes were extracted, which relate to the identified domains of personal models.

The coding for the item development was conducted under a descriptive perspective without any prior ideas of what the codes might be (Rowan & Wulff, 2007). However, during the analysis a pre-defined coding method was employed to focus on particular aspects of the data. For example, within the main domain ‘HCPs’ personal models, attitudes and confidence’, secondary ideas such as illness identity, causes of depression, consequences of depression, and timeline of depression were included. Verbatim quotes were also extracted if an action related to personal models of depression was described which did not fit with the a priori theme or idea. Finally, the conceptual framework ‘HCPs’ Personal Models about Depression in People with LTCs’ suggested that depression and the associated barriers for recognising and managing depression in people with LTCs are explained by three main categories;
1) HCPs illness beliefs, attitudes, self-efficacy and intentions
2) Perceived organisational barriers
3) Perceived lack of knowledge and skills

The three core concepts were linked with each other; this relationship might explain why depression is not recognised and treated effectively in people with LTCs. However, these main topics were subdivided in different sub-themes (ideas), which in turn acted as dimensions to inform the questionnaire content.

5.13. Initial item pool and preliminary validation phase

Items measuring attitudes, illness perceptions, self-efficacy, and intentions were put into a single spreadsheet and shared with six researchers including the supervisory team. This preliminary step was helpful to guide the design of the measure and select relevant, concise, and efficient questions for the first draft of the questionnaire. The initial instrument included 63 items reflecting HCPs’ personal models. Full item content is listed in the Appendix T.

It is known that measurement validation is an important step during item development. There are several types of validity, consisting of predictive validity, concurrent validity, content and face validity, and construct (convergent and discriminate) validity. The term validity refers to whether a questionnaire is measuring what it purports to (Bryman & Cramer, 1997). Content validity represents expert opinion regarding whether the scale item represents the proposed domains or concepts the questionnaire is intended to measure. Face validity elicits whether a questionnaire appears to assess the domains it is designed to measure (Streiner & Norman, 2008).

Face and content validity were the two preliminary stages for the IPAD’s validation and were applied by creating this very large item pool. By this step all-important domains were covered, maximising content and face validity. Subsequently, two supervisors reviewed this item pool in terms of whether the items were relevant or whether some should be deleted. In this
stage, attention was also given to avoid item ambiguity, which can be largely disadvantageous to respondents’ understanding of an item and can affect the results significantly (Podsakoff, MacKenzie, Lee & Podsakoff, 2003). To reduce item ambiguity and bias, short sentences without difficult terminology were used, whereas double-barrelled statements were avoided. Other criteria for the items selection were:

- Items captured one of the main domains of each category
- Items were informed by the theory used
- Items reflected a single idea
- Items were perceived by the research team as unambiguous and were short in length (Costello & Osborne, 2005).

The research team discussed item wording and presentation as well as specific issues of HCPs, such as their workload and time constraints. As a result, several items were omitted as either controversial, measuring the same domain, irrelevant or perceived as clinical knowledge. Moreover, in order to make the questionnaire brief, an open-ended question about the causes of depression (instead of a list similar to IPQ-R) was added.

5.13.1. Dimensions

The next section describes each dimension included in the initial item pool, examples of quotes from the qualitative study, and items from the existing measures to support the item development. In addition, the section below includes a descriptive analysis of our qualitative data supported by the literature, and gives the theoretical framework to support the importance of the item inclusion.

Six dimensions of the IPQ-R measure and two theoretical dimensions (Intentions and Self-efficacy) were focus on, which are important determinants of behaviour and behaviour change. The dimensions that the research team found to be important beliefs of HCPs in relation to their experience working with patients with LTCs are Illness Coherence, Timeline Acute/Chronic and Timeline Cyclical, Personal Control, Treatment Control, Consequences, and Illness Priority (items
designed/added specific to the LTC-depression comorbidity).

The Identity and Cause subscales of the IPQ-R were excluded to minimise respondent fatigue. However, an open ended question of the causes was used, which may help to identify HCPs’ perceived causes of depression in people with LTCs. Each item was modified or created from the perspective of a clinician working with patients with LTCs with or without depression.

5.13.1.1. Illness coherence in people with LTCs

Depression identity in the context of a LTC was assessed by questions such as ‘How can you tell that a patient with LTCs suffers from depression?’ and ‘What is depression for you?’ The descriptive analysis of the qualitative interviews indicated that HCPs’ model of depression in the context of a LTC is characterised by a lack of clarity between physical and psychological symptoms. The presentation of symptoms for both conditions are increased or unexplained pain, sadness, lack of concentration and motivation, breathlessness, loss of weight, anxiety, and sleep disturbance. This ambiguity of symptoms has an impact on GP’s diagnostic ability and management strategies.

The analysis also indicated that HCPs struggle to identify depression because of the overlapping of the symptoms, although they understand the link between depression and LTC. ‘Depression identity’ items (list of symptoms) were excluded from the final IPAD, as our sample holds medical knowledge of the symptoms of depression, which does not differ significantly among HCPs. The aims of these Illness Coherence items were to assess an overall sense of whether HCPs understand depression in the context of a LTC and to explore their attitude towards depression as an illness. Table 5.10 below provides an example of how an interview quote was developed into questionnaire items for the corresponding illness coherence items.
Table 5.10: Comorbidity Illness Coherence Quotes and Developed Items

<table>
<thead>
<tr>
<th>Dimension: Illness Coherence</th>
<th>Interview Quotes</th>
<th>IPAD Items</th>
<th>Original items; IPQ-R or DAQ Item</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>‘I think sometimes you're not sure if it's a true depression and so I find it much easier to put a code in the notes of low mood and manage it and I feel happy that I'm still managing it.’ (GP 15)</td>
<td>It is difficult to decide whether patients with LTCs who are psychologically distressed are just unhappy or have a psychological problem that needs treatment.</td>
<td>Difficult to know if patients are unhappy or have clinical depressive disorder needing treatment (DAQ)</td>
</tr>
</tbody>
</table>

5.13.1.2. Timeline – illness trajectory of depression in people with LTCs

The timeline of depression in the context of a LTC was assessed by questions such as ‘Could you please tell me what is the trajectory of depression in patients with LTC?’ HCPs in our study perceived the timeline of depression in the context of a LTC as cyclical, following the trajectory of the physical illness. Depending on the cause of depression HCPs believed that the timeline could be shorter, longer or persistent. Nevertheless, most of the HCPs acknowledged that depression is a chronic condition, but available treatments are effective to help patients minimise its impact on everyday life.

The original IPQ-R includes 10 different questions to capture a range of beliefs regarding the acute or chronic nature of a condition. However, professional knowledge based on expert consensus and standardised medical education may differ to patients’ knowledge. It was decided that a reduced amount of questions about the illness trajectory would be sufficient to help understand HCPs’ timeline beliefs. Table 5.11 below provides an example of how an interview quote was developed into questionnaire items for the linked Illness Timeline items.
Table 5.11: Timeline Quotes and Developed Items

<table>
<thead>
<tr>
<th>Dimension: Timeline</th>
<th>Interview Quotes</th>
<th>IPAD Items</th>
<th>Original IPQ-R or DAQ Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘So I think initially it’s months of depression, and maybe a year, then it improves, and then it starts getting worse again. I’m talking about probably a number of years. I see it as very long term, just like the long term condition.’ (GP 8)</td>
<td>‘Depression in patients with LTCs will only improve if their physical condition improves’ (Timeline chronic).</td>
<td>‘My wife’s RA symptoms come and go in cycles. ’ (Timeline cyclical).</td>
<td></td>
</tr>
</tbody>
</table>

1. | ‘Depression in patients with LTCs will only improve if their physical condition improves’ (Timeline chronic). |
2. | ‘I expect depression when it is presented with a LTC will last for the whole of a person’s life’ (Timeline chronic). |
3. | ‘Depression in people with LTC will improve in time without treatment’ (Timeline acute). |
4. | ‘Depression symptoms come and go in cycles when they are presented with a LTC’ (Timeline cyclical). |

5.13.1.3. Causes of depression in people with LTCs (one item and open-ended question)

Causal attributions were assessed by questions such as ‘Please tell me what are the main causes of depression in people who also suffer from a LTC such as diabetes or CHD?’ HCPs reported that the cause of depression was the LTC itself, the loss of a healthy identity, having to cope with the LTC including complex medication regimes, the reduction of quality of life, and the stigma of living with a LTC. Others believed that causes of depression in people with LTCs could be a chemical imbalance, part of ageing, life events such as bereavement, or people with a particular ‘personality type’.

The list of causal items of the initial IPQ-R was omitted as the questionnaire was too long and it was apparent that this would cause respondent burden.
Additionally, medical professionals receive scientific, evidence-based knowledge, whereas patients have a range of beliefs based on their personal experience. Hence, an open ended format text box was added to capture HCPs’ beliefs towards causes of depression in people with LTCs in order to understand how they would prioritise three causes of depression in people with LTCs.

**Question 3;** Causes of depression in people with LTCs

* Please identify below what you consider (()) the three main causes of depression in patients with LTCs.
  
  Cause one:  
  Cause two:  
  Cause three:  

5.13.1.4. **Consequences of depression in people with LTCs**

HCPs viewed the consequences of having both depression and a LTC as poor self-management of the LTC as well as exacerbation of the physical illness and depression as a *vicious circle*. They also reported that depression affected a patients’ functioning and their quality of life. They recognised people as experiencing occupational, social and personal consequences due to their poor physical and mental health. Table 5.12 shows how from an interview a quote was developed into questionnaire items for the linked consequences items after considering the original item wording from the IPQ-R.

Table 5.12: Comorbidity Consequences Quotes and Developed Items

<table>
<thead>
<tr>
<th>Dimension: Consequences</th>
<th>Interview Quotes</th>
<th>IPAD Items</th>
<th>Original IPQ-R or DAQ Item</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>“Well, if you're depressed you may not actually look after yourself so well and you may fail to sort of engage in...So your”</td>
<td>1. Depression when it is presented with a LTC has major consequences on patient’s lives.</td>
<td>1. My illness has major consequences on my life. 2. My condition</td>
</tr>
</tbody>
</table>
physical health may deteriorate as a result of your depression and you won't be proactive about trying to actually make yourself healthier. You may adopt some unhealthy lifestyles as well to go with it which wouldn't help.”

<table>
<thead>
<tr>
<th>Dimension: Treatment control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interview Quotes</td>
</tr>
<tr>
<td>‘Well, I have seen people with very good responses to antidepressants so, yeah, no, very good responses.’ (GP 6)</td>
</tr>
</tbody>
</table>
5.13.1.6. Perceived personal control (4 items) towards depression in people with LTCs

The theme ‘Personal Control Beliefs’ provides the information for HCPs’ beliefs of control, i.e. management, and self-efficacy. From a theoretical perspective (TPB), behavioural intentions and behaviour are influenced by different components, such as beliefs about control and Perceived Behavioural Control (PBC) towards a specific behaviour. Perceived control items represent the person’s feelings of controllability over behaviour whereas self-efficacy items represent their perceived capability of performing the target behaviour (Bandura, 2006). By using these items, HCPs are therefore able to report their personal judgments of their personal control and capability to perform given types of performances.

Table 5.14: Personal Control Beliefs Quotes and Developed Items

<table>
<thead>
<tr>
<th>Dimension: Personal control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interview Quotes</td>
</tr>
</tbody>
</table>
| ‘No, I don’t think I’ve got much control over the patients with depression and LTCs’ (GP5) | There is little I can do to control their symptoms of depression when it is presented with LTC* (PBC). | 1. There is nothing which can help depression.  
2. There is little I can do to control their symptoms of depression. |

5.13.1.7. General intentions and self-efficacy

Items to measure intentions and self-efficacy to perform a specific task are included in IPAD. They can be used as proximal measures of behaviour based on the TPB and SCogT. This section of the measure was developed following Bandura’s recommendations (2006) for developing self-efficacy items and Francis et al. (2004) recommendations for developing intention items, which were linked to tasks and factors that the intervention addressed.

Intentions are psychological (internal) constructs measured directly, e.g. by asking participants about their overall attitude, or indirectly by asking
respondents about specific behavioural beliefs and outcome evaluations (Francis et al., 2004). The latter mode was used as it is the most common method.

Intention and Self-efficacy items were included in IPAD after being tailored to activity domains of the FoR.D intervention. In implementation research, interventions are designed to change HCPs’ behaviour and it has been suggested that the target behaviour should be defined carefully in terms of its Target, Action, Context and Time (TACT, Francis et al., 2004). Thus all the questions for the intentions and self-efficacy were designed in terms of TACT and they were developed by considering specific behaviours. For example, when considering the behaviour of ‘asking patients for their expectations of the consultations’, the target corresponds to the patient, the action to ‘asking’, the context to ‘expectations of the consultation’, and time is relevant to the ‘beginning of the consultation’. The resulting statement was a generalised intention:

‘I intend to ask the patient (at the beginning of the consultation) what their expectations of the consultation are’.

Self-efficacy items are also included in IPAD because they constitute some of the elements important to human behaviour (Bandura, 2006). Hence, by measuring HCPs’ efficacy beliefs it is possible to explore the influential role of such beliefs in their adaptation and change.

Table 5.15: Self-efficacy Beliefs Quotes and Developed Items

<table>
<thead>
<tr>
<th>Interview Quotes</th>
<th>IPAD Items</th>
<th>Original IPQ-R or DAQ Items/Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘I haven't found making the diagnosis of depression that difficult’. (GP 11)</td>
<td>I am confident in identifying and discussing depression.</td>
<td>Other - Bandura’s recommendations for designing self-efficacy items</td>
</tr>
</tbody>
</table>

5.13.2. Further content validity

After our group of researchers had reviewed the item wording, as part of further content and face validity assessment the resulting draft measure was ‘pre-tested’ with a small number of participants. This was intended to
ensure that the items were brief, clearly worded, relevant, unambiguous, and easy to answer and that the style of the language was accessible. The participants consisted of four senior researchers including the supervision team and six PhD students, who were colleagues of the author. The PhD students were also asked to read and comment on the items in an informal interview, in which each item and its response options were read aloud and participants were asked to rephrase the items and indicate if they had any difficulty in understanding the meaning. Examples of instructions included:

- In your own words, what are these questions asking?
- Please state whether the items are clear, relevant, unambiguous, and answerable and whether the style of the language is accessible.

Table 5.16: Example of content validity

<table>
<thead>
<tr>
<th>Item</th>
<th>In your own words, what is this question indicating?</th>
<th>Please state whether any of the items is not:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression when accompanied by a LTC is a serious condition.</td>
<td>Depression in people with LTC is a serious condition (C.K., PhD student).</td>
<td>Consider replacing accompanied with presented</td>
</tr>
<tr>
<td>Working with patients with depression and a LTC is hard.</td>
<td>It is a hard job to consult patients with LTCS and depression (L.W., PhD student).</td>
<td>-</td>
</tr>
<tr>
<td>It is difficult to differentiate whether patients are presenting with unhappiness or a clinical depressive disorder that needs treatment.</td>
<td>Difficult to decide if patients with LTCS and distressed are just upset or have emotional problems that require therapy (C.G., research associate).</td>
<td>Too long, quite difficult to understand; consider rewording</td>
</tr>
</tbody>
</table>

The group of researchers was also asked to comment on accessibility and comprehensibility of the wording. Participants reported that generally the measure was easy to complete and items were well designed. Some comments included suggestions to change wording, grammar and syntax.

An open-ended box for comments on the final questionnaire was included after following a participant’s recommendation. This proved very useful to collect more feedback by GPs during the feasibility study of the intervention (please see feedback in Chapter 6). The Table 5.17 below depicts item
wording before and after the pilot-testing and several meetings with the supervisors.

Table 5.17: Example of item rewording

<table>
<thead>
<tr>
<th>IPAD items before pilot-testing</th>
<th>IPAD items after pilot-testing</th>
</tr>
</thead>
<tbody>
<tr>
<td>The negative effects of depression in the LTC can be prevented (avoided) by their treatment.</td>
<td>Depression can be avoided with good LTC management.</td>
</tr>
<tr>
<td>There is a little I can do to control their symptoms of depression when it is presented with LTC.</td>
<td>There is little I can do to manage depression when it is presented with LTC.</td>
</tr>
<tr>
<td>Psychological treatments (problem solving, CBT) can be useful for patients with LTCs who are psychologically distressed/ have low mood.</td>
<td>Psychological treatments are effective for patients with LTCs and depression.</td>
</tr>
<tr>
<td>I have a clear picture or understanding of depression in people with LTCs.</td>
<td>I understand the mechanism linking LTC and depression.</td>
</tr>
<tr>
<td>Depression when it is presented with a LTC is a serious condition.</td>
<td>Depression when accompanied by a LTC is a serious condition.</td>
</tr>
</tbody>
</table>

In summary, following recommendations for developing measures by Fayers & Machin (2007) and feedback received by the supervision team, and colleagues, some questions were changed to be simplified and to avoid double negatives. Items were changed to be phrased positively or negatively and words were replaced to be easier to comprehend. Figure 7 depicts how items were developed based on interview quotes, the literature, and experts’ feedback. Last but not least, a final draft questionnaire including 44 items was developed and assigned to the eight final dimensions in five sections (Appendix U). The final appearance of the questionnaire is also presented
online at http://fordepression.co.uk/index.php/second-questionnaire
Figure 7: Example of the process for Item Development

**Interview Quotes**
No, I don’t think I’ve got much control over the patients with depression and LTCs (GP5)

**Literature**
2 IPQ-R items
1) There is a lot which I can do to control my symptoms
2) There is very little that can be done to improve my illness

**IPAD initial item**
There is a little I can do to control their symptoms of depression when it is presented with LTC

**IPAD Final Item**
There is little I can do to manage depression when it is presented with an LTC

**Recommendations**
Jargon: replaced control with manage
Too many words
Check Grammar: with an LTC instead of with LTC

Next Step:
Use of the measure in a pilot study
5.13.3. Barriers to recognising and managing depression and Treatment Preferences sections

Additional items (‘Barriers’ to recognise and manage depression and ‘Treatment Preferences’) were included in a later stage as they focused on the content of our intervention FoR.D. They were designed to assess clinician’s perceived barriers to recognising and managing depression, using data from the qualitative study and the literature which resulted in the development of a structured checklist of eight specific barriers (Nutting et al., 2002). This checklist was also used to develop the intervention, i.e. each item was applied to a number of illustrations and their textual content. Participants in the FoR.D intervention (Chapter 6) were asked to state on a five-point Likert scale which of the checklist items they perceived as barriers in patient care.

Similarly, the checklist of the treatment preferences was developed using data from the qualitative study and NHS treatment interventions for people with depression in the context of a LTC, asking participants to agree or disagree with the presented statements. Appendix V presents the items from the checklist of the second and third section. Participants were asked to complete the final questionnaire online before and after the intervention (http://fordepression.co.uk/index.php/second-questionnaire).

5.13.4. Scaling format and scoring

While the questionnaire included text fields for open-ended responses, for most questions an ordered categorical scale, commonly called Likert summed scale, was used in IPAD to rank agreement and likelihood. The IPAD items were developed with a five-point response option of 1 ‘strongly disagree’, 2 ‘disagree’, 3 ‘neither agree nor disagree’, 4 ‘agree’ and 5 ‘strongly agree’. The scale had a neutral option at its centre, representing participants’ indifference to specific statements (DeVellis, 2003). The five-point scale was chosen as research has shown that on scales greater than seven, participants randomly pick numbers and are less likely to give their true opinion. Additionally, a longer scale lacks obvious benefits.
and is inferior in readability, overall making the choice of five over seven options a pragmatic and practical decision (Fayers & Machin, 2007).

5.13.5. Instructions

At the beginning of the questionnaire, a paragraph of instructions outlined its purpose and assured confidentiality for participants. It was clearly stated that responses were anonymous and that the researchers collecting data would not be able to link participants with specific responses. To avoid response bias and social desirability, participants were informed that the questionnaire was intended to elicit beliefs and opinions and had no right or wrong answers. Additionally, it was stated that a summary of all responses would be available to participants after completion of the research and that any queries or feedback could be directed to the principal investigator.
Chapter 6: A Feasibility training intervention study

This chapter provides background information about feasibility studies and reports aims, methods and results of the feasibility study of the FoR.D intervention which was developed and presented in Chapter 5. It details the study design, sampling and recruitment methods, procedure of the intervention and the study materials.

6.1. Introduction

A feasibility study is a small study designed and delivered in order to gain information for the design of a further confirmatory study. Feasibility studies are crucial for a good study design, as they are intended to test the feasibility of the measure and the interventions, to establish a new hypothesis (Arain, Campbell, Cooper & Lancaster, 2010) and are able to indicate future problems such as recruitment rates, inappropriate instruments or a complicated intervention design (van Teijlingen & Hundley, 2002; Van Teijlingen, Rennie, Hundley & Graham, 2001).

To date, the format of the FoR.D intervention has not previously being used to change attitudes with a view to promote the optimal recognition and management of depression. However, the purpose of the present study was to assess the feasibility and acceptance among HCPs with regards to the online intervention FoR.D, as well as to identify potential issues that could be improved. The research questions were developed with regard to the FINER principles (Feasible, Interesting, Novel, Ethical, Relevant (Hulley et al., 2013) and can be summarised as:

- What are participants’ experiences of the FoR.D intervention?
- What are the benefits of participating in the FoR.D intervention?

This theory-based online training intervention using illustrations was anticipated to be well received and feasible. The study was conducted by the author with collaborating GPs within the Institute of Population Health at University of Manchester.
6.2. Methods

6.2.1. Study design

This study used a prospective, nonrandomised (single-group) before and after design to test the feasibility of the FoR.D intervention; once the participants had finished their FoR.D course they continued with the final measurement and evaluation. This could take place straight after the FoR.D course or when they wished to go back to finish with the follow-up questionnaire/evaluation form. The feasibility study— as opposed to a fully powered RCT — was chosen because a proof of concept was needed; this was a novel and complex intervention and it was important to determine whether this type of intervention would be likely to succeed in a future RCT. “Can this study be carried out on a large scale?” emerged as the primary question. Hence, this study design was used to estimate important parameters needed to design the main study, HCPs’ willingness to participate and their adherence/compliance to the intervention and follow-up rates, time needed to collect and analyse data, the practicality of delivering the intervention via internet and a website, and finally the acceptability of the intervention by GPs and PNs.

The target population included GPs, PNs and experts such as academic GPs, psychiatrists and psychologists working in the field of depression and LTCs. They were recruited from general practices in Greater Manchester and the University of Manchester. The targeted behaviours were beliefs, attitudes to and recognition of depression as well as promoting the management of depression following NICE (2009) guidelines. The delivery of the intervention took place via the internet and used a website that was specifically developed for this purpose as a platform (www.fordepression.co.uk).

The main part of the intervention as presented in Chapter 5 included theory-based illustrations depicting real case scenarios. The content of the illustrations included information taken from direct quotes from the qualitative study with GPs and PNs and aimed to change attitudes and
beliefs towards depression in people with LTCs and its management through vicarious learning techniques such as modelling. The second part was an exercise that encouraged cognitive restructuring. A more in-depth presentation of the information summarised here as well as a detailed description of FoR.D can be found in Chapter 5.

Measures included the IPAD questionnaire measuring perceived barriers, attitudes, illness beliefs, self-efficacy and intentions to depression in people with LTCs (presented in Chapter 5, part B) as well as participants’ views and their level of satisfaction regarding the FOR.D project. It has been suggested that the analysis of feasibility studies should be mainly descriptive (Lancaster, Dodd, and Williamson; 2004). This study uses descriptive statistics to present the means, medians and standard deviation of each item of a five-sectioned questionnaire and parts of the evaluation questionnaire. Additionally, a preliminary statistical analysis using a paired sample t-test to explore any suggestive changes in intentions and self-efficacy overall scores was conducted. However, this testing needs to be treated with caution; the analysis is presented in the Appendix ZZZ.

Overall, the primary outcome of this feasibility study was to identify participants’ beliefs and opinions about the intervention and its content in order to estimate the acceptability of the FoR.D intervention. The secondary outcome was to perform a simple exploratory analysis using differences in means scores and estimation of size effects to identify if there are any suggestive changes in self-efficacy and intentions to manage depression in people with LTCs before and after participating in the FoR.D. These results are presented in the Appendix ZZZ and must be taken into consideration only with great caution; the study is underpowered and results from this pool of data could be spurious.

6.2.2. Recruitment approach

A volunteer-convenience sampling approach was employed to recruit GPs and PNs and other experts, including academic GPs and psychiatrists. The sample had experience working in the field of depression and LTCs.
recruitment process was conducted in two phases; the first phase involved GPs and PNs and the second phase involved the expert group from the University.

The first recruitment phase involved GPs and PNs and took place between January 2013 and March 2013 including 103 general practices in Greater Manchester. The list of the practices with the practice managers’ names was available to the author by the supervisory team. A study invitation letter with information about the intervention and the study aims was sent to the practice managers of these 103 general practices. Practice managers were asked to forward the invitation letter to all GPs and PNs working in their practice. The letters were followed up by a phone call one week later. A script was used in both letters and follow-up phone calls to ensure a standardised explication of the study. Sixty-two practice managers responded to our phone call after being asked by the practice secretaries. It is unknown how many GPs and PNs received the invitation letter overall.

The second phase of recruitment involved psychiatrists and GPs within the NIHR School for Primary Care Research (Centre for Primary Care, Institute of Population Health - University of Manchester). For the identification of these ‘experts’ the convenience and snowballing sampling method was used. Seven experts were contacted and five of them participated. The experts were contacted in order to capture a range of opinions and beliefs towards this intervention in this stage of development and during the feasibility phase. Figure 8 presents the recruitment process for the feasibility study of the FoR.D intervention.
Figure 8: FoR.D feasibility study recruitment process

*Data reported in this flow chart were collected between January 2013 and March 2013*
6.2.3. Procedure and data collection

The invitation letter informed potential participants that the study included a brief training intervention delivered via a series of illustrations and a survey. It was explained that the survey was made up of a pre- and post-intervention questionnaire that focuses on beliefs, attitudes and barriers to detecting depression in the context of a LTC. Thus, data to answer the primary analysis were collected from the participants at day 1 (pre-FoR.D; Time 1) of their participation and day X (post-FoR.D; Time 2). In addition, participants were informed that the study included one evaluation form which was designed to assess their opinions about the website as a method of delivering a brief training.

Participants interested in participating were invited to visit the website www.fordepression.co.uk and follow the onscreen instructions which introduced the research study and explained the purpose of the research and their potential participation. Specifically, it was explained that there were two measurements; the questionnaire IPAD and an evaluation form (Appendices U and W). The first questionnaire would be used twice, before (baseline measure) and after (follow-up measure) and would take approximately 15 minutes to complete.

The evaluation form took about 20 minutes to complete and asked participants’ feedback on the intervention and on the website as a training method. The research was estimated to not take more than approximately 75 minutes. Participants were informed that they could interrupt the process at any point under the condition of the browser window being kept open, otherwise previously given answers would be lost.

After reading the information sheet, participants were asked to provide online consent and were then directly navigated to the online baseline questionnaire. Each participant created and then used a unique identification code when completing all the assessments. To do so, I provided the following instructions: ‘Please enter a four character code; for example your initials plus day of birth: DK01’. This code was compared to the rest of the
assessments alongside the unique IP address of their computer. This code was used to both identify participants’ data and ensure that their details would remain anonymous. Following the baseline questionnaire, participants were then immediately navigated to the illustrations.

All research materials (intervention materials, questionnaires, and protocols) were reviewed separately by the supervision team and collaborating GPs and were approved by the University of Manchester Senate Ethics Committee (NCT00992264).

6.3. Materials

The study assessments included a pre- and post-interventional questionnaire, which consisted of five sections and is presented in detail in the previous chapter, and an evaluation form. All five sections were rated on a five-point scale ranging from 1 to 5 (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree). The first section of the questionnaire was the IPAD measure (23 items) constructed using data from the qualitative study (Chapter 4), two related validated measures (IPAQ-r and DAQ), assessed illness beliefs and attitudes to depression.

The IPAD is very similar to IPQ-R which consists of different dimensions based on the cognitive dimensions of illness representation outlined in the CS-SRM. The suggested dimensions of IPAD based on the IPAQ-r dimensions are: Consequences, Timeline, Personal Control, Treatment Control, and Illness Coherence; however, this assumption can only be verified if factor analysis is performed.

Although there can be variations based on illness context, higher scores on the Consequences, Timeline Acute/Chronic and Timeline Cyclical dimensions typically indicate more negative beliefs. Conversely, high scores on the Coherence, Personal Control and Treatment Control dimensions typically indicate positive beliefs. Higher scores on the Timeline Acute/Chronic items reflect HCPs’ beliefs that depression in people with LTC is permanent rather than temporary, and would last for a long period of
time. Higher scores on the Timeline Cyclical item reflect stronger HCPs’ beliefs about the unpredictability of depression in people with LTCs. Higher scores on the consequences items indicate that depression in people with LTCs seriously impacts on the patient’s life. On the other hand, higher scores on the Personal Control items reflect stronger HCPs’ beliefs about their ability to control depression in people with LTCs. Higher scores on the Treatment Control items reflected stronger HCPs’ beliefs about the positive impact that their treatment have on patients’ depression in the context of a LTC. Higher scores on Coherence items indicate greater overall understanding of depression in the context of a LTC. Causal beliefs are assessed with an open item response question, which asks HCPs to list the three most important factors they believe cause depression in people with LTCs.

The second section of the first assessment involved items to measure HCPs’ perceived barriers to diagnose and manage depression in people with LTCs (8 items). It was designed using data from the qualitative study and the literature (Nutting et al., 2002) and the 8 items were applied to the content of some of the illustrations. The third section (6 items) was designed to measure HCPs’ treatment preferences for depression. Similarly, the checklist of the treatment preferences was developed using data of the qualitative study and NHS treatment interventions for people with depression in the content of a LTC; participants were asked to agree or disagree with each statement. The fourth and fifth sections included items measuring self-efficacy (10 items) and intentions (11 items) to diagnose and manage depression in people with LTCs. Items were designed using Bandura (2006) and Francis et al.’s (2004) recommendations for designing self-efficacy and intentions scales.

Participants were also asked to complete an exercise which was designed to help them acknowledge and overcome potential apprehensions and inhibitions when dealing with patients suffering from a LTC and depression.
Briefly, participants were asked to follow three steps:

a) Participants were asked to identify and state their personal and professional strengths to recognise and treat depression in the context of a LTC in a box provided.

b) Participants were asked to read patient vignettes and, imagining themselves as the treating HCPs, to express their automatic thoughts, feelings and actions towards each patient scenario.

c) After writing down their automatic thoughts, feelings and actions, participants were requested to determine if they were actually problematic thoughts that need to be challenged. After identifying and challenging the negative thinking, they were asked to try to come up with an alternative thought that is more balanced and realistic based on the CBT principles.

All steps were accompanied with examples to give a clear idea of what each step involves. The exercise is presented in Chapter 5 and is available on http://fordepression.co.uk/index.php/exercise.

To investigate outcomes of participation in the FoR.D intervention, the research team designed an evaluation form. The evaluation form questionnaire was comprised of 18 questions to assess overall satisfaction with the training intervention. Two questions referred to age and job title, four questions included a five-point section with sub-questions, seven questions included multiple choice answers and six were open-ended questions. It was designed to assess participants’ views about the intervention objectives and their reasons to take part in it. They were also asked about their perceptions of the usefulness and relevance of the content, their perceived personal gain of the participation, the course design, the impact of the intervention on their work performance and their type and place of training. Lastly, open-ended questions were included to explore participants’ views about things they liked the most and least about the intervention, aspects that could be left out or improved and further comments on the training. The evaluation form can be found in Appendix X.
Before and after viewing the intervention illustrations, participants were able to complete the untimed questionnaire at their own leisure, after which they submitted their responses along with their unique identifying code. The participants were advised that if the questionnaire window was closed, any completed sections would be lost. The total length of the participation in the intervention was also dependent on them; they could go back to the illustrations as many times as they wished.

6.3.1. Socio-demographic variables

Age, profession, number of years practicing and gender were assessed in the baseline questionnaire and evaluation form.

6.3.2. Further information

The following steps summarise the participants’ experience:

1. Participants logged on to www.fordepression.co.uk
2. Participants’ were welcomed and introduced to the study (http://fordepression.co.uk/index.php/about)
3. For the brief training intervention participants following on-screen instructions were given the online consent form. After giving consent, participants were directed to the first questionnaire which focuses on beliefs, attitudes and barriers to detecting and maintaining depression in the context of a LTC.
4. Participants were then asked to read the illustrations and complete the exercise (http://fordepression.co.uk/index.php/exercise) as a brief training intervention.
5. Participants were asked again to complete the first questionnaire as a follow-up measure—would there be any suggestive changes in their attitudes, self-efficacy, intentions, and perceived barriers?
6. Participants were asked to complete the evaluation form at the end of the course.
Participants could freely view the website content in any order they wished. However, in order to read the illustrations, website visitors had to agree to take part in the study and complete the baseline questionnaire. After giving consent with their personalised code, they were then free to read the illustrations, which constitute the core part of the intervention.

Since the site was freely accessible over the internet, there was a high volume of questionnaires that was erroneously completed by software agents running automated scripts over the internet. The personalised code thus ensured that automated entries could be tracked and deleted.

6.4. Analyses

Analyses were conducted on 31 participants who took part in the study before being exposed to the intervention content and on 16 participants who completed the post-intervention questionnaire. Due to the study’s design as a feasibility study, descriptive statistics were used to examine the baseline and post-intervention data reporting means, medians and measures of variation. A supplementary analysis examining whether any suggestive differences in responses occurred between the participants who completed the intervention (i.e. pre- and post-measures) is presented in Appendix W. A paired sample t-test to compare variables pre- and post-intervention and examine any suggestive differences was used. The results were treated with caution due to the small sample size and the nature of the feasibility study; hypothesis testing is usually not carried out. Content analysis was used to analyse both the data from the ‘causes’ question and the evaluation form, for which the estimation of mean scores and percentages are provided.

The answers from the FoR.D questionnaire were entered into a computer system and then collated using the Statistical Package for the Social Sciences (SPSS), version 20. The answers from the evaluation form were entered to a simple spreadsheet. Google Analytics, an online service providing data about websites’ traffic, was used to assess engagement with the intervention and time spent on the website.
6.4.1. Statistical methods

The categorical and continuous data were examined with frequencies and
descriptive analyses reporting means, medians and standard deviation.
The numerical data were explored using the Kolmogorov-Smirnov (K-S)
test to assess normal distribution. Age and years of practice were the only
parameters that were not normally distributed according to the K-S test.

This chapter begins with reporting the descriptive statistics (means, median
and standard deviation) on the 58 items of the pre- and post-intervention
questionnaire in five separate sections. Subsequently, total scores of means,
medians and standard deviations are calculated for the variables of interest.
This is followed by the results of the open-ended question ‘causes of
depression in people with LTCs’, using content analysis, and the descriptive
statistics of the 16 participants’ pre- and post- FoR.D intervention scores.
Finally, the feasibility data of the evaluation questionnaire is presented.

6.5. Results

6.5.1. Response rate and demographics

Since the number of HCPs initially asked to participate could not be known
the response rate could not be calculated. Table 6.1 presents the descriptive
data and tests of normality (K-S) for HCPs’ age and years of practice in
their profession.
Table 6.1: Baseline descriptive data and normality; Participants

Demographics

<table>
<thead>
<tr>
<th>Descriptive Statistics</th>
<th>Kolmogorov-Smirnov</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Age</td>
<td>31</td>
</tr>
<tr>
<td>Years of practice</td>
<td>31</td>
</tr>
</tbody>
</table>

Statistically significant difference at the *P<0.05 level, **p<0.01 level and ***p<0.001 level.

Table 6.1 shows that the age range of the sample was 23 to 69 years, with a mean age of 36.8 (SD=11.3) and a median of 33 years.

The average time of professional practice was 8.9 years; the median was 6 years with a standard deviation of 9.5. These findings indicate a young and less experienced sample of HCPs. Both variables were not normally distributed and therefore non-parametric statistics were used for analysis.

The sample consisted of 23 GPs, four of whom were also working at university (10 males, 13 females), 7 PNs (1 male, 6 females) and 1 Psychiatrist (male). In total there were 12 male (36.4 %) and 19 female (56.6 %) participants. Males were on average one year older than females (37.3 vs. 36.4).

6.5.2. Acceptability of the measure

There were no missing items due to the fact that the questionnaire was administered online and completion of all items was compulsory before submission.
6.5.3. Descriptive data on items

A total of 58 items were included in the questionnaire ranging from ‘strongly disagree’ (scored 1) to ‘strongly agree’ (scored 5). The items were spread to 5 sections: the HCPs’ illness models and attitudes to depression measure (IPAD; 23 items), the perceived barriers to diagnosing and managing depression in people with LTCs measure (Perceived Barriers; 8 items), the attitudes towards treatment of depression measure (Treatment Preferences; 6 items), and the Self-efficacy (10 items) and Intentions (11 items) measures to diagnose and manage depression in people with LTCs.

6.5.3.1. The IPAD item pool

Table 6.2 summarises the means (M), median (Mdn) and standard deviation (SD) for each item in the IPAD section. The descriptive statistics are reported separately for the 31 HCPs who completed the pre-intervention questionnaire and for the baseline and follow-up data of the 16 participants who completed FoR.D and both the pre- and post-intervention questionnaires.
Table 6.2: Table 6.2: Descriptive statistics for item pool of IPAD

<table>
<thead>
<tr>
<th>Statement</th>
<th>IPAD section</th>
<th>pre-FoR.D (n=31)</th>
<th>pre-FoR.D (n=16)</th>
<th>post-FoR.D (n=16)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>Mdn</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Depression with a LTC does not usually get better with any treatment (PTC)</td>
<td>3.71</td>
<td>4</td>
<td>.94</td>
<td>3.69</td>
</tr>
<tr>
<td>Antidepressants are an effective treatment for depression in LTCs (PTC)</td>
<td>4.35</td>
<td>4</td>
<td>.61</td>
<td>4.38</td>
</tr>
<tr>
<td>Depression when accompanied by a LTC is a serious condition (Cons)</td>
<td>4.06</td>
<td>4.15</td>
<td>4.06</td>
<td>4.13</td>
</tr>
<tr>
<td>Depression is a medical condition, just like any other illness (Coherence)</td>
<td>4.1</td>
<td>4</td>
<td>.87</td>
<td>4.06</td>
</tr>
<tr>
<td>Psychological treatments are effective for patients with LTCs &amp; depression (PTC)</td>
<td>3.84</td>
<td>4</td>
<td>.74</td>
<td>3.81</td>
</tr>
<tr>
<td>Working with patients with depression and a LTC is hard (PPC)</td>
<td>3.52</td>
<td>4</td>
<td>.96</td>
<td>3.63</td>
</tr>
<tr>
<td>It is difficult to decide … that needs treatment (Coherence)</td>
<td>2.52</td>
<td>2</td>
<td>1.21</td>
<td>2.44</td>
</tr>
<tr>
<td>It is gratifying to invest time in treating patients with a LTC and depression PPC</td>
<td>3.87</td>
<td>4</td>
<td>.76</td>
<td>3.63</td>
</tr>
<tr>
<td>Looking after the mental wellbeing of patients with LTCs is as important as looking after their physical wellbeing (PPC)</td>
<td>4.45</td>
<td>5</td>
<td>.62</td>
<td>4.44</td>
</tr>
<tr>
<td>Depression in patients with LTCs will only improve if their physical condition improves (Timeline chronic)</td>
<td>2.74</td>
<td>3</td>
<td>1.18</td>
<td>2.50</td>
</tr>
<tr>
<td>Giving a patient with a LTC a formal diagnosis of depression will just be an added burden for them (Cons)</td>
<td>2.97</td>
<td>3</td>
<td>1.14</td>
<td>2.88</td>
</tr>
<tr>
<td>Depression is an inevitable consequence of having a LTC (Cons)</td>
<td>2.55</td>
<td>2</td>
<td>1.29</td>
<td>2.63</td>
</tr>
<tr>
<td>Managing depression in patients with LTCs is too time consuming (PPC)</td>
<td>2.74</td>
<td>2</td>
<td>1.16</td>
<td>2.50</td>
</tr>
<tr>
<td>Identifying depression in patients with LTCs is an important part of their management (I.P)</td>
<td>4.06</td>
<td>4</td>
<td>1.03</td>
<td>4.31</td>
</tr>
<tr>
<td>I would not try to manage depression in people with LTCs myself but always refer to a mental health professional (PPC)</td>
<td>2.97</td>
<td>3</td>
<td>1.25</td>
<td>2.88</td>
</tr>
<tr>
<td>Depression symptoms come and go in cycles when it is presented with a LTC (time cyclical)</td>
<td>3.32</td>
<td>3</td>
<td>.75</td>
<td>3.19</td>
</tr>
<tr>
<td>I understand the mechanism linking LTC &amp; depression (coherence)</td>
<td>3.45</td>
<td>4</td>
<td>.89</td>
<td>3.44</td>
</tr>
<tr>
<td>I expect depression when it is presented with a LTC will last for the whole of a person's life (Timeline chronic)</td>
<td>2.52</td>
<td>2</td>
<td>1.18</td>
<td>2.19</td>
</tr>
<tr>
<td>Statement</td>
<td>pre-FoR.D (n=31)</td>
<td>pre-FoR.D (n=16)</td>
<td>post-FoR.D (n=16)</td>
<td></td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>------------------</td>
<td>------------------</td>
<td>-------------------</td>
<td></td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>Mdn</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Depression has major consequences on the LTC (Cons)</td>
<td>3.87</td>
<td>4</td>
<td>.92</td>
<td>4.00</td>
</tr>
<tr>
<td>There is little I can do to manage depression when it is presented with LTC (PPC)</td>
<td>2.13</td>
<td>2</td>
<td>1.09</td>
<td>2.00</td>
</tr>
<tr>
<td>Depression when it is presented with LTC does not have much effect on patients’ lives (Cons)</td>
<td>2.26</td>
<td>2</td>
<td>1.28</td>
<td>1.94</td>
</tr>
<tr>
<td>Depression can be avoided with good LTC management (PTC)</td>
<td>3.26</td>
<td>3</td>
<td>.93</td>
<td>3.25</td>
</tr>
<tr>
<td>Depression in people with LTC will improve without treatment (PPC(^1))</td>
<td>2.58</td>
<td>2</td>
<td>1.15</td>
<td>2.56</td>
</tr>
</tbody>
</table>

\(^1\) Dimensions: PTC=perceived treatment control, PPC= perceived personal control, cons=consequences, IP=illness priority,

*Likert section scoring (response options) = 1 – 5 (1 = strongly disagree, 2 =slightly disagree, 3= neither disagree nor agree, 4 = slightly agree, 5 = strongly agree*
It is apparent from table 6.2 that most of the score means and medians were situated towards the positive end of the scale. Before the FoR.D intervention (n = 31); the highest positive median and mean scoring item in the sample represented an ‘Illness Priority’ dimension item (‘Looking after the mental wellbeing of patients with LTCs is as important as looking after their physical wellbeing’; pre-FoR.D (n = 31): $M = 4.45, Mdn = 5, SD = .62$; pre-FoR.D (n = 16): $M = 4.44, Mdn = 4.5, SD = .63$), indicating a strong belief on the HCPs’ side that both conditions should be dealt with at the same time. The second highest positive mean scoring item represents a Perceived Treatment Control dimension item (‘Antidepressants are an effective treatment for depression in patients with LTCs’; pre-FoR.D (n = 31): $M = 4.35, Mdn = 4, SD = .61$; pre-FoR.D (n = 16): $M = 4.38, Mdn = 5, SD = .73$), indicating strong positive beliefs towards the efficacy of antidepressants as treatment option. After-FoR.D (n = 16) two items (‘Antidepressants are an effective treatment for depression in LTCs’ and ‘Identifying depression in patients with LTCs is an important part of their management’) presented with a median of 5, a mean of 4.44 and a standard deviation of .73 and 0.81, respectively.

At the same time, looking at pre-FoR.D and post-FoR.D results, the item with the lowest mean and median score was perceived personal control time (‘There is little I can do to manage depression when it is presented with LTC’; pre-FoR.D (n = 31): $M = 2.13, Mdn = 2, SD = 1.09$; pre-FoR.D (n = 16): $M = 2, Mdn = 2, SD = 1.16$; post-FoR.D (n = 16): $M =1.56, Mdn =1, SD = .81$). As this was a negatively worded item, the low score indicates that HCPs believe that there is a lot they can do to manage depression in people with LTC. Another item that showed a low mean score both pre- and post-intervention a consequences dimension item (‘Depression when it is presented with LTC does not have much effect on patients’ lives’; pre-FoR.D (n = 31): $M = 2.26, Mdn = 2, SD = 1.28$; pre-FoR.D (n = 16): $M = 1.94, Mdn = 1.5, SD = 1.34$; post-FoR.D(n = 16): $M = 1.75, Mdn = 1, SD = .89$). This item was also negatively worded and thus indicates that HCPs in the study believe that depression has a major impact on people’s lives.
Overall a difference in items’ mean and median scores before and after the intervention was apparent. The post-intervention sample reported high scores on Illness Coherence, Personal Control and Treatment Control items. This indicates the participants’ good overall understanding of depression in people with LTCs, HCPs’ confidence in their own ability to control depression in people with LTCs and suggests that participants’ have positive expectations of a successful treatment of a LTC-related depression.

6.5.3.2. Barriers item pool

Table 6.3 summarises the descriptive statistics of the ‘Barriers’ section for each item, grouped into the 31 HCPs who completed the pre-intervention questionnaire and the baseline and follow-up data of the 16 HCPs who completed both questionnaires as well as the FoR.D intervention.

Table 6.3: Descriptive statistics for item pool of ‘Barriers’ section.
Within the ‘Barriers’ section; the highest pre-intervention positive mean scoring item in the sample represented HCPs’ agreement with the ‘Limited consultation time’ barrier (pre-FoR.D (n = 31): M = 3.90; Mdn = 4, SD = .87; pre-FoR.D (n = 16): M = 4.19; Mdn = 4, SD = .66;) suggesting that HCPs’ strongly believed time constraints were a major barrier to recognising and managing depression in people with LTCs. Furthermore, the second highest positive mean scoring item represented the ‘Presentation of predominantly physical or ambiguous symptoms’ item (pre-FoR.D (n = 31): M = 3.94, Mdn = 4, SD = .73; pre-FoR.D (n = 16): M = 4.00, Mdn = 4, SD = .82), indicating that participants perceived the presentation of ambiguous symptoms as another important barrier to manage depression effectively. However, if this is compared with two low-scoring items on the perception and management of depression (‘In LTCs, depression is not a real disorder’; pre-FoR.D (n = 31): M = 2.26, Mdn = 2, SD = 1.25; pre-FoR.D (n = 16): M = 1.94, Mdn = 1, SD = 1 and ‘It is not my role to treat depression or when dealing with a LTC’; pre-FoR.D (n = 31): M = 2.13, Mdn = 2, SD = .99; pre-FoR.D (n = 16): M = 2.19, Mdn = 2, SD = 1.28) it emerges that the sample did in average believe that depression is a real disorder. Within this sample, therefore, disregard of depression as a disease and the perception that it is not the HCP’s role to deal with the disorder in the context of a LTC do not constitute barriers to the diagnosis and management of depression.

The majority of the median scores and all perceived barriers mean scores decreased post-intervention, with the exception of ‘Limited consultation time’, whose score increased by comparison to pre-intervention figures. In this item, the mean and median did not change for the 16 participants who responded pre- and post-intervention (post-FoR.D (n = 16): Mean = 4.13, M = 4, SD =0.78). Overall, time constraints were perceived as the most important barrier in this section.

<table>
<thead>
<tr>
<th>Stigma associated with the illness</th>
<th>3.61 (1.15)</th>
<th>3.75 (1.18)</th>
<th>3.06 (1.53)</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Likert section scoring (response options) = 1 – 5 (1 = strongly disagree, 2 =slightly disagree, 3= neither disagree nor agree, 4 =slightly agree, 5 = strongly agree</em></td>
<td>4</td>
<td>4</td>
<td>3.5</td>
</tr>
</tbody>
</table>
6.5.3.3. Treatment preferences item pool

Table 6.4 summarises the descriptive statistics of the ‘Treatment Preferences’ section for each item, separately reporting means, median and standard deviation for the 31 HCPs who completed the pre-intervention questionnaire and for the baseline and follow-up data of the 16 HCPs who completed both questionnaires as well as the FoR.D intervention.

Table 6.4: Descriptive statistics for item pool of Treatment Preferences section

<table>
<thead>
<tr>
<th>Treatment Preferences Section</th>
<th>Statement</th>
<th>pre-FoR.D</th>
<th>post-FoR.D</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>n=31</td>
<td>n=16</td>
</tr>
<tr>
<td></td>
<td></td>
<td>M (SD)</td>
<td>M (SD)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mdn</td>
<td>Mdn</td>
</tr>
<tr>
<td></td>
<td>To what extent do you agree or disagree that the following are effective in the treatment of depression?* Please disagree or agree with each statement below:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Talking to friends</td>
<td>3.87 (.76)</td>
<td>3.75 (.78)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Taking antidepressants</td>
<td>3.77 (.76)</td>
<td>3.81 (.83)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Referring the patient for a talking therapy</td>
<td>4.26 (.68)</td>
<td>4.31 (.60)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Proposing activities (e.g. sports, yoga, gardening)</td>
<td>4.26 (.73)</td>
<td>4.25 (.68)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Suggesting to take herbal remedies, such as St John's Wort</td>
<td>2.52 (.93)</td>
<td>2.50 (.97)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Healthy lifestyle changes (e.g. reduce alcohol, quit smoking)</td>
<td>4.06 (.89)</td>
<td>3.94 (1.06)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

*Likert section scoring (response options) = 1 – 5 (1 = strongly disagree, 2 = slightly disagree, 3 = neither disagree nor agree, 4 = slightly agree, 5 = strongly agree

Within the ‘Treatment Preferences’ section; the highest positive pre-
intervention mean scoring item represented HCPs’ agreement with the ‘Proposing Activities (e.g. sports, yoga, gardening)’ treatment preference (pre-FoR.D (n = 31): M = 4.26, Mdn = 4, SD = .73; pre-FoR.D (n = 16): M = 4.25, Mdn = 4, SD = .68), indicating HCPs’ positive attitudes towards activities as a way to manage depression in people with LTCs. The second highest positive mean scoring item represented the ‘Referring the patient for a talking therapy’ item (pre-FoR.D (n = 31): M = 4.26, Mdn = 4, SD = .68; pre-FoR.D (n = 16): M = 4.31, Mdn = 4, SD = .60), suggesting strong positive attitudes towards talking therapies. At the same time, HCPs’ low score on the herbal remedy item (‘Suggesting to take herbal remedies, such as St John's Wort’, pre-FoR.D (n = 31): M = 2.52, Mdn = 3, SD = .93; pre-FoR.D (n = 16): M = 2.50, Mdn = 2, SD = .97) implies the sample did not consider the application of herbal remedies as a viable therapy option. Most of the items’ mean scores slightly increased after the intervention, with the talking therapies item showing higher scores than pre-intervention, however, the preference of antidepressants as a treatment option item’s mean score decreased. Medians remained nearly the same.

6.5.3.4. Self-efficacy and Intentions item pool

Table 6.5 and table 6.6 summarise the descriptive statistics of the ‘Self-efficacy’ and ‘Intentions’ sections, respectively, item by item and separated into the total sample (n = 31) responding to the pre-intervention questionnaire and into the baseline and follow-up data of the 16 participants who completed the intervention and both questionnaires.
Table 6.5: Descriptive statistics for item pool of Self-efficacy section

<table>
<thead>
<tr>
<th>Statement</th>
<th>Pre-FoR.D</th>
<th>Post FoR.D</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am confident in....</td>
<td>n=31 M (SD)</td>
<td>n=16 M (SD)</td>
</tr>
<tr>
<td>...identifying and discussing depression</td>
<td>4.1 (.65)</td>
<td>3.94 (.68)</td>
</tr>
<tr>
<td>...formally assessing symptoms of depression/anxiety using a diagnostic tool</td>
<td>3.97 (.95)</td>
<td>3.94 (.93)</td>
</tr>
<tr>
<td>...exploring the patient's views on their conditions (both LTC and depression)</td>
<td>4.06 (.85)</td>
<td>3.94 (1.06)</td>
</tr>
<tr>
<td>...exploring the patient's emotional responses to their illnesses (both depression and LTC)</td>
<td>3.87 (.92)</td>
<td>3.75 (1.06)</td>
</tr>
<tr>
<td>...choosing a treatment that is most appropriate for a patient's psychological distress</td>
<td>3.81 (.83)</td>
<td>3.69 (1.01)</td>
</tr>
<tr>
<td>...making appropriate referrals to mental health services</td>
<td>3.84 (.89)</td>
<td>3.88 (1.15)</td>
</tr>
<tr>
<td>...treating depression with antidepressants</td>
<td>3.9 (1.04)</td>
<td>3.81 (1.11)</td>
</tr>
<tr>
<td>...treating depression with brief psychological interventions</td>
<td>3.45 (1.15)</td>
<td>3.19 (1.28)</td>
</tr>
<tr>
<td>...working together with the patient to generate suitable goals</td>
<td>3.87 (.96)</td>
<td>3.81 (1.05)</td>
</tr>
<tr>
<td>working together with the patient to generate an appropriate action plan based on patient's goals</td>
<td>3.87 (.99)</td>
<td>3.94 (1.12)</td>
</tr>
</tbody>
</table>

*Likert section scoring (response options) = 1 – 5 (1 = strongly disagree, 2 = slightly disagree, 3 = neither disagree nor agree, 4 = slightly agree, 5 = strongly agree*
Table 6.6: Descriptive statistics for item pool of Intentions’ section

<table>
<thead>
<tr>
<th>Statement</th>
<th>Pre-FoR.D</th>
<th>Post FoR.D</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n=31 M (SD)</td>
<td>n=31 M (SD)</td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>Mdn</td>
</tr>
<tr>
<td>I am likely to.......</td>
<td></td>
<td></td>
</tr>
<tr>
<td>...discuss psychological distress/ low mood with a patient who has a LTC</td>
<td>4.13 (.81)</td>
<td>4.13 (.89)</td>
</tr>
<tr>
<td>...formally assess depression/anxiety using a standardised instrument (e.g. the PHQ9)</td>
<td>3.68 (.98)</td>
<td>3.69 (1.01)</td>
</tr>
<tr>
<td>...conduct a formal assessment of risk (of self/ other harm or suicide) with the patient</td>
<td>4.06 (.89)</td>
<td>3.94 (1.12)</td>
</tr>
<tr>
<td>...work with the patient and the information they have provided to help them understand how their psychological state might interact with their LTC</td>
<td>4 (.73)</td>
<td>3.94 (.93)</td>
</tr>
<tr>
<td>...work with the patient to generate an action plan based on their goal</td>
<td>3.77 (.88)</td>
<td>3.69 (1.01)</td>
</tr>
<tr>
<td>...Identify with the patient possible barriers to implementing their plans</td>
<td>3.74 (.97)</td>
<td>3.69 (1.14)</td>
</tr>
<tr>
<td>...use a standardised instrument (e.g. the PHQ9) to explore a patient's views on their psychological distress</td>
<td>3.45 (.77)</td>
<td>3.38 (.81)</td>
</tr>
<tr>
<td>...explore the patient's beliefs about their illnesses</td>
<td>3.94 (.73)</td>
<td>3.94 (.85)</td>
</tr>
<tr>
<td>...explore the patient's emotional responses to their illnesses</td>
<td>3.87 (.85)</td>
<td>3.81 (1.05)</td>
</tr>
<tr>
<td>...explore the patient's understanding of how their psychological state interacts with their LTC</td>
<td>3.94 (.85)</td>
<td>3.81 (1.17)</td>
</tr>
</tbody>
</table>
*Likert section scoring (response options) = 1 – 5 (1 = strongly disagree, 2 = slightly disagree, 3 = neither disagree nor agree, 4 = slightly agree, 5 = strongly agree
These two tables show that participants scored high in all ‘Self-efficacy’ and ‘Intentions’ items before participating in FoR.D. This indicates strong beliefs towards their abilities and intentions to recognise and manage depression in people with LTCs even before being exposed to the intervention. The only two items that presented with a lower mean score than the remaining items were ‘I am confident in treating depression with brief psychological interventions’ and ‘I am likely to use a standardised instrument (e.g. the PHQ9) to explore a patient’s views on their psychological distress’, indicating a lack of confidence in HCPs’ own ability to diagnose and treat depression; not feel very confident in the practical approach of diagnosing and treating depression. However, as most of the mean scores of the sections’ items were increased post-intervention, this may suggest stronger beliefs in their abilities and intentions to deal with depression in LTC after having participated in the FoR.D training intervention (see Appendix Z).
6.5.4. Dimensionality and internal consistency of the questionnaire

Due to the fact that the questionnaire uses different questions and subsections that measure the same constructs, it was important to testify the reliability of the questions that were clustered together. One issue particularly concerning the measure was the internal consistency. This refers to the degree to which the items that make up the section measure the same unidimensional trait. If it is assumed that one construct can only be measured by one scale (e.g. height measured in centimetres) the construct is unidimensional. Multi-dimensional constructs can thus be measured using instruments that operate on several dimensions. Moreover, psychological constructs can be evaluated at different levels of abstraction. The use of different scales allows the assessment of a specific level of abstraction (Clark & Watson, 1995). These dimensions are inter-related and their coherence can be assessed using Cronbach’s α, which is a coefficient of reliability (or consistency), though not than a statistical test in itself. While several dimensions can all be components of a model, they are not usually summarised as one overall score. The assessment of a construct can be split into several independently analysed subscales which are then combined into a single overall score. The prerequisite for obtaining an overall score, however, is the assumption of one underlying construct; otherwise, items need to be split up into separate scales (Clark & Watson, 1995). This study combined the self-efficacy and intentions items to two overall scores (see 6.5.4.1 for justification). ‘Treatment options’ and ‘Barriers’ section items were not combined as each item measured different variables.

In addition, since each scale of IPAD measures a specific construct within the personal illness belief model, an overall score was not methodologically sound. It does not yield an acceptable result since it would be composed of scales that measure different concepts within the model. Hence the analysis of IPAD should have been carried out on its distinct sub-scales in analogy to the original IPQ-r measure but this was not possible due to psychometric deficiencies within the developed method which showed very low internal consistency within the dimensions.
To provide evidence that the measure is unidimensional, exploratory factor analysis must be performed to check dimensionality. This would be useful to evaluate the intervention’s effectiveness in changing beliefs and attitudes towards depression and its management. Since the minimum number of respondents is agreed on at about 200 to 300 (Comrey, 1988; Guadagnoli & Velicer, 1988), factor analysis was not carried out when developing the IPAD. Further research employing confirmatory and exploratory factor analyses should be carried out in order to examine the structure of the IPAD items in more detail.

6.5.4.1. Self-efficacy and intentions constructs

Cronbach's \( \alpha \) was calculated and presented for the ‘Self-efficacy’ and ‘Intentions’ sections. The individual items of scale were added together as they were perceived to measure the same underlying concept. ‘Treatment preferences’ and ‘Barriers’ were not added together as each item measures a different concept, hence an overall score of those two sections would not have yielded further insights. Thus, the Cronbach’s \( \alpha \) for the ‘Self-efficacy’ and ‘Intentions’ sections was calculated in order to evaluate the homogeneity of sections’ items. Table 6.7 below summarises Cronbach’s \( \alpha \) for each section and all items together.

<table>
<thead>
<tr>
<th>Section</th>
<th>Cronbach's ( \alpha )</th>
<th>Number of items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Efficacy</td>
<td>.898</td>
<td>10</td>
</tr>
<tr>
<td>Intentions</td>
<td>.888</td>
<td>11</td>
</tr>
</tbody>
</table>

Table 6.7 shows that both the ‘Self-efficacy’ and the ‘Intentions’ section demonstrated a very good internal consistency with a score of 0.9 each. With values above 0.7 considered as acceptable, this suggests that the item of these sections have a high internal consistency. These findings may demonstrate promise; they should, however, be treated with caution due to the small sample size (Ulleberg & Rundmo, 2002) and it needs to be acknowledged that there is a need for further evaluation on larger samples to confirm or challenge the finding that the sections have a good internal
consistency. As evidenced, a ‘high’ α value does not imply that the measure is unidimensional. To provide evidence of this, exploratory factor analysis must also be performed for these items to check dimensionality.

6.5.5. Descriptive statistics on the sections pre- and post- FoR.D

Considering the high correlation of the items in each scale (‘Self-efficacy’, ‘Intentions’) with each other as presented previously—in which case they are also more likely to measure the same unidimensional trait—and the fact that, compared to multiple items, single items are considered highly unreliable due to the high proportion of error variance (Ross & Nisbett, 1991), I examined the suitability of a sum overall score for the ‘Self-efficacy’ and ‘Intention’ sections of the questionnaire. This approach of adding together the scores of individual items measuring the same underlying concept is consistent with the literature, where ‘General Self-efficacy’ is measured by the General Self-Efficacy (GSE) scale (Schwarzer & Jerusalem, 1995). The GSE scale contains ten items of self-efficacy measuring a set of behaviours, which are subsequently summed up to create an overall score. ‘GSE’ assesses a broad and stable sense of personal competence to deal effectively with a variety of situations (Schwarzer & Jerusalem, 1995). This approach is not in opposition to Bandura’s (1997) suggestion that self-efficacy should be conceptualised in a situation-specific manner. Rather, general self-efficacy is used to explain a complex set of behaviours.

As presented in table 6.8, the mean, SD and median were calculated for both ‘Self-efficacy’ and ‘Intentions’ items and then summed up to yield their final composite score. The score was found to display a range from 10 to 50 and 11 to 55, respectively. This helped to compare these scores with the scores of the post-intervention questionnaire as presented in Appendix ZZZ. The median is usually used as the measurement of central tendency, particularly when the sample is small. Table 6.8 shows median score, SD, mean, range, minimum and maximum of the ‘Self-efficacy’ and ‘Intentions’ sections pre- and post-intervention.
Table 6.8: Descriptive statistics before and after FoR.D

<table>
<thead>
<tr>
<th>Section*</th>
<th>Number of items (possible range of scores)</th>
<th>FoR.D intervention data</th>
<th>pre-FoR.D (n = 31)</th>
<th>post-FoR.D (n = 16)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-efficacy</td>
<td>10 (10-50)</td>
<td>Median (Inter-Quartile Scores)</td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>38.00 (35-44)</td>
<td>38.16 (6.50)</td>
<td>40.00 (37.25-45.50)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>27-50</td>
<td>.065</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>.64 8</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Range of scores</td>
<td>Skewness</td>
<td>Kurtosis</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>27-50</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intention</td>
<td>11 (11-55)</td>
<td>42.00 (38-45)</td>
<td>41.26 (6.83)</td>
<td>46.00 (42-51.75)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>25-55</td>
<td>-</td>
<td>46.63 (5.23)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
6.5.5.1. Pre- and post-FoR.D intervention descriptive statistics for 
N=16

A mere 16 (51.61%) of the 31 participants completed the full questionnaire 
after the end of the intervention. The sample consisted of ten GPs (5 males, 
5 females), five PNs (4 females, 1 male) and one psychiatrist (male). In 
total, seven of the participants were males and nine of them were females.

Table 6.9 below summarises the descriptive data for the HCPs in the sample 
who answered the questionnaire before and after the intervention. It also 
includes the mean of the sample who responded before participating in the 
FoR.D and the mean score of the difference between pre- and post- FoR.D.

Table 6.9: Descriptive statistics of the N=16 pre- and post- FoR.D 
participants

<table>
<thead>
<tr>
<th>Section</th>
<th>T1: pre-FoR.D</th>
<th>T2: Post-FoR.D</th>
<th>Difference Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (SD)</td>
<td>n</td>
<td>Median</td>
</tr>
<tr>
<td>Self-efficacy</td>
<td>37.88 (7.08)</td>
<td>16</td>
<td>36.50</td>
</tr>
<tr>
<td>Intentions</td>
<td>41.56 (8.25)</td>
<td>16</td>
<td>41.5</td>
</tr>
</tbody>
</table>

Table 6.9 shows that on average HCPs’ mean scores increased in the ‘Self-
efficacy’ and ‘Intentions’ sections of the questionnaire. The preliminary 
effect of the FoR.D intervention on intentions and self-efficacy between T1 
and T2 was examined using a paired samples t-test and is presented in 
Appendix ZZZ. As previously stated, the results are not presented in this 
chapter out of consideration of the study’s intention to assess feasibility.
6.6. Feasibility and acceptability of the FoR.D intervention

6.6.1. Overview

This section presents the results of the feasibility study of the FoR.D intervention, as determined by the evaluation form and participants’ adherence in the training. The evaluation form included five-point Likert scale questions, open-ended questions and multiple and single choice questions. The comments in the open-ended questions were analysed qualitatively using common themes for presentation purposes: Any ideas that emerged from the text were coded empirically, each new code marking a new idea not previously raised. Using Microsoft Excel, codes and associated text feedback were linked, building a dataset of codes and their frequency of use. Similar codes were later grouped together to define the main themes; the clustered frequencies were represented as grouped themes, describing both the range and relative importance of topics in HCPs’ evaluation report form (Appendix X).

Questions employing a five-point Likert scale ranging from 1 to 5 involved statements about the training objectives, the usefulness of the content information and views about the design of the intervention. Two multiple choice questions assessed participants’ reasons for taking part and the perceived gains of participation. The five open-ended questions were analysed to identify participants’ attitudes towards the FoR.D intervention, their preferences, recommendations and training gains.

6.7. Feasibility results

A total of 112 unique visitors viewed the website. All of the 31 HCPs who consented to participate completed the baseline measure and 16 of them completed the follow-up measure, indicating an overall 51.6% adherence rate. Only three participants completed the exercise. Participants who had completed the intervention questionnaire were directed to an online evaluation form. Fifteen participants completed the evaluation form. This
represents a training adherence rate of 48.4%. This sample consisted of nine GPs (5 females, 4 males), five PNs (4 females, 1 male), and one psychiatrist (male) (10 females, 5 males). The average age of the participants who completed the intervention and the questionnaire twice was 37.4 years (median 32.5) with an average 8.3 years experience working in primary care (Table 6.10).

Table 6.10: Age and years of practicing for the 16 participants

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean (SD)</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td>16</td>
<td>37.4 (12.4)</td>
<td>32.5</td>
</tr>
<tr>
<td><strong>Years of practice</strong></td>
<td>16</td>
<td>8.3 (9.8)</td>
<td>5.5</td>
</tr>
</tbody>
</table>

The author received ten letters and emails from GPs explaining the reasons for not participating in the feasibility study. The main reasons were:

1. Wrong target group—GP is mainly interested in a different subject (one GP)
2. No time or time pressure due to flu vaccination period (three GPs)
3. Lack of time available to participate in research (four GPs)
4. GP is involved in similar study (two GPs)

In the initial contact on the phone, five practice managers criticised the fact that there was no financial reimbursement offered for participation.

In spite of the difficulties involved in collecting online data, the evaluation forms showed that the participating HCPs described the training as useful, relevant and interesting as an idea. Evaluation did not differ between male and female HCPs.

The analysis of 38 written responses to the five open-ended feedback questions in combination with the data derived from the multiple choice and five-point Likert scale and multiple choice questions produced a total of four themes with six subthemes:
1. Delivery aspects of the training intervention
   - Content and focus of intervention
   - Effective mode of delivery

2. Gains derived from participation in FoR.D intervention
   - Increasing knowledge
   - Improving work performance

3. General feedback
   - Positive feedback
   - Negative feedback

4. Intervention recommendations and suggested changes

Since the two main subthemes ‘Effective mode of delivery’ and ‘Content and focus of the intervention’ were likely to be important for determining the efficacy of the intervention and, they are discussed below.

6.7.1. Delivery aspects of the training intervention

Participants showed a positive attitude towards the majority of the aspects of the intervention, particularly in regard to the content.

6.7.1.1. Content and focus of intervention

The majority of participants appreciated FoR.D’s content and reported that it met their expectations (M = 3.7, SD = 0.7). One participant disagreed (2 out of 5). Most participants rated the training as interesting in the way that it was presented (M = 4.3, SD = 0.7).

Most participants expressed positive feelings about how the content of the intervention was organised and agreed that it was easy to follow, rating 4 and 5 out of 5 (M = 4.6, SD = 0.5). The majority also reported that the content was comprehensive enough in what it covered (M = 4.0, SD = 1.0). In both questions, one participant disagreed with these statements, showing dissatisfaction with the content flow. Most participants also reported high satisfaction, rating the content of the intervention as clear and its presentation as effective (M = 4.3, SD = 0.7).
Opinions expressed in two of the comments stood out from the other statements and particularly attracted our attention. In question 14, one participant reported a general feeling of being patronised and noted that there were typographical errors (GP, male, 32 yrs). Another participant reported that they felt that initially they could not take the content seriously, due to its ‘comic book’ style: “It took some time to get used to reading the comic strips and acknowledging that their content was indeed serious” (GP, female, 29 yrs).

A significant number of comments focused on the idea of illustrations as a training method. As an example, 14 participants reported their satisfaction with the style of the intervention and the content. The following information is some of the feedback left in the open-ended questions regarding the content.

Box 6:1 Feedback on illustrations as a training mode

- The illustrations were easy to follow and understand” (PN, male, 30 yrs).
- “The illustration are very clever and to the point” (PN, female, 56 yrs).
- “The cartoons were very detailed and thorough” (GP, male, 32 yrs).
- “I liked the illustrations as a method of receiving training” (GP, male, 31 yrs).

Participants’ responses suggest the illustrations as a way of delivering information was liked but requires development as discussed later in the chapter.

6.7.1.2. Effective mode of delivery

Online training was viewed positively by most of the participants. The majority (9 of 15, 60 %) preferred online training. However, a considerable minority (5 of 15, 33%) would prefer half-day class training. Participants’ most preferred setting for receiving training was reported as online (9 of 15), with a minority reporting their workplace (4 of 15). Most participants valued the online training style as very effective (M = 4.1, SD = 0.6).
Participants were satisfied that they could work at their own pace within the intervention (GP, female, 34yrs) and that it could be completed in their own time (GP, female, 29yrs). It would therefore not have any effect on clinical commitments and they would be able to participate from their preferred setting (GP, female, 47yrs). However, a limitation of the intervention was noted by a participant with regard to the online training, stating that there was a lack of interaction between the facilitator and themselves.

“No interaction and sometimes difficult to understand the instructions for exercises” (GP, female, 47yrs).

6.7.2. Gains derived from participation in the FoR.D intervention

6.7.2.1. Increasing knowledge (Question 4)

Although this was not a trial, participants were asked whether the FoR.D had any impact upon their own depression-related knowledge. In question 4 the majority of participants reported that the intervention was effective at capturing all training objectives. Each statement was followed by a five-point Likert scale response (1 = objectives not met, 5 = objectives fully met). The objectives were classified as follow;

1. Understanding of the impact of depression in people with a LTC; the mean score of this objective was 4.6 (SD = 0.5) and all participants scored between 4 and 5.

2. Understanding of the causes of depression in the context of a LTCs; the mean score of this objective was 4.3 (SD = 0.7) and all participants scored between 4 and 5, apart from one scoring 3.

3. Understanding of prevalence and symptoms of depression among people with LTCs such as diabetes and CHD; the mean score of this objective was 4.3 (SD = 0.8) and all participants scored between 4 and 5, apart from one scoring 2.

4. Improved knowledge of depression; the mean score of this objective was 4.2 (SD = 0.9) and all participants scored between 4 and 5, apart from one scoring 3 and another participant scoring 2.

5. Awareness of available psychological interventions and assessment tools; the mean score of this objective was 3.9 (SD = 1.0) and the
majority of participants scored between 4 and 5, apart from two participants who scored 3 and another two scoring 2.

Thus, the majority of the participants felt positive about the FoR.D’s content, with the majority stating it provided the appropriate knowledge in important aspects related to depression recognition and management. This suggests that the website has potential to improve HCPs’ knowledge.

6.7.2.2. Improving work performance (Question 8)

Participants reported that the session had an impact on their work performance (M = 3.4, SD = 0.7). All participants scored between 3 or 4, apart from two participants scoring 2 and 5, respectively (1 = no impact, 5 = very big impact). The majority of participants (11 of 15) reported that this training will help them do a better job (73.3%) and the training helped them to update their skills (53.3%). Almost half of the participants (7 of 15, 46.6 %) reported that FoR.D provided them with better knowledge upon which to base actions in the practice setting. More than half of the participants (8 of 15, 53.3 %) reported that this training helped them gain one or more specific ideas that they could implement in their practice. A considerable minority (4 of 15) reported that FoR.D was important to reflect their views toward the topic(s) presented and to gain new advanced skills.

“The illustrations and case examples were very useful and getting an idea of actual patients and applying the information to practice” (PN, female, 27 yrs.)

This comment emphasised the adequacy of the training intervention at providing new perspectives and implementing the information in consultations.
6.7.3. General feedback

6.7.3.1. Positive feedback

The majority of participants were satisfied with the training overall (M = 4.1, SD = 0.5), and the duration of the intervention (M = 3.4, SD = 1.0). Some expressed positive views about the illustrations and the fact that the content was based on real interviews (Box 6:2). Another participant reported to benefit from the online training intervention, stating that FoR.D “provides resources that can be used in practice” (GP, female, 54 yrs).

Box 6:2 Positive feedback on the FoR.D intervention

<table>
<thead>
<tr>
<th>Positive feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td>“I think it is very good - I like that the comments are based on interview data and think this could be clearer to give it credibility” (GP, female, 34 yrs).</td>
</tr>
<tr>
<td>“I liked the way the training was effective in generating personal reflection” (GP, male, 32 yrs.)</td>
</tr>
<tr>
<td>“The assessments are very comprehensive but the training itself was useful and brief enough to stay alert and interested” (GP, female, 27 yrs).</td>
</tr>
<tr>
<td>“The illustration style learning is an interesting idea and presented the learning material in a new and exciting manner that was easy and likeable to follow” (GP, female, 40 yrs).</td>
</tr>
<tr>
<td>“I liked the comics although maybe the exercises could be spread out a little more” (PN, female, 26 yrs).</td>
</tr>
</tbody>
</table>

6.7.3.2. Negative feedback

Some of the participants’ negative feedback involved concerns about the time it took to complete the intervention. Specifically, three participants stated that the content of the online training was excessive. Negative feedback is summarised in box 6:3 below.
Box 6:3 Negative feedback for FoR.D intervention

<table>
<thead>
<tr>
<th>What did you like least about the online training?</th>
</tr>
</thead>
<tbody>
<tr>
<td>• “Illustrations were too busy” (GP, female, 47yrs).</td>
</tr>
<tr>
<td>• “The length of time it took” (the intervention) (GP, male, 31 yrs).</td>
</tr>
<tr>
<td>• “It is a strain on your eyes, too much reading” (GP, female, 33yrs).</td>
</tr>
<tr>
<td>• “There are a few grammatical errors that should be removed - in the questionnaires and text; apart from this I believe the training is neat and concise” (PN, female, 27yrs).</td>
</tr>
<tr>
<td>• “No interaction and sometimes difficult to understand the instructions for exercises” (GP, female, 47yrs).</td>
</tr>
<tr>
<td>• “That if you have some queries, you can't have the answer” (GP, female, 29 yrs).</td>
</tr>
</tbody>
</table>

The most common ‘disliked’ aspects related to too much information/text presented on the illustrations, and the length of the intervention.

Participants provided suggestions for improving the intervention by designing a shorter questionnaire and using fewer words in the illustrations. Two participants also suggested the use of multimedia, e.g. videos and animations, to make the intervention more interactive. Some examples of participants’ recommendations are presented in the box below:

Box 6:4 Feedback to improve the FoR.D intervention

**Recommendations for improvement**

- “It was too long, some facts could have been presented in a shorter overview and less speech bubbles, in a textbook-like summary box, for example” (GP, female, 69 yrs)
- “Perhaps not as much detail in the illustrations” (PN, female, 24 yrs)
- The illustrations part could be smaller (GP, female, 29 yrs)
- “Fewer examples perhaps, as some of the examples are very clear” (GP, male, 31 yrs).
- “Use of videos would make it easier on the eyes” (GP, female, 33yrs)
- “Animations could make the comics more engaging and the aforementioned typographical errors could be corrected” (GP, male, 31 yrs)

In the box for comments regarding the measure provided on the questionnaire page, 12 participants reported that the questionnaire was too
long, with a few of them suggesting that it should be shorter. One participant criticised that some questions were ambiguous and did not have mutually exclusive options:

“Some questions I could argue both that I agree and disagree. eg did I think that people could be treated with antidepressants, well this can only be decided with interaction with the patient looking at them holistically. For some people this would be an option to help whereas for some people it could be a more therapeutic approach that would help.” (GP, male, 33 yrs).

The presentation of items, the language used, font size, and colours were some of the recommended changes:

“You might space the different questions more or increase the shading, and maybe put the anchors (Agree, disagree) on the form, not in number form” (GP, female, 54 yrs).

6.8. Discussion

The brief feasibility study represented the first development stage of an interactive process aimed at improving the FoR.D intervention and the website usability and acceptability to HCPs. At this stage, sixteen participants completed the FoR.D questionnaire before and after being exposed to the content of the intervention. Following this, fifteen participants completed an evaluation form which provided a lot of generally positive feedback. The feedback suggested that the participants felt keen on this type of intervention, and that the content is likely to improve knowledge and practice. However, there are several presentation issues to address in the next re-development stage. Some HCPs provided suggestions on how to improve the present intervention. This evaluation indicates that changes need to be made to improve the overall experience using the online intervention as means for training.

This brief feasibility study faced recruitment and resource challenges. However, it was an important step in developing an internet-based intervention (MRC, 2008; Breakey, et al., 2013) as it clearly identified problems relating to the content and the materials of the FoR.D intervention. These problems will need to be addressed in the next re-development stage before undertaking any further testing.
6.9. **Summary**

- Participants in the study were overall satisfied with the training and reported that FoR.D would help them improve their consultations. In its most important aspects, the practical implementation of the FoR.D intervention was perceived positively by the majority.
- Participants reported their satisfaction with the content of FoR.D and the online intervention as method (and setting) of trainings.
- The feasibility study provided helpful insights into problems regarding the content of the FoR.D intervention and the IPAD measure. The negative feedback covered mostly technical issues, minor grammatical errors and external factors such as time limitations.
- More work is needed and HCPs’ feedback will be taken into consideration for improving the FoR.D intervention.
- Further work on content validity is required on the IPAD measure.
- In the next chapter, a discussion and interpretation of the findings of this study alongside the review and the qualitative work is given. Findings will be examined in relation to current empirical literature and the theoretical frameworks as introduced in Chapter 2.
Chapter 7: General discussion

7.1. Chapter overview

This chapter discusses the overall contribution of this thesis to the understanding of the barriers to the recognition and management of depression in people with LTCs by HCPs. The chapter presents a brief summary of the main findings of the scoping review, the qualitative study, and the feasibility intervention project, and the relation of the findings to the existing literature. Subsequently, the strengths and limitations of the thesis are discussed, presenting recommendations for improving upon the latter. Finally, the chapter outlines the implications for practice and research as well as avenues for future research.

7.1.1. Thesis methodology

The central research question was to explore and understand the nature and influence of HCPs’ personal illness models (perceptions, attitudes, and beliefs of depression) in the recognition and management of depression in people with LTCs. It was addressed in two studies: a scoping review that aimed to identify HCPs’ illness perceptions, attitudes, confidence and perceived barriers and a qualitative study exploring HCPs’ illness models towards depression in people with LTCs.

The results of those two studies contributed to developing a conceptual framework that formed the basis for the design of a new measure (IPAD), and a training intervention (FoR.D) which aimed to change negative personal models and improve the attitudes towards the management of depression in people with LTCs. Such interventions can be classified as behaviour change interventions, as their aim is to improve HCPs’ skills; endow participants with new knowledge, improve attitudes, and target dysfunctional beliefs with the view to improve the management of depression in LTCs. An overview of thesis methodology is presented in Figure 10.
What are HCPs' personal illness models that might affect the recognition and management of depression in people with LTCs?

Study 1: Scoping review; identify attitudes and illness beliefs of depression in Primary Care

Study 2: Qualitative study; identify attitudes and illness beliefs of depression in people with LTCs.

Study 3: FoR.D development. Design a training intervention aiming to change negative attitudes and illness perceptions

Figure 9: Overview of thesis methodology and associated studies
7.2. Summary of main findings

Despite efforts to improve the recognition and management of depression in people with LTCs such as diabetes and CHD by HCPs, there is still a large number of patients who remain undiagnosed or who are treated inadequately (Williams et al., 2007). Findings detailed in the preceding chapters of this thesis suggest that obstacles to the effective management are categorised as patient-related, provider-related and health system-related barriers as well as the complexity of depression itself (Cepoiu et al., 2008). In relation to provider-related barriers, which are the focal point of this thesis, the attitudes and personal models of HCPs were found to be important obstacles to the effective management of depression in primary care in the literature (Gask et al., 2005, Dowrick et al., 2000). This issue prompted the scoping review which was presented in Chapter 3, investigating HCPs’ attitudes and beliefs towards depression in primary care to further explore the extent of this barrier to care. As illustrated by this review, previous UK research has focused on the diagnosis and management of depression, neglecting the experiences and perspectives of HCPs in relation to managing depression comorbid with LTCs. This thesis addressed this gap by using a qualitative approach, specifically employing in-depth interview methods under a theoretical model, in order to explore HCPs’ illness beliefs so as to identify whether they affect the optimum recognition and management of depression in people with LTCs.

To date, this is the first study to specifically explore HCPs’ illness beliefs and attitudes towards depression in the context of diabetes or CHD. It offers a unique portrayal of the experiences and beliefs of depression as a comorbid condition by GPs and PNs, and their struggles to diagnose it. It is also the first thesis using the CS-SRM to explore HCPs’ personal illness models and their impact on the recognition and management of depression in people with LTCs. The findings illustrate the complexity of care provision for depression in people with LTCs, which in turn suggest the need for the development of a novel training intervention modelled on the BTCs and the TDF with a view to contribute to the improvement of depression care.
7.2.1. The use of health psychology theories in this thesis

The use of the theoretical framework derived from mainly the CS-SRM provided a powerful conceptual tool for undertaking the analysis of the scoping review, generating the research questions, designing the topic guide, analysing the interview data, and, finally, designing the measure and the content of the FoR.D intervention. The aim was therefore not to prove or disprove the utility of the framework; the aim was to capture HCPs’ personal illness models in different investigative modes and to answer the relevant research questions. It can be suggested that the CS-SRM opens up a new perspective for understanding HCPs’ clinical behaviour in regard to depression in people with LTCs, in the same way that it helps us to understand patients’ health-related behaviours.

7.2.2. Summary of findings of the scoping literature review

The scoping review identified a number of qualitative and quantitative studies exploring the difficulties of approaching depression in primary care which were associated with the personal models of HCPs, and which may have caused its low detection rates and its inadequate management. In line with the conclusions of the qualitative studies on depression in primary care identified during the literature review (Chew-Graham et al., 2000; Rogers et al., 2001), the findings of the scoping review emphasised the importance of HCPs’ personal illness models in influencing the management of depression in primary care. However, of the 27 papers identified only three were designed to identify issues related to HCPs’ experiences when working with depression in people with LTCs. The difficulties in identifying studies which explore HCPs’ personal illness models in regard to the recognition of depression in people with LTCs suggested the need for further research on the subjective positions of HCPs. An in-depth exploration and understanding of the nature of depression and its consequences in LTCs may provide a better understanding of the management of comorbid depression. Due to the absence of validated outcome measures that assess this relationship and the relatively poor quality of some of the included studies, however, the scoping review merely provides suggestions rather
than conclusions about the influence of HCPs’ personal models in this context.

Moreover, the review revealed a need for theory-based studies as there is a lack of explicit use of theory in the studies reviewed. Lack of theory may impede knowledge about what influences the recognition of depression and its management in the context of a LTC on the grounds that theory provides a conceptual framework and structure which allows better comparison with other theory-based approaches. The barriers identified in the scoping review were the following: HCPs’ perceived lack of time, low confidence, negative attitudes and dysfunctional illness beliefs as well as unrealistic expectations, lack of understanding of depression and lack of awareness of the interaction between mental and physical health problems. These barriers have been discussed in relation to them causing a scoping under-detection and inadequate management of depression in people with LTCs, but no theory had yet been used to describe the phenomenon and explain such associations.

7.2.3. Summary of findings of the qualitative study

A qualitative study using a theory-based interview topic guide was conducted with HCPs in order to explore their personal illness models towards depression in people with LTCs in depth. The primary objective was to understand the nature and influence of such models; specifically, to explore the personal models of depression of HCPs and to contextually understand how these may inform the management of depression in the presence of a LTC. Interview questions also explored the factors underlying particular attitudes and perceptions, and the nature of HCPs’ decisions towards prioritising the management of depression over the LTC and vice versa. This study was designed to seek explanations and develop an understanding of why depression is not recognised in people with LTCs from a theoretical point of view.

The theoretical framework, derived from the CS-SRM, captured a range of HCPs’ personal models which could provide an explanation of the
phenomenon.

The study found that HCPs share similar views and illness beliefs to those patients, believing that depression is an understandable reaction to illness, find it difficult to recognise symptoms of depression and often normalise the depression when appears as a comorbid condition (Alderson et al., 2014). Aspects of the HCPs’ personal illness models towards depression in people with LTCs showed a clear interaction with each other. For example, HCPs’ perceived causes of depression in the context of a LTC were linked to their beliefs about the consequences of living with a LTC, i.e. perceived causes of depression were reported to be the consequence of living with a LTC and vice versa. Similarly, HCPs’ timeline beliefs were perceived to be dependent on the beliefs about the causes of comorbid depression. For instance, the course of depression in the presence of a LTC was viewed as ‘sinusoidal’ and following the trajectory of the physical illness, indicating that depression becomes a LTC in the context of a pre-existing LTC. A third important finding was the perceived lack of treatment control aside from prescribing medication for depression which was due to limited available resources for talking therapies, and the belief that antidepressants are effective at treating depression. The HCPs interviewed believed that patients’ control over the LTC such as self-management was more important for managing depression than their own treatment control. Consequently, these findings suggest that HCPs in many cases tend to view depression as a normal response to the situation and may rely on the patients to take the necessary actions to improve depression outcomes.

Furthermore, the qualitative study provided evidence of other beliefs and attitudes not included in the CS-SRM. The new concepts provided a greater insight as to when and whether HCPs engage with the recognition or management of depression in the context of a LTC. Whilst GPs tended to cite time constraints specifically to explain the poor recognition of depression, the analysis indicated that some personal illness models and attitudes were also likely to be barriers to the effective engagement with patients concerning symptoms of depression.
Firstly, HCPs reported an unclear understanding and confusion regarding the bi-directional relationship of a LTC with depression, especially when working under pressure, and tried to fit a complex and circular problem into a linear, reductionist medical model. Secondly, HCPs reported a reluctance to name depression and were concerned about over-burdening the patient with a second diagnosis. This has the potential to be problematic to the management of depression as without a diagnosis, available treatment may not be offered as a result. Thirdly, HCPs reported their engagement with reactive rather than proactive behaviour towards depression when managing patients with LTCs; they only approach depression when patients articulate their symptoms. They also reported that they may fail to identify depression because patients attribute their symptoms to physical causes or normalise their symptoms of depression. Consequently, HCPs concur with their patients with regards to normalising depression. Finally, time constraints were also an issue; negative attitudes and feelings of pressure and frustration when dealing with depression due to time constraints were reported by several HCPs, indicating that some may avoid engaging with discussion about patients’ mood in a time-limited consultation with a patient with LTCs.

This study raised questions about how to identify depression in the presence of LTCs and was intended to enable discussion of key barriers in primary care in order to help to generate strategies for effective interventions. One answer was given by the design of the FoR.D training for HCPs, which addresses the identified barriers by increasing knowledge, improving attitudes and reducing the stigma associated with depression.

Lastly, one of the purposes of the qualitative study was to generate data for the modification of the IPQ-R and DAQ measures to appropriately capture HCPs’ personal models towards depression in the presence of a LTC. Those two instruments required modification as the original versions were developed to measure attitudes to depression only (DAQ); they were also not specific for GPs and PNs’ consultations (IPAQ-R), and, finally, the instruments did not cover the full range of concepts relevant to personal illness models (DAQ). To date, an appropriate instrument for measuring
HCPs’ illness models towards depression in people with LTCs had not been developed. Within this scope, this thesis therefore aimed to undertake preliminary work in the development of an adequate measure to assessing HCPs’ illness representations, beliefs, self-efficacy and intentions and barriers to depression diagnosis and management.

7.2.4. The development and feasibility study of the FoR.D intervention

Chapter 6 presented the theory-based training intervention study which addressed the barriers identified in both the scoping review and qualitative study using real quotes from the interviews to inform the content of the illustrations. The intervention addressed some of the barriers as follows:

I. Perceived stigma attached to depression:

The training intervention on its own was a method of reducing the stigma associated with such illnesses and reinforcing positive attitudes (Rüsch, Angermeyer & Corrigan, 2005). This intervention aimed to help HCPs access evidence-based information, understand the importance of managing depression and dispel any misconceptions towards depression by providing this information through the use of illustrations modelling a patient-centred consultation style.

II. Perceived lack of time and limited referral resources:

The FoR.D intervention provided guidance on applying a problem-solving technique and a patient-centred interviewing approach using the CS-SRM constructs. This was delivered using illustrations depicting a clinician presenting these two approaches. Furthermore, the provision of instruction, the modelling of certain types of behaviour by others, the identification of barriers to behaviour performance and the planning of ways of overcoming those barriers were all techniques found to be effective at changing behaviour and attitudes derived from the SCogT using the BCT framework by Abraham and Michie (2008).
III. Lack of understanding that depression frequently manifests itself through non-specific physical symptoms:

Illustrations depicting HCPs and a health psychologist were used to provide evidence-based information in order to increase awareness and knowledge of these topics. Modelling was used as a method of persuasion as suggested by the SCogT. Discussion about the LTC would improve the conversation focus and elicit patients’ issues around mental health. Illustrations were used to guide HCPs on how to better establish a trusting relationship in order to identify symptoms which could lead to an accurate diagnosis of depression.

IV. CS-SRM domains and their relevance with assessment, goal setting, action planning and revision

The CS-SRM explains how the different features of the model can be helpful for patient assessment, goal setting and action planning. The thesis used that feature to represent the pathway of a successful consultation; one of the illustrations presented how the constructs of the CS-SRM can be helpful for identifying symptoms of depression; questions whose design was based on the illness representations’ framework and which were incorporated in the illustration were used as a tool to help HCPs to explore patients’ personal models. Questions included: How does your illness make you feel emotionally (emotional representations)? How are your health problems affecting your daily activities, work, and family? What does your illness stop you doing (consequences)? This method of assessment was followed by goal setting and action planning instructions in order to create the context for management.

To identify important issues in regards to the recruitment strategy, the method of delivery, setting, content and engagement with the programme, a feasibility study was designed with particular attention to the content of the proposed intervention. This phase also assisted in the collection of information from HCPs about its application and acceptability, which would enable further modifications to the intervention in order to test it on a larger scale.
The small sample size and the nature of the study does not allow for claims of impact of the intervention on HCPs’ personal illness models and attitudes to depression in people with LTC. Therefore, no conclusions about the efficacy of the intervention to change behaviour can be made. However, despite this being a feasibility study, an examination of the intermediate preliminary outcomes, presented in the Appendix ZZZ, yielded positive results, such as possible changes in intentions and self-efficacy due to participation in the training. The results showed that the intervention may be effective at improving self-efficacy and intentions, but -as noted - these are only indications and no firm conclusions can be drawn. In addition, the follow up period was short, only half of the participants completed the follow up questionnaire and a mere two completed the exercise. It is likely that all the suggestive effects of the FoR.D occurred due to chance; hence, no conclusions can be drawn regarding the long-term effects of the online intervention. However, the differences in means presented in many items of perceived barriers, self-efficacy and intentions sections may indicate that the majority of the participants would be more confident and likely to engage with depression after participating in the FoR.D study.

Arguably, the HCPs who participated as volunteers in the study were more likely to have a special interest in the field of depression in primary care, but not enough training around mental health management of the emotional and behavioural aspects of living with a LTC. This may indicate that this training may have increased self-efficacy and intentions to recognising and managing depression in people with LTCs. Furthermore, as the HCPs in the study were all volunteers, none of the results necessarily reflect the effect and acceptability of the FoR.D to other HCPs. On the one hand, these volunteers were probably more open to learning which conversely skews any results about whether the FoR.D itself works and on the other hand, the FoR.D may have been effective on these HCPs because they were motivated to learn and open to having their attitudes changed.

An important reflection from conducting the FoR.D feasibility study (as well as the qualitative study) was that the time constraints of the general practice, and the influential role of practice managers as ‘gate-keepers’,
were major obstacles for the recruitment of HCPs. The decision to participate was in most cases made either by the practice managers, who seemed to place low priority on research, or by the HCPs, who were often busy to participate. Thus, a challenge for researchers is to identify ways to enable greater participation of primary care HCPs in interventions which are also accessible and feasible for the demands of busy general practices.

Despite the difficulties that were experienced in recruitment and the overall low engagement, some positive findings emerged from the study. The participants’ contribution and feedback on the development, mode of delivery and training method was of great value as it enables future modification. The briefness of the training and the fact that HCPs could undertake the FoR.D training intervention with a degree of autonomy because it was online made it appealing to them. The majority of participants who evaluated the intervention reported satisfaction with the mode and believed that the FoR.D was relevant to their practice, interesting as a project and helped them improve their skills.

No intervention studies aimed at shifting HCPs’ personal illness models and attitudes with which to compare the method were found in the literature. Most studies in the field focus on clinical practice implementation (Thompson et al., 2000), HCPs’ training in CBT (King et al., 2002) or training evaluations (Lin et al., 2001). The only study relevant to this research measured attitudes to depression alongside other variables and was conducted by Gask et al. (2004). Their results indicated that even though the training intervention was effective at improving GPs’ skills towards the management of depression, this did not improve patients’ health outcomes. However, training HCPs is still considered as a necessary strategy which enhances quality of care (Gask et al., 2004). The FoR.D intervention differs in its approach in that its aim was not only to provide skills and education but also to promote a patient-centred approach focused on the patients’ experience of illness. Such interventions have proved to be effective in enhancing patients’ treatment adherence (Phillips et al., 2012).
7.3. Interpretation of findings

In line with the conclusions of previous research on depression in primary care (Chew-Graham et al., 2000; Rogers et al., 2001), the findings of the thesis emphasise the importance of primary care HCPs’ personal illness models in influencing the management of depression in people with LTCs. In the following section, the key findings from the scoping review and the qualitative study are discussed offering an interpretation of the results.

7.3.1. Lack of clear understanding of depression in the context of a LTC

HCPs in the qualitative study reported a limited understanding of the presentation of the often non-specific symptoms of depression, such as tiredness, sleep problems, irritability, or other symptoms seemingly unrelated to mood, such as body aches and digestive problems. They stated that those symptoms overlap or interlink with the symptoms of a LTC. Both studies also suggested that HCPs differ in their causal attributions of non-specific symptoms or medically unexplained symptoms in the presence of a LTC. Even though they identified different causes of the symptoms, HCPs reported difficulties in the diagnostic process. In addition to this, they reported that patients’ illness behaviour, that is the way that patients perceive, appraise and respond to illness, complicates both the assessment and the diagnosis by exerting pressure on the HCP to ‘do something’ about the ambiguous symptoms, i.e. to find a cause and a subsequent treatment. Chew-Graham and May (1999) stated that this kind of pressure may lead to over-diagnosis; however, the analysis in this thesis, which is consistent with the results of Walshe et al. (2008), indicates that in the presence of a LTC, time pressure and patients’ illness behaviour may be an explanation used to justify avoiding topics which GPs and PNs are not comfortable addressing, e.g. mental health or emotional distress. This also corresponds with the findings of the scoping review where it was shown that whilst time was a barrier to the diagnosis of depression, HCPs voiced concerns on their overall ability to manage depression.
Research showed that increased physical complaints are often more related to depressive disorders than a LTC (Ciechanowski et al., 2003) and patients with LTCs that present with somatic symptoms may also present with depression (Murray et al., 2006). This finding is consistent with those of the qualitative study and the literature which revealed that the identification of depression was complicated by the co-existence of LTCs, where both HCPs and patients failed to recognise the signs and symptoms of depression. Many HCPs have reported feeling uncomfortable managing depression, leading to a reluctance to diagnose these issues (Pratt, Halliday & Maxwell, 2009), thus creating a potential barrier to care and reducing holism (Mathley et al., 2014). This suggests that HCPs need to gain a more structured and complex understanding regarding depression in the presence of a LTC; this could be facilitated by adopting a patient-centred approach which explores the patient’s illness experience, aims to understand the whole person and incorporates prevention (Heath et al., 2009).

In both the scoping review and the qualitative study, HCPs holding a ‘normalising’ understanding of depression in the context of a LTC struggled to see the difference between depression and sadness. The literature suggests that beliefs of normalising depression in the presence of a LTC influence its recognition and treatment (Coventry et al., 2011), and when depression is regarded as a normal response, it is likely to remain untreated (Barley et al., 2011). Valderas et al. (2009) proposed that the sequence in which comorbidities appear might affect their genesis, prognosis and treatment. Thus if HCPs believe that the LTC plays a role in the genesis of depression they appear to be more likely that they will pay to more attention to the LTC, prioritising its treatment (Valderas et al., 2009).

In addition, the findings from both studies suggest that HCPs were reluctant to label depression and were worried about medicalising patients’ emotional issues when depression was thought to be caused by an illness or by social problems. On the other hand, some HCPs stated that they may have inappropriately medicalised ‘the common human emotional response of sadness’ and resolved the problem by primarily treating patients with antidepressants, thus disrupting the patient's coping processes. These views
show that depression is still without a clear conceptualisation and understanding which may impact on its adequate diagnosis and optimal management (Chew-Graham et al., 2002; Johnston et al., 2007; Maxwell, 2005; Rogers et al., 2001).

The confusion surrounding the concept of depression may lie in the fact that it is conceptualised differently by psychologists and psychiatrists who follow two opposing epistemological positions; the social constructionism and the medical naturalism, respectively. On the one hand, psychologists are prone to assume that depression is a continuous distribution of both psychological functioning and personality traits, whereas psychiatrists view it as a categorical concept. Psychologists understand illness based on experience and behaviour using statistical assumptions. In contrast, psychiatrists are taught to use diagnostic criteria to distinguish abnormality from normality (Pilgrim & Bentall, 1999). This conceptual incoherence, alongside the lack of a full exploration of the social and political conditions which may contribute to depression may find HCPs caught in a polarised discourse - an ‘either/or’ paradigm- that is illustrated by the psychologist and psychiatrist positions.

Normalising and medicalising depression in the presence of a LTC may have significant clinical, ethical and treatment implications. There is a risk of medicalising an adaptive response, while at the same time there is also a risk of normalising it, thus denying treatment to a person who may need it (Maj, 2008). This, in turn, may negatively impact on the patients’ ability to cope with the LTC, to the point that neither condition is well-managed. It becomes clear then that HCPs’ interventions need to explore and target dysfunctional beliefs towards depression for a more effective management of people with LTCs and psychological distress.

An incomplete conceptualisation of depression and a lack of understanding of the causes of the presented symptoms amongst HCPs may also be due, at least in part, to the general failure of the adoption of guideline concordant care by HCPs (Rollman, Weinreb, Korsen & Schulberg, 2006). Therefore, one way to improve HCPs’ understanding of depression and improve its
recognition is ensuring that HCPs are alert to its possibility when patients with LTCs present with non-specific symptoms (Kendrick, 2012). Additionally, access to an evidence-based approach and the adoption of NICE guidelines (2009) in clinical practice may improve its treatment as some of the effective interventions aimed at improving depression care have successfully used such guidelines alongside patient education and screening for depression (Von Korff & Goldberg, 2001).

7.3.2. Failure to recognise the individual differences in depression

Depression was seen by most of the HCPs in both the qualitative study and the scoping review as an extremely complex disease which occurs due to stress, life events, trauma and LTCs such as diabetes and CHD. They also assumed the causes of depression to be chronic pain, complications of living with a LTC and fear of mortality. HCPs in the qualitative study in particular reported that there was a bi-directional relationship between depression and LTCs, with some describing it as ‘synergistic’. Others characterised it as a vicious circle in which the consequences and symptoms of LTCs would account for the susceptibility to depression among people with LTCs and vice versa. In this model, the consequences and symptoms of depression in the context of a LTC affect the self-management of both conditions resulting in more episodes of illness.

However, in both studies, HCPs generally failed to recognise the individual differences in how people respond to life events and illness. Only a limited number of HCPs in the scoping review and only one in the qualitative study addressed the biological, social, and psychological (cognitive and personality) factors which play a role in the presentation of a disorder (Engel, 1980) such as depression in patients with LTCs. The factors can be identified as bodily processes, personality dispositions, and life events in association with bio-psychosocial factors and the complexity of their interactions needs to be addressed adequately. Failure to do so and a ‘cause-treatment’ approach to ambiguous symptoms in the context of a LTC indicate an inclination towards a biomedical rather than a bio-psychosocial model in the consultations. The latter, however, has been proposed for the
management of patients with physical and psychological problems in primary care (Royal College of General Practitioners, 2009) and, as such, the need for a shift in the attitudes of HCPs towards the bio-psychosocial approach becomes evident.

Gilbert (2002) has raised concerns about how the bio-psychosocial has come to mean biomedical; “although many HCPs of all types pay lip service to a biopsychosocial approach, few actually adopt it in their clinical practice or research....as HCPs do not understand it” (Gilbert, 2002). Several studies have recognised the need for an understanding of depression that goes beyond the assessment of symptoms and integrates all the factors to diagnosing the disorder (Clark, 2005; Luyten, Blatt, Van Houdenhove & Corveleyn, 2006), but HCPs still fail to do so. A purely biomedical model falls short of explaining the demands of general practice and in particular the management of depression in the context of a LTC. Hence, training on the bio-psychosocial model would be required for HCPs in order for them to be able to identify depression in patients with LTCs, based on the consideration of etiological and individual differences.

In regard to the relationship between causal beliefs and the management of depression, the qualitative study and the scoping review showed that HCPs’ causal illness beliefs were partly associated with treatment preferences. For example, GPs who reported a biomedical causal understanding of depression, i.e. aimed to find the symptoms and a cure for them, associated with the choice of antidepressants as a treatment method preference. In addition to this, a perceived lack of referral services for talking therapies was reported and antidepressants were seen as a ‘coal face option’, i.e. a common and pragmatic but not an optimum practice (MacDonald et al., 2009). Other HCPs emphasised that the pharmaceutical industries influence their decisions to prescribe antidepressants. However, the prescription of antidepressants is more related to the biochemical understanding of depression by HCPs rather than the perceived organisational barrier of referrals. On the other hand, even if referral services are limited, there is good evidence that a problem-solving approach provided by GPs can be effective for major depression (Huibers, Beurskens & Bleijenberg, 2003).
GPs and PNs could benefit from enhanced psychological consultation skills that would enable them to use their time more efficiently and employ problem-solving techniques. Consequently, interventions targeted at achieving this may in turn improve patients’ care, especially in the context of a LTC and for those who are reluctant to use antidepressant medication.

Moreover, most studies in the scoping review suggested that in ideal conditions, a combination of therapeutic approaches, such as CBT, and medication with SSRIs is the most efficient treatment option for depression (NICE, 2009). However, a critical analysis of the concept of depression by Pilgrim and Bentall (1999) suggested that this is a reductionist approach to treatment as it dismisses the contributory factors of social conditions to depression, thus such approaches may obscure the pathways to depression. For instance, both the qualitative study and the scoping review revealed that unemployment, poverty, lack of social support, housing crises and loneliness are viewed as causes of depression. Therefore, even the effective combination of CBT and medication may not resolve the problem as they do not address the social causes of depression. Instead, a holistic approach which aims to understand the social determinants of depression and involves a thorough examination of patients’ individual experience may provide a more flexible management approach which stops placing the responsibility upon patients for their depression (Pilgrim & Bentall, 1999).

Finally, the CS-SRM suggests that there is a relationship among treatment, action plans and illness representations. Leventhal, Breland, Mora and Leventhal (2010) stated: “The activation of a representation of a condition creates a framework within which individuals engage in a common-sense selection and appraisal of procedures to prevent, detect, control, and cure potential threats to health”. The procedures, i.e. the treatment options, also match the illness representations in a common sense relationship. For example, if symptoms identity is manifested in the form of social isolation, a HCP’s suggestion of a voluntary activity as a mode of controllability appeals to ‘common sense’. If a HCP’s perceived consequences are that the patient’s depression affects their self-management of the illness, it is equally good ‘common sense’ for the treatment recommendation to be an
antidepressant. More research is required in order to determine the relationship between the perceived causes of depression and treatment decisions as there is evidence that such beliefs may serve as a diagnostic “filter” that either facilitates or inhibits a clinician’s ability to effectively manage depression (Main et al., 1993).

7.3.3. HCPs’ expectations for patients to ‘volunteer the diagnosis’

The primary care HCPs in the qualitative study expressed their disappointment when patients did not ‘volunteer’ symptoms of depression or did not diagnose themselves during the time-limited consultations. This indicates that some HCPs expect their patients to take on the role of an expert arriving at their own diagnosis prior to the consultation and reporting it to them; otherwise they might be at risk of having their depression symptoms underestimated or overlooked entirely.

Spector (1988) and Rotter (1966) suggested that people who attribute the cause or control of events to outside forces have an external locus of control. The latter is related to experience, confidence, motivation, effort, performance, satisfaction and perception of a task. A situation when HCPs shift the control to the external environment and blame others, i.e. patients, can be problematic due to its impact on the clinician-patient relationship and the patients’ self-efficacy, as patients can feel victimised. Therefore, an intervention which aims to change dysfunctional beliefs may be beneficial for those HCPs who lack personal control, show low motivation and present low self-efficacy.

Ambiguity and severity of symptoms, unrealistic expectations, and an external locus of control may complicate the consultation process, influence HCPs’ conceptualisation of depression, delay its diagnosis, and affect its management. In order for them to be confirmed, these suggested associations between HCPs’ illness beliefs and behaviour are in need of further research in a prospective research design.
7.3.4. Perceived lack of time as an attitude rather than simply a barrier

In the qualitative study, HCPs reported an inability to discuss mental health issues with patients in a routine appointment related to their LTC due to time constraints as such discussions would open a “can of worms”. Similar problems have been discussed in many studies identified in the scoping review and elsewhere (Smith, et al. 2010; Alderson, 2014). If HCPs have had a previous time-consuming experience with a patient with depression, the attitude that patients with depression require a lot of time may arise, which could result in avoidance to engage with such topics. However, Pollock and Grime (2003) reported that HCPs did not perceive time constraints as a barrier to effectively recognise depression in primary care. This discrepancy suggests that the concept of the limitation of time depends on subjective and perhaps circumstantial factors, indicating that there is scope to alter HCPs’ perceptions that patients with depression require long consultations.

Extending the time of consultations as a solution is less feasible than providing HCPs with training in time management and effective communication skills (Pendleton, Schofield, Tate & Havelock, 2003). Thus, such training could help HCPs to build a good rapport with patients by turning the content of the consultation in a patient-centred way (van Marwijk & Tylee, 2004). Consequently, this type of consultation may be beneficial for both patients with depression and HCPs by the use of a shared decision-making approach (Raue et al., 2010).

One of the unanticipated findings of the qualitative study was that the assertion by some HCPs that it was their ‘choice’ whether or not to engage with depression in patients during their LTC routine appointment. They reported that this decision was dependent on their ‘mood’ or the relationship with their patients. Additionally, some HCPs reported negative attitudes such as perceiving patients who resisted treatment or did not appear to improve as ‘time wasters’ and showing frustration and uncertainty, finding themselves drained by managing patients with LTC-related depression. In a similar vein, the findings from the scoping review showed that some HCPs
may be reluctant to detect depression when they feel that they have nothing to offer or when patients do not get better. This suggests that it is the nature and proximity of the doctor-patient relationship which affects the process of diagnosing depression rather than the actual time constraints. This refined understanding and interpretation shaped the design of the FoR.D intervention, which focused on improving dysfunctional attitudes towards patients experiencing depression and enhancing the clinician-patient relationship by providing skills for more effective consultations.

7.3.5. Outcome expectancies and self-efficacy lead to diagnosis

The interview data showed that some HCPs engage with the recognition and management of depression only when its symptoms affect the management of the LTC, and when the consequences increase both the morbidity and the mortality of patients. In regard to management prioritisation of the symptoms in the limited consultation time most HCPs reported a focus on the most pressing condition. Bandura’s (1980) SCogT suggests that people take action because of the positive outcomes they hope to achieve from undertaking a specific behaviour. Applied to the findings, it can be expected that some HCPs may engage with the recognition and management of LTC-related depression when they recognise that it affects patients’ health outcomes. The more they believe that depression aggravates their patients’ health, the more likely they are to diagnose and treat the condition. The anticipated positive outcomes are driven by people’s self-efficacy, a concept known to impact on behaviour. Many HCPs in the qualitative study either lacked confidence for adequately recognising and treating depression effectively or lacked knowledge and skills in this area of their work. As the scoping review suggested, HCPs with a low sense of self-efficacy, lack of knowledge, skills and negative attitudes are less likely to engage with certain behaviours, i.e. engage with discussion about mental health with patients with LTCs. Such studies suggested that training for HCPs should focus on changing HCPs’ views and attitudes towards depression and increasing confidence and skills as an important strategy to improve its identification (Dowrick et al., 2000; Rogers et al., 2001, Gask et al., 2005).
7.3.6. Reflexivity

In terms of reflexivity of the analysis, all analyses were conducted within an established theoretical framework by a research team that has a health psychology background. This particular style may have influenced the analysis towards its current orientation. In addition, it ought to be acknowledged that the interpretation of the findings may be partially shaped and influenced by personal perceptions about depression and its management and a personal ‘style’ in research analysis; as the social constructivist approach suggests, this may be inevitable (Seale, 1999). However, the supervisory team ensured that the analysis was not constrained by the authors’ personal preconceived beliefs by discussing the interpretation in several analysis meetings.

The analysis was conducted in line with the theories used and addressed selected themes. Though additional theories and themes could have been employed, this was beyond the scope of the thesis, which was laid out with a focus on health psychology. It is acknowledged, however, that theories from educational psychology and sociology may provide alternative explanations and that a multidisciplinary approach in a future research may be more acceptable to HCPs and other researchers.

In addition, it is likely that the author’s background, different cultural values and non-native English speaker status may have impacted on the interaction with the participants during the interview process. Another potential influencing factor could have been the author’s age which was noticeably younger than most of the participants. Both parameters may have affected the interactions with the participants and the subsequent interpretations. Furthermore, the author’s personal experience with depression and previous position as an assistant psychologist working with people with depression and neurological conditions may have shaped and informed the interpretation of the findings regarding some of the HCPs’ attitudes. However, by including rigour and reflexivity into the process and by acknowledging the potential influence of those experiences throughout the analysis, the data interpretation should not be excessively influenced.
7.4. **General strengths of the thesis**

The current study has the advantage of using theory and evidence from systematic reviews and exploring a range of contexts such as HCPs’ illness representations, barriers and enablers to depression care, as well as the measurement and development of the FoR.D. Thus, it did not exclusively focus on the FoR.D training but drew from a broader range of approaches.

As stated in previous chapters, it is the first study that uses theory to guide the interviews and the intervention content. Explaining human behaviour through the use of theory is an effective scientific approach for research in psychology and medicine, and it offers the basis to organise, predict and explain phenomena. It also allows for the development of a clear hypothesis about expected changes in behaviour, the reasons that may be causing these changes and an evaluation of the interventions using theory-based measures (Eccles et al., 2005). Eccles et al. (2005) have also criticised the fact that many intervention studies do not follow the MRC framework and skip phases. Hence, one of the most important strengths of this research is that it focused on the initial development stages, i.e the development and feasibility phases within the MRC framework (MRC, 2008). In addition, the use of a theoretical framework as suggested by Michie et al. (2011) makes the research reproducible and lends it enough credibility to be used for replication in further similar research.

This thesis may be criticised due to its focus on a specific comorbidity, which could limit the scope of the results and make a generalisation to other conditions more difficult. However, the methods and framework employed have the potential to be applied to other conditions, as all the issues identified in the qualitative study and applied in the intervention as barriers are relevant to other LTCs such as COPD, arthritis, cancer and chronic fatigue, which are shown to be associated with comorbid depression. Additionally, the qualitative and the feasibility study did not select HCPs based on their clinical interest; the emphasis was given only during the interviews to diabetes, CHD and depression as conditions that often occur simultaneously and are mainly managed in primary care. Therefore, these
studies are a useful source of evidence-based information that can be employed when designing interventions aimed at altering HCPs’ dysfunctional beliefs towards depression in people with chronic illnesses.

In addition, in all of the phases of the research—namely the qualitative study, the intervention development and the feasibility testing—the aim was to explore and understand HCPs’ illness beliefs and their relationship to behaviour, i.e. decision-making regarding the recognition and management of depression. Specifically, the preliminary investigation of personal illness models and the preliminary findings of the small feasibility study with a non-representative sample were designed to describe HCPs’ understanding of depressive symptoms in the context of a LTC. Thus, the suggestions about the actual behaviours were not inclusive. The aim, however, was not to assess behaviour at any point; it was to understand in a narrative way any association with behaviour based on theoretical considerations and generate hypotheses for future research.

Finally, the thesis may be criticised for the use of the mixed-methods approach which is a pragmatic rather than an epistemological approach to research. However, using both qualitative and quantitative methods to design the studies and answer the research questions, makes for a more coherent, rational and rigorous thesis (Gorard & Taylor, 2004). The use of both qualitative interviews and questionnaires in the different studies were found to be appropriate to answer the research problem under investigation. Therefore the mixed-methods approach presents a strength of the thesis as such approaches are also more powerful when used in combination in research than on their own (Gorard & Taylor, 2004).

Even though participants in both the qualitative study and the intervention were self-selected, a fact that indicates that they were more interested in this subject than others, their knowledge and recommendations were very important, enabling the study to provide new insights on the question of why some HCPs working with patients with LTCs engage or not with the recognition and management of depression in people with diabetes or CHD. The present research could contribute to the understanding of HCPs’ views
by illustrating the diversity of possible views and beliefs on depression management in conjunction with a LTC. Thus, the research conducted in this thesis provides the foundations to improve the management of depression in primary care.

7.4.1. Strengths of the scoping review

The strengths of the scoping review lie in the methodology that was used. This involved an extensive search strategy of four electronic databases, as well as the use of CASP guidance and STROBE for the quality assessment of the identified studies. Future modifications for the publication of the review will include a more detailed list for assessing the quality of the qualitative study as proposed by Mathley et al. (2014).

The scoping review adopted a narrative synthesis approach rather than a meta-ethnography analysis, as it was more relevant to synthesise the findings from multiple qualitative and quantitative studies using words to explain the findings of the synthesis (Popay et al., 2006). The advantage of the narrative synthesis lies in its more systematic approach to the description and summary of findings and offers transparency and rigour for the research (Rodgers et al., 2009). Meta-analysis and meta-ethnography in the quantitative studies was not possible due to heterogeneity in the design and outcome measures, which is also discussed in Chapter 3.

7.4.2. Strengths of the qualitative study

This is the second study to specifically explore HCPs' illness beliefs and attitudes towards people with depression and diabetes and/or CHD. In order to conduct in-depth interviews, an intense training course on interviewing skills provided by NatCen was completed, which enabled thorough data collection and a deeper understanding of HCPs’ personal experiences. The study was strengthened by the use of in-depth interviews and open-ended questions to ensure that HCPs would elaborate on their experiences and describe them in detail. Overall, the use of semi-structured interviews was a
valuable and satisfactory method for eliciting participants’ statements and providing rich, multi-perspective data. The interest of this study lay in individual perceptions of the barriers to the effective management of depression, thus face to face semi-structured interviews were more useful compared to focus groups, as they allow for the discussion of sensitive topics. Additional strengths were the reflexive, rigorous, iterative and multidisciplinary data analysis.

To verify the validity and trustworthiness of the analysis, the research team met regularly in order to check the interpretation of the data. The qualitative study used a theoretical research design, using a framework analysis approach which encourages transparency in order to ensure rigour in the study (Gale et al., 2013). As such, the data analysis method was rigorous and it has the ability to stand independently. One of the strengths of using the framework analysis is that a different researcher would analyse the data in the same way and come to essentially the same conclusions In terms of analysis credibility and technical rigour, the whole process of analysis was conducted by the author and under the guidance from the supervisors who are experienced in framework analysis. Reliability was also ensured through the organisation of an independent assessment of transcripts by the experienced supervisory team and the comparison of agreement among all the reviewers (Mays & Pope, 1995). Another strength of the qualitative study was the use of disconfirming evidence and deviant cases in order to enhance the credibility of the data. It was decided that a fair amount of these cases were important in order to provide a complete picture of clinical practice and the barriers associated with the management of depression in LTCs. In addition, the qualitative study was informed by the CASP guidance (CASP, 2006) to establish the quality of the methods.

7.4.3. Strengths of the FoR.D training intervention

The first strength of this study was the design of the FoR.D intervention using novel illustration-based rather than text-based vignettes, in which information is transferred to the reader in a more entertaining manner. The use of illustrations allowed the vignettes to be delivered in an interesting
format to the HCPs, and made its online delivery highly accessible. Future research may want to use video-based vignettes and explore how changing the vignette’s design affects participants’ responses. Another strength was the design of a feasibility study for testing the development of the FoR.D intervention. This step was essential to identify issues with the design and the findings were of great value. The feasibility work was considered crucial as preliminary to the intervention’s intended delivery in a large-scale trial (MRC, 2008). Another strong point of the study was the detailed description of the steps in designing the intervention and the theoretical rationale of its content. A systematic review conducted by Perryman et al. (2011) suggested that most training interventions lack the application of a theory and give poor descriptions of the interventions, resulting in difficulties in the evaluation of their effective characteristics. These characteristics, which are important to be considered in the intervention design besides the theoretical framework, have been suggested by Eccles et al. (2005) to be the method and technology of delivery, the feasibility phase and the efficiency of the method of delivery. The findings from the FoR.D intervention presented a strong case for further development as most of the participants agreed that the FoR.D was an interesting and helpful project that offered new perspectives in consultations, with the online training to be the most preferable method. Thus, the four characteristics were taken into consideration regardless of other design limitations.

Secondly, even though the feasibility study primarily assessed the acceptability of this method of intervention and the utility of assessing personal models with a defined framework, the FoR.D showed a strong indication for having the potential to change HCPs’ dysfunctional personal models. The FoR.D proved to be an intervention with a strong potential for improvement. Since it was not a fully powered intervention, the HCPs were not randomised to groups. The design enabled an evaluation designed on the same items that were assessed in the current study in terms of being feasibly and effectively implemented in the time-limited medical encounter. Such an evaluation before engaging in a fully RCT, which is the gold standard design, is ideal for optimising the use of HCPs’ and researchers’ time (Phillips et al., 2012). In addition, the identification of problems, such
as low response rate or non-engagement with the intervention, was helpful in order to make considerable changes in the main study, rather than decide that the proposed study is not possible (van Teijlingen & Hundley, 2001). A randomized, controlled intervention can now be designed based on the successful ingredient of the intervention, assessed in the current study. In addition, as Gilbody et al. (2003) suggested, such training interventions should be combined by several strategies including the use of questionnaires to detect depression, a combination of clinician and patient education, patient-specific reminders, nurse case management, and enhanced integration of specialist care. Importantly, patients’ involvement in the design of interventions may be more effective than simple behaviour change training. Further research should focus on how patients’ involvement could be helpful to improve the FoR.D intervention.

7.5. Limitations of the thesis

The under-diagnosis and under-treatment of depression is a well-established research topic and this thesis focused on the issue of under-recognition as the majority of research in the field is focused on the fact that the detection of psychiatric disorders in primary care is often deficient (Mitchell et al., 2009). However, the problem of depression over-diagnosis or overtreatment is also known (Aragones et al., 2006), but this thesis is limited in this scope as it did not address these issues.

In addition, the main focus of the thesis was on exploring and addressing HCPs’ illness beliefs and attitudes towards depression in people with LTCs with a view to improve self-efficacy and intentions and the management of depression in primary care. A narrow focus on increased attitudes and beliefs, however, does not always reflect its optimal management and improve overall outcomes (Eisenberg, 1992; Callahan, 2001). Research on TPB has also shown that attitudes and intentions do not always translate to behaviour (Sheeran, 2002). Specifically, the intervention was designed to improve attitudes, beliefs, self-efficacy and intentions with the aim of impacting on behaviour. However, it is acknowledged that individuals form intentions, but subsequently fail to act on them (Orbell & Sheeran, 1998)
which could indicate that the desired outcome of the intervention may not be feasible. Delivering the FoR.D intervention alongside BCTs such as action planning and prompts-reminders for HCPs may help to address this intentions-behaviour gap (Michie et al., 2013). The intervention content was designed to improve only one aspect of quality of care i.e. the recognition of depression in people with LTCs. However, the incorporation of BCTs that may address the intention-behaviour gap might strengthen the intervention effectiveness. More specifically, the development of positive attitudes and higher self-efficacy towards recognising depression may not be enough to provoke a change in behaviour. The use of BCTs such as goal-setting with action planning could help to increase the chances of behaviour change (MacGregor et al., 2006), although other influences on behaviour outlined in the TPB, such as normative beliefs, and environmental influences (i.e. time constraints) on behaviour as described in SCT, should also be considered in future development.

7.5.1. Weaknesses of the scoping review

The fact that the extraction of personal models by title and abstract was undertaken by a single author increased the possibility of bias in missing important studies considering attitudes, illness beliefs and views of HCPs towards depression. Data extraction reliability is usually achieved by two reviewers, but this was not feasible in this study due to time constraints. The inclusion of studies conducted solely in the UK might be perceived as a limitation of the scoping review, but the research team decided upon these inclusion criteria in order to ensure the selection of studies relevant to the UK clinical practice. In addition, this project was aimed to design an intervention relevant to the UK medical encounter but it ought to be acknowledged that the review might have overlooked important studies exploring HCPs’ illness models of depression which could be important at improving attitudes and illness beliefs in primary care not only in the UK but also worldwide. Further adjustments of the review might consider the inclusion of studies beyond the UK in order to justify whether attitudes towards depression differ among HCPs worldwide.
7.5.2. Weaknesses of recruitment methods in qualitative and feasibility study

Despite a large recruitment campaign, few invited GPs participated in this study. PNs had a much lower participation rate. Reflecting to this, there were some limitations regarding the recruitment methods applied for both the qualitative and the feasibility study. Initially, the intention was to use a purposive sample in both research projects in order to enhance the sample coverage. Instead, a combination of purposive, convenient, and snowball sampling design was used in the qualitative study, whereas a combination of a volunteer-convenient and snowball technique was used in the feasibility study, for the reasons outlined below.

The study relied mainly on a convenience/volunteer sample in order to obtain more participants for the qualitative and feasibility study as it was the most cost and time-effective way of ensuring that sufficient numbers are obtained in a study (Black, 1999). However, these expectations were only partially satisfied; not enough participants expressed interest in both studies and hence a snowball method was employed. Overall, the recruitment presented a serious challenge as the study population was difficult to access, the PhD schedule limited the time available for recruitment, and there were unexpected delays during the development of the intervention and particularly the website. However, this could be expected in light of the general consensus that the recruitment of GPs is likely to have low response rates which can in turn lead to time delays in research projects, selection bias, unexpected budgetary constraints, and a weakening of the validity and generalisability of results (Pit, Vo & Pyakurel, 2014).

The literature suggested that the main reasons why GPs and PNs might refuse to participate in research are lack of time due to their overburdened schedule, research stereotypes about lack of generalisability, or if the project fails to make sense to them (Kellerman & Herold, 2001). HCPs, like other professionals, participate in research when they find it interesting, credible and relevant to their work in practice (Fletcher, Gheorghe, Moore, Wilson & Damery, 2012). Even though both studies were particularly relevant to
clinical practice, HCPs refused to participate, possibly due to their workload and the lack of incentives. For instance, one clinician requested payment, whereas some practice managers, when contacted for recruitment, criticised the fact that there was no financial reimbursement involved. This may indicate that general managers’ intention to forward the invitation letter to GPs and PNs was low.

Cochrane systematic reviews on methods for the improvement of recruitment to RCTs and surveys also suggest that strategies for patient recruitment from GPs, such as reminders and reimbursement, are likely to be relevant to other primary care groups, i.e. practice managers, GPs and PNs (Fletcher, Gheorghe, Moore, Wilson & Damery, 2012; Treweek et al., 2013). Other studies focused on effective strategies for increasing the survey response rates of GPs and showed that monetary and nonmonetary incentives were more efficient than no incentive, and that postal surveys were more efficient than telephone or email surveys (Pit, Hansen & Ewald, 2013; Pit, Sabrina, Vo & Pyakurel, 2014). Researchers responsible for recruiting primary care participants need to make realistic estimates of the time required for the recruitment of such populations (Bower, Wilson & Mathers, 2007). This project lacked this capacity not only due to the time constraints of a PhD but also because the author lacked previous experience in recruiting GP practices. Further work and training is required in order to gain the appropriate skills for similar projects. Bower et al. (2009) proposed four different stages which involve strategies for the maximisation of response rates and which researchers need to take into account when recruiting patients. Some of the strategies of each stage, however, are relevant for HCP recruitment as well (Bower et al., 2009).

The first stage involves strategies such as providing financial incentives, focusing on HCPs with a special interest in the study area and its aims, and targeting HCPs who show 'readiness to change'. The second stage involves strategies such as piloting the recruitment process in a small population, newsletters, reminders and practice visits, feedback on recruitment rates, and rescue plans. The third stage involves piloting interventions and creating a careful design of the intervention. The third stage involves
piloting interventions and creating a careful design of the intervention. The final stage involves study newsletters, communication with the groups for the study outcomes, acknowledgements and a reduction of the length of the measurements.

Both studies clearly missed Bower et al.’s (2009) essential strategies. In regard to the qualitative study, the method of personally contacting every clinician through emails or letters was employed. This method was thought to be effective as an alternative to incentives due to the lack of additional funding for recruitment. Phone calls to follow up the invitation were also conducted as it is suggested as an effective strategy (VanGeest, Johnson & Welch, 2007). Even then, the response rate remained low. Similarly, with regards to the recruitment method for the FoR.D intervention, the personalised method of letters to the practice managers was employed. Phone calls were also conducted but not all managers responded to the request for discussing the study over a telephone conversation. Some asked for time to consider it and further phone calls were met by similar responses.

Consequently, the relatively small sample of HCPs, mainly GPs, in the qualitative study and the feasibility study only represents a minority of HCPs who are likely to have more interest in improving their consultations and are willing to discuss the barriers associated with depression in primary care. However, despite the potential sample bias towards the HCPs who show interest in research and depression, the research can still provide useful insights that could potentially help other HCPs who refuse to participate in this kind of research.

Finally, it must be acknowledged that the experience of conducting this research, and especially the feasibility study, has increased my awareness of the possibility of a future low response rate. It helped me to consider other ways to increase the response rate by changing the sampling strategy. Having taken Bower’s (2009) recommendations into account, it becomes clear that: a) a more detailed explanation of the research project and its aims should be implemented, b) small financial incentives to HCPs should be
provided, and c) personal contacts with practice managers should be performed.

7.5.3. FoR.D intervention weaknesses

One of the main weaknesses of the feasibility study has to do with generalizability; due to the use of a convenience sample, the findings may not be representative for all primary care HCPs. In addition, there was a substantial dropout from the intervention, which, though problematic, is common to most online interventions (Eysenbach, 2005). Specifically, one of the problems with using the internet for delivering the FoR.D was the fact that many participants probably quit the training in the middle of the questionnaire, as the website received over 100 visits but only 31 participants completed the first questionnaire. Participants would be more likely to complete the long questionnaire if talking to an interviewer, but it was decided that the intervention was to be delivered via the internet as it is a fast and cost-effective method, efficient for all kinds of research and web-surveys. Additionally, online interventions are suitable for attitude and behaviour change interventions, as participants are likely to give more honest answers to questions with sensitive content (Couper, 2000).

However, many of the respondents of the evaluation form did not leave feedback on the text-entry boxes. This can be considered as an important limitation as this feasibility study was designed particularly to identify problems with the intervention for its future improvement. Couper et al. (2001) noted that text-entry boxes in online surveys are easier to skip than multiple-choice questions. This suggests that the design of the evaluation form was also problematic and this ought to be an important consideration in further design of the form in order to minimize incompleteness and non-response.

Another limitation related to the intervention design was the limited control of the research team over the training intervention during its distribution. For instance, it was not possible to confirm whether participants completed the intervention in one go or not. The software allowed only for the verification of the length of time it took the participants to complete the
questionnaire by the time they were received on the server. Another limiting feature of the design was that it was not possible to further contact participants so as to ask them to complete the intervention as no personal details such as email address and name were identified. In addition, participants were not able to ask questions during the training. These limitations must be addressed during the new design of the FoR.D by changing the log-in access, requiring more information about the participants, i.e. their email address, and by creating a forum with all possible frequently asked questions (FAQs).

7.5.3.1. Outcome measures

Another limitation exists with regards to the length of the measures used in the feasibility study and the method of delivery. As mentioned before, in order to successfully recruit participants in an intervention, it is important to consider the length of the questionnaire; a long questionnaire not only risks limiting the response rate but also the participants’ engagement with the intervention. Almost half of the participants dropped out during the follow-up stage of the feasibility study and the majority of the participants did not engage with the exercise. Even though the questionnaires were piloted with a small number of participants within the research team prior to conducting the feasibility study, additional issues were later revealed. Most comments regarded the length of the questionnaire which gave rise to the need for more improvements, but this time with a group of HCPs, in order to identify and eliminate items that do not generate useable data. A long questionnaire can lead to respondent fatigue, loss of interest and poor quality data. A very short one may not capture sufficient information.

The study may also have been limited by the choice of measures. The first issue concerns the methods employed to develop the new measure IPAD, which was used in the intervention, and the fact that it was used despite its pending validation. At first, only a limited preliminary pilot testing with a small group of colleagues was conducted in order to ensure the candidate items were understandable and acceptable. The cognitive interviewing techniques were planned for the measure but due to changes in the
supervisory team and the focus of CLAHRC which I was part of, it was necessary to change the research direction of this PhD and to start to work on the development of the intervention as an alternative. The scale may have been improved through a cognitive interviewing testing in order to identify and correct problems, but as this time-consuming method left insufficient time for further empirical research, this did not allow this stage to take place as planned.

Other issues related more specifically to the design of the measure were its development using a pool of items that the research team considered could map onto each of the dimensions. The use of this non-validated measure in the intervention to assess HCPs’ attitudes and personal models is considered as another limitation. However, the measures available for use in the intervention were unsuitable. As the study’s measure was designed based on interviews and existing measures, and all the optimal steps had been followed before the validation stage, the final decision was to use the measure, identify issues through the feasibility study and undertake further work for its validation. The use of IPQ-R and DAQ as the basis of the new modified version of the measure was perceived as an advantage. IPQ-R and DAQ are flexible instruments and investigators are encouraged especially in the case of IPQ-R to add items to match the conditions and the population being studied. Moreover, IPQ-R represents only one component, the illness representations, which were examined throughout the thesis (Leventhal et al., 2010). Factor analysis is yet to be assessed in order to minimise any problems with item construction (Kline, 1994).

7.6. Implementation for research, practice and policy

In line with the conclusions of previous qualitative studies on depression in primary care (Chew-Graham et al., 2000; Rogers, 2001), the findings of this study emphasise the importance of undertaking research on primary care HCPs’ personal illness models in influencing the management of depression in people with LTCs. The present research extends these previous findings by exploring HCPs’ decision making processes for the recognition and management of depression specifically in people with LTCs. It uses a well-
defined theoretical framework, with implications for research, clinical practice and policy, as outlined below. Understanding personal models of HCPs using a framework derived from the illness representation framework of CS-SRM and other SCMs is beneficial for designing interventions to change attitudes and beliefs (Leventhal et al., 2010). Such models are able to explain the mechanism of behaviour, i.e. why some HCPs may be unwilling to engage with depression in people with LTCs. The current findings of this the thesis do not imply that illness models affect recognition. Only studies using a longitudinal study design may identify this relationship, thus more research is needed to address these issues. The validation of the IPAD measure may be useful in assessing HCPs’ illness models and attitudes of depression.

This study however suggests that HCPs need support in order to address the needs of people with LTCs and comorbid depression in Primary care. The use of CS-SRM as a theoretical base of further research may be helpful for HCPs to understand and conceptualise depression in the context of a LTC, as the model has proved to be successful at explaining not only patients’ illness beliefs (Hagger & Orbell, 2003) but also those of HCPs. HCPs, especially GPs and PNs, play a crucial role in the management of LTCs and depression. Thus, the understanding of their illness perceptions is very important when examining issues such as patients’ adherence, self-management and satisfaction.

In addition, HCPs, based on their experience as well as their medical knowledge, form illness perceptions for their patients’ illness which may differ from those of the patients. Such ‘discrepancies’ can be associated with negative psychosocial outcomes (Mitchell, 2013). More research is also required to examine differences in patient and HCPs illness models. This may help us to understand how differences or similarities in illness perceptions develop among patients and HCPs, and the role of discrepant perceptions in patients’ health outcomes and adherence. In regards to the findings of the qualitative research, it seems that a framework is a useful tool for designing qualitative research as it enabled the elicitation of new dimensions in HCPs’ beliefs in a structured and systematic way. HCPs’
personal illness models also showed promise for a better understanding of the issues associated with the recognition and management of depression associated with a LTC.

7.6.1. The FoR.D intervention and its implementation

Although it has been developed as a stand-alone intervention, it is based on the principles of, and is complimentary to, evidence on existing effective interventions. These shall now be outlined in further detail with recommendations for future research and development.

In the last decade, the improvement of HCPs’ skills of detection and management of depression as well as their skills to help patients manage their own conditions is a priority for service development (Newman, Steed & Mulligan, 2004). Training has also been developed for HCPs to better manage single LTCs such as COPD and diabetes (Gask et al., 2004; Newman et al., 2004). However, interventions aimed at changing HCPs’ attitudes and beliefs to more efficiently manage comorbid conditions such as depression in people with LTCs are not well documented in the literature. Given that the role of primary care HCPs in depression management is very important, it is vital that mental health training is made more available to improve attitudes, knowledge and self-efficacy (DoH, 2010).

The development of the FoR.D intervention has followed the MRC guidelines for developing complex interventions (Craig et al., 2008). It was designed as a stand-alone project supporting the notion that interventions to support HCPs should be linked to participant experiences (Thomson et al., 2001). In this study, the focus was on designing an accessible training intervention to improve primary care practitioners’ attitudes, beliefs, knowledge and confidence to detect and treat depression (Henke et al., 2008; Tylee & Walters, 2007b). It is acknowledged that HCPs’ training interventions are needed in order to improve the quality of care for people with depression and other CMDs (Gilbody et al., 2003; van Rijswijk et al., 2009). To be effective, however, training interventions, such as the FoR.D, need to be delivered alongside organisational and systemic changes to the
delivery of depression care for people with LTCs (Coventry et al., 2011; Sinnema et al., 2015; Grimshaw et al., 2004; Gilbody et al., 2003).

Nevertheless, in the UK NHS for example, current service provision of psychological medicine is typically focused on improving the efficiency of delivering high volume low-intensity psychological treatments via the IAPT programmes rather than improving the ability of GPs to detect and treat depression. Collaborative care is the best known example of an effective systems-based intervention to manage depression in primary care. It effectively reduces depression over the short, medium and long term (Archer et al., 2012), but overall effect sizes are small. While it is uncertain what factors moderate the effects of collaborative care, it is plausible that the treatment effects are attenuated in the absence of training interventions that seek to improve the detection and diagnosis of depression. Effective approaches for the improved management of depression in primary care are likely to require a broad range of interventions and involve the whole primary care team, including the GPs and PNs with specialist training (Smith et al, 2006). As such, the FoR.D, an interactive brief and online training, could be served as one strategy to assist HCPs in primary care to better diagnose depression supporting Gask et al.’s (2004) conclusion that “training, which should be aimed at providing participants with new skills, should form only part of a wider strategy for improving the quality of depression in primary care”. In fact, as discussed before, strategies effective in improving patient outcomes are interventions that incorporate interactive clinician training, an enhanced role of the nurse (nurse case management), and a greater degree of integration between primary and secondary care (consultation-liaison) (Gilbody et al., 2003). The accessibility of the FoR.D in terms of allowing HCPs to participate at home or at work emerged as an important advantage of the training, which constitutes a strong point for its implementation considering HCPs time constrains to attend face to face trainings.

Effective training interventions should also account for the gap between professionals’ intentions and their desire to effectively manage depression and their actual behaviour. Self-regulatory processes following intentions help to initiate and maintain behaviour change (Luszczynska & Schwarzer,
One self-regulatory skill is planning (Gollwitzer, 1999; Leventhal, Singer & Jones, 1965; Sniehotta, Schwarzer, Scholz & Schüz, 2005). Sniehotta et al. (2005) propose the subdivision of planning into action planning and coping planning. Action planning specifies exactly where, when and how to act (Leventhal et al., 1965). It has consistently been found to predict goal attainment in various domains. Thus, an intervention facilitating both kinds of planning might not only be able to promote positive attitudes and intentions to diagnose and manage depression, but also to lower HCPs’ stress while dealing with patients’ symptoms in time-limited consultations. Given that at this stage, this training intervention has only been developed and tested for its feasibility, further modifications and should consider these strategies and how the FoR.D can be combined with collaborative approaches to care (Craig et al., 2008; Baker et al., 2001).

A training intervention which has not been appropriately designed and has not used a systematic approach to recruitment may be not effective. It may be more feasible to provide interventions to HCPs who are most in need of them; therefore, research needs to focus on examining ways of identifying those who are more likely to overlook depression. Most HCPs’ interventions aimed at improving the management of depression in primary care proved to be ineffective but as Gask et al. (2004) and Lin et al. (2001) suggested, although such training is inefficient, it is still a necessary strategy. In addition, the poor description of interventions make it difficult to determine definite effective characteristics of interventions, thus future research needs to focus on this particular aspect. Furthermore, it is vital to remain aware of the importance of other factors, especially those related with organisational barriers, when designing interventions to improve the management of depression in primary care. The involvement of patients in the design of such interventions is also very important as evidence suggests that involving patients and members of the public in the research process improves the quality and relevance of research (Entwistle, 1998; Chalmers, 1998).
In terms of practice implementations, the suggestion is that HCPs should shift the focus of their consultation towards holism in order to identify the root causes of depression and to better understand patients' experiences of living with LTCs (Phillips et al., 2012). This can be achieved by using a range of questions focusing on the main constructs of the CS-SRM at the start of the consultation to prompt patients to think about their condition and their priorities for self-management. By shifting the focus, patients are likely to engage more in talking and the HCP in listening. It is also possible that an obstacle to the implementation of best practice may be the differences between HCP and patient views about depression (Johnston et al., 2007). Consequently, an exploration of patients’ personal illness models may improve the consultation without the need to extend its length.

Identifying how patients think can be difficult in the time-limited consultations, but it will be essential to identify and, if possible, change any dysfunctional beliefs if they are unhelpful to patients’ self-management and recovery. With this kind of Socratic approach, patients may feel more able to take responsibility for their treatment, gain a greater sense of control and problem solve (Dures et al., 2014). HCPs, on the other hand, may get a clearer idea of how the comorbidity affects patients’ mental well-being, rather than just deal with the consequences of these conditions.

An additional suggestion is for HCPs to develop appropriate skills such as developing rigorous habits of reflective thinking through continuous personal and professional development. This may help them to gain proactive attitudes and understand the problem behind their patients’ medical complaints moving from the common diagnostic route to a more patient-centred consultation route (Epstein & Street, 2011). Critical thinking requires an integration of clinical experience, appropriate knowledge, critical reflection and critical reasoning. HCPs’ critical reflection depends on being taught what to pay attention to and requires an examination of the underlying assumptions of a situation and doubting the validity of the arguments of a case. Additionally, critical reasoning is an application of knowledge and experience when considering different possibilities to
decision-making in order to reach the desirable goal (Benner, Hughes & Sutphen, 2008). HCPs may benefit from evidence-based research when applied to their practice in order to improve their skills and their patients’ outcomes. For instance, when HCPs identify a problem, evidence-based information should be identified and evaluated for use in their practice.

An example of reflective thinking and application of evidence-based research would be the reflection that the presence of ambiguous patient symptom presentations, such as unexplained pain, tiredness or restlessness, in conjunction with a LTC should be a sign for assessing patients for depression using a standardised assessment (McWhinney, 2000). The question is, however, whether HCPs in primary care have the appropriate knowledge, resources and time to use evidence-based research in their practice. Barriers such as HCPs’ lack of personal time to search for information, lack of knowledge or confidence to seek and evaluate research as well as lack of organisational support to use evidence-based information in the practice have been documented in the literature for decades (McColl, Smith, White & Field, 1998; Cranney, Warren, Barton, Gardner & Walley, 2001; McKenna, Ashton & Keeney, 2004). However, new evidence-based guidelines such as NICE (2009) are developed for the improvement of the management of depression so interventions and practice should focus on using such guidelines as part of a wider strategy for improving the quality of depression in primary care. Policy makers and guideline developers ought to take into consideration the beliefs of depression and its treatment of both HCPs and patients, as these two groups may not accept the same conceptualisation of depression.

Last but not least, this thesis revealed that there is still stigma associated with mental health. General practice needs to address stigma and discrimination within the consultations. HCPs should ask patients about the nature of adverse experiences living with LTCs, discrimination and level social interactions, and incorporate these issues into the treatment plan (Byrne, 2000).
7.7. Future research

This thesis highlights a range of possible directions for future research. The FoR.D delivery method and content was perceived by the study participants as satisfactory for HCPs working in primary care. However, as suggested by the results of the feasibility study, the intervention content and exercise require changes in the design, wording, focus and length. This study shows promise for running a fully-powered, large scale RCT study to examine the effects of the FoR.D on changing negative attitudes and beliefs and their impact on decision-making.

To achieve this, important changes must take place before designing a fully powered RTC. Firstly, an evaluation of the psychometric properties of the IPAD, in HCPs’ personal illness models of depression in primary care, must take place; questionnaire development and validation is an ongoing process and the measure requires further systematic psychometric evaluation, thus this is important stage work for future research. The evaluation of test-retest reliability and confirmatory factor analyses may be performed to confirm the scale structure, using a large sample of primary care HCPs. Future work will also address the recommendations suggested by the participants in the feasibility study (Chapter 6). A cognitive interviewing study will also be considered for inclusion in the development stage of IPAD.

Secondly, another pilot study exploring the most effective recruitment strategies as suggested in section 7.6.2 (weaknesses of recruitment strategy) will be considered in future work. This will better inform the future RCT in order to identify any problems that may be related to the data collection method. The validation of the IPAD measure could be useful to accurately quantify the extent to which training interventions such as the FoR.D affect HCPs’ illness beliefs, attitudes, self-efficacy, intentions and perceived barriers.

Thirdly, a qualitative study using a matched-patient procedure of interviewing both patients and HCPs might be useful in order to illuminate the main differences and discrepancies in personal illness models among
patients and HCPs. This may help to identify any gaps in how HCPs and patients view depression in the context of a LTC, and understand how differences or similarities in illness perceptions and attitudes develop in the consultations and their role in the patients’ health outcomes and adherence. Furthermore, the involvement of HCPs and patients in this research was not considered. Acknowledgement is needed for the importance of their views on decision-making about health services and the necessity of their involvement in the planning and developing process of health care (Crawford et al., 2002). Future modifications in the FoR.D intervention should involve focus groups or interviews with HCPs and patients regarding the design and content of the training intervention as their knowledge and expertise could be valuable sources for a more effective training intervention. Such focus groups or interviews may involve discussions on how the training will help the consultations to meet patients’ needs. Patients may also suggest how to make best use of limited consultation times. Feedback on the current version of the FoR.D can also be requested to further explore problems with the design.

Given that at this stage, this intervention has only been developed as stand-alone programme; further modifications should consider it is effectiveness and its feasibility of delivering FoR.D with systemic changes such as collaborative care and effective strategies such as BCTs such as action planning and goal setting (Craig et al., 2008; Baker et al., 2001). Such modifications in the FoR.D intervention should also consider how to reduce barriers to HCPs’ adherence to recommended standards for recognition and management of depression (Callahan et al., 1994).

7.8. Conclusions

This study has contributed knowledge to the literature on the experiences of HCPs managing depression in people with LTCs. Using the personal models of Leventhal’s (1980) CS-SRM, this thesis extended this knowledge by explaining issues relevant to the recognition of depression symptoms when presented with LTCs suggesting how comorbidities may influence quality of care. Prior studies have noticed the importance of patient and doctor-related
factors that hinder the identification of mental health disorders and its treatment in people with LTCs. This thesis provided insight into the role of HCPs’ personal illness models towards depression in explaining the wide variation or sometimes problematic performance of HCPs’ identification of those suffering from depression when attending primary care for their LTC.

The findings of this study seem to be consistent with the literature, in which HCPs hold simplistic causal models of depression, blame patients for hiding depression, expect patients to present with psychological symptoms openly or early in the consultation, and avoid diagnosing depression due to stigma or fear of medicalising the normal emotional response to losing one’s healthy identity. The qualitative study highlighted that the recognition and management of depression in people with LTCs is a complex procedure and extends beyond the perceptions considered within the framework. In attempting to make sense of this complexity, HCPs were influenced by various characteristics such as knowledge, training, experience, and lack of clear understanding of how depression interacts with LTCs.

In addition, the development of a pragmatic theory-based intervention which addressed the identified attitudinal barriers allowed further considerations in new methods of clinical interventions. It cannot be claimed that this intervention was effective at changing HCPs’ personal models to depression and LTC management, or negative attitudes were improved as a result of participation in the study; however, it can be suggested that the intervention was feasible in regards to the method of delivery, content, objectives being met and the participants’ satisfaction. Future research needs to expand this work to by combining this brief online training intervention with collaborative care.

All in all, this thesis has exemplified the practical use of health psychology theories on understanding illness perceptions in a wider perspective, especially through HCPs’ illness models, and provided evidence on how existing theory can be modified and applied in novel research. The findings of the thesis can be used in clinical practice and policy to improve depression care in people with LTCs.


British Medical Journal, 330(7495), 839-842. doi: 10.1136/bmj.330.7495.839


British Heart Foundation, (www.bhf.org.uk/statistics)


Chew-Graham, C., Sartorius, N., Cimino, L. C., & Gask, L. (2014). Diabetes and depression in general practice: meeting the challenge
of managing comorbidity. *British Journal of General Practice, 64*(625), 386-387. doi: 10.3399/bjgp14X680809


women with diabetes. *Psychosomatic Medicine, 65*(3), 376-383. doi: 10.1097/01.PSY.0000041624.96580.1F


361


Epton, T., & Harris, P. R. (2008). Self-affirmation promotes health behavior change. *Health Psychology, 27*(6), 746-752. doi: 0.1037/0278-6133.27.6.746

363


Fisher L., Mullan J., Arean P. (2010). Diabetes distress but not clinical depression or depressive symptoms is associated with glycemic control in both cross-sectional and longitudinal analyses. Diabetes Care, 33, 23-28. doi: 10.2337/dc09-1238


Katerndahl D, Calmbach WL, & Becho J. (2012). Effect of Comorbid Depression on Outcomes in Diabetes and Its Relationship to Quality of Care and Patient Adherence: A Statewide Primary Care Ambulatory Research and Resources Consortium Study. Primary Care Companion for CNS Disorders, 14(3):8p. doi: 10.4088/pcc.11m01269


reasoning on patients’ and doctors’ decisions. *Chronic Illness, 1*(1), 61-71. doi: 10.1177/17423953050010010401


Mind (2010). We Need to Talk. London: MIND (http://www.mind.org.uk/)


National Institute for Health and Clinical Excellence (2009). Depression in Adults with a Chronic Physical Health Problem, Treatment and Management Available here: http://www.nice.org.uk/CG91


Perryman, K. (2014). *Synthesising existing and developing new evidence on effective healthcare professional training that aims to improve the management of psychological distress in primary care.* PhD thesis. University of Manchester, UK.


396


management of late-life depression in the primary care setting: a randomized controlled trial. *Journal of the American Medical Association*, 288(22), 2836-2845. doi: 10.1001/jama.288.22.2836


doi: 10.1370/afm.273


doi: 10.1080/1354850021000059287


doi: 10.1016/j.jad.2010.01.075


doi: 10.1157/13119325


doi: 10.1016/j.ypmed.2007.08.012


doi: 10.1136/bmj.323.7319.948


Web Links

British Heart Foundation, (www.bhf.org.uk/statistics)

Department of Health website, (www.dh.gov.uk)

Illness Perception Questionnaire, (www.uib.no/ipq).


National Health Service Library, (www.cks.library.nhs.uk)

National Institute of Clinical Excellence, (www.nice.org.uk)

MIND (http://www.mind.org.uk/)
Appendices
### Appendix A: Severity measures for depression and anxiety

<table>
<thead>
<tr>
<th>Screening Tool</th>
<th>Characteristics</th>
<th>Purpose</th>
</tr>
</thead>
</table>
| **BDI-II** (Beck, Steer & Brown 1996) | 2–5 minutes  
Simple to complete  
21 items  
Scores categorised as minimal (0-13), mild (14-19), moderate (20-28), severe (29-36)  
Assessment scale | To assess the intensity of depression in clinical and normal patients.  
Alignment with the diagnostic criteria for MDD in the Diagnostic and Statistical Manual - Fourth Edition (DSM-IV). |
| **PHQ9** (Spitzer et al. 1999) | 2–5 minutes  
Simple to complete  
A nine-item questionnaire  
Scores categorised as minimal (1-4), mild (5-9), moderate (10-14), moderately severe (15-19), severe (20-27)  
Symptom count | To diagnose depression and to assess severity.  
Alignment with DSM-IV criteria. |
| **HADS** (Zigmond and Snaith 1983) | 2–5 minutes  
Simple to complete  
Self-rating scale; 14 questions (7 for each of depression and anxiety scales). Scores categorised as normal (0-7), mild (8-10), moderate (11-14), severe (15-21)  
Validated for use in PC  
Assessment scale | To identify and quantify depression and anxiety in physically ill patients. |
Appendix B: Interventions and severity of depression

<table>
<thead>
<tr>
<th>Severity of cases</th>
<th>Intervention offered</th>
<th>Intervention details</th>
</tr>
</thead>
<tbody>
<tr>
<td>• People with persistent sub-threshold depressive symptoms or mild to moderate depression and a LTC&lt;br&gt;• People with sub-threshold depressive symptoms that complicate the care of the LTC</td>
<td>Step 2 (Low-intensity psychological intervention): Structured group physical activity programme</td>
<td>The interventions should:&lt;br&gt;• Be modified for different abilities according to the LTC, in cooperation with the team which treats the LTC&lt;br&gt;• Be delivered in groups supported by a competent practitioner&lt;br&gt;• Typically consist of 2–3 sessions per week (lasting 45 minutes to 1 hour) over 10–14 weeks&lt;br&gt;• Be coordinated with any rehabilitation programme for the physical health problem.</td>
</tr>
<tr>
<td>Same as above</td>
<td>Step 2: Group-based peer support (self-help) programme</td>
<td>The interventions should:&lt;br&gt;• Be modified for different abilities according to the physical health problem, in liaison with the team treating the physical health problem&lt;br&gt;• Be delivered in groups supported by a competent practitioner&lt;br&gt;• Typically consist of 2–3 sessions per week (lasting 45 minutes to 1 hour) over 10–14 weeks&lt;br&gt;• Be coordinated with any rehabilitation programme for the physical health problem.</td>
</tr>
<tr>
<td>Same as above</td>
<td>Step 2: Individual guided self-help based on CBT principles (including behavioural activation and problem-solving techniques)</td>
<td>The interventions should:&lt;br&gt;• Include written materials (or alternative media)&lt;br&gt;• Be supported by a trained practitioner who reviews progress and outcome&lt;br&gt;• Consist of up to 6–8 sessions (face-to-face and by telephone) over 9–12 weeks, including follow-up.</td>
</tr>
<tr>
<td>Same as above</td>
<td>Step 2: Low-intensity psychological intervention cCBT</td>
<td>The interventions should:&lt;br&gt;• Be provided via a stand-alone computer-based or web-based programme&lt;br&gt;• Explain the CBT model, encourage tasks between sessions, and use thought-challenging and active monitoring of behaviour, thought patterns and outcomes&lt;br&gt;• Be supported by a trained practitioner who reviews progress and outcome; 9–12 weeks including follow-up.</td>
</tr>
<tr>
<td>People with mild depression that complicates the care of the physical health problem or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>People with a past history of moderate or severe depression</td>
<td></td>
<td></td>
</tr>
<tr>
<td>People with initial presentation of sub-threshold depressive symptoms present for at least 2 years or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>People with sub-threshold depressive symptoms or mild depression persisting after other interventions.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Severity of cases**
- **Intervention offered**
- **Intervention details**

1. **Antidepressants**
2. **Step 3 (High-intensity psychological interventions):** group-based CBT or individual CBT (if group-based CBT is declined, not appropriate or not available) or behavioural couples therapy

Prescription of a selective serotonin reuptake inhibitor in generic form, unless there are interactions with other drugs; preferably citalopram or sertraline as they are less likely to lead to interactions.

When prescribing an antidepressant, the following should be taken into account:
- any additional physical health disorders
- the side-effects of antidepressants, which may affect the underlying physical disease (e.g. selective serotonin reuptake inhibitors may result in or exacerbate hyponatraemia, especially in older people)
- the absence of evidence to support the use of specific antidepressants for people with particular chronic physical health problems
- interactions with other medications.

**The intervention:**

**Group-based CBT:**
 Typically delivered in groups of 6–8 people with a common physical health problem, over 6–8 weeks.

**Individual CBT:**
 Delivered until symptoms have remitted, typically 6–8 weeks (no longer than 16–18 weeks) for moderate depression plus 2 follow-up sessions in the next 6 months; or 16–18 weeks for severe depression plus 2 or 3 follow-up sessions in the next 12 months; offer twice-weekly sessions for the first 2–3 weeks focusing on behavioural activation.

**Behavioural couples therapy:**
 Typically delivered in 15–20 sessions over 5–6 months

| People with moderate to severe depression |
| **Step 3:** Combining antidepressants with a high-intensity psychological intervention (group-based CBT or IPT). |
| Referral for 16–18 weeks for severe depression plus 2 or 3 follow-up sessions in the next 12 months; offering biweekly sessions for the first 2–3 weeks focusing on behavioural activation |
Appendix C: Literature review search strategy (Medline)

1. exp Depression/ or depression.mp.
2. depress$.mp.
3. mood disorder.mp. or exp Mood Disorders/
4. exp Depressive Disorder, Major/ or exp Depressive Disorder/ or Major depression.mp.
5. Long term depression.mp.
6. Anxiety.mp. or exp Anxiety/ or exp Anxiety Disorders/

7. general practitioner$.mp. or exp Physicians, Family/
8. exp Health Personnel/ or Health professional$.mp. or exp Physicians, Family/
9. exp Physicians, Family/ or exp Family Practice/ or GP.mp.
10. GP$.mp.
11. general practitioners.mp.
12. general practitioner$.mp. or Physicians, Family/
13. Primary Health Care/ or Primary care doctors.mp. or Physicians/
14. exp Primary Health Care/ or Primary care doctor$.mp. or exp Physicians/
15. general practice.mp. or exp Family Practice/
16. exp Nurses/ or nurses.mp.
17. exp Physicians/ or doctors.mp.

18. exp Cognition/ or Illness cognition$.mp.
19. exp Attitude to Health/ or Illness belief$.mp.
20. Perception/ or Illness perception$.mp.
21. exp Perception/ or Illness perception$.mp.
22. representations.mp.
23. Health belief$.mp.
24. Personal model$.mp.
26. self-efficacy.mp. or exp Self Efficacy/
27. Attitude to Health/ or Attitude/ or attitude.mp.
28. exp Attitude to Health/ or exp Attitude/ or attitude.mp.

29. 1 or 2 or 3 or 4 or 5 or 6
30. 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17
31. 18 or 19 or 20 or 21 or 22 or 23 or 24 or 25 or 26 or 27 or 28

32. exp Decision Making/
33. management.mp. or exp Disease Management/ or exp Patient Care Management/
34. exp Decision Making/ or treatment decision$.mp.

35. 32 or 33 or 34
36. 29 and 30 and 31 and 35
### Appendix D Scoping review search strategy (Medline, 2000-2015)

<table>
<thead>
<tr>
<th>Concept 1</th>
<th>Concept 2</th>
<th>Concept 3</th>
<th>Concept 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>general practitioner$.mp. or exp Physicians, Family/</td>
<td>exp Cognition/ or Illness cognition$.mp.</td>
<td>decision making/ or treatment planning/ or medical decision making/ or treatment decision$.mp.</td>
<td></td>
</tr>
<tr>
<td>exp Health Personnel/ or Health professional$.mp. or exp Physicians, Family/</td>
<td>exp Attitude to Health/ or Illness belief$.mp.</td>
<td>decision making.mp. or exp decision making/</td>
<td>exp Depression/ or depression.mp.</td>
</tr>
<tr>
<td>exp Physicians, Family/ or exp Family Practice/ or GP.mp.</td>
<td>Perception/ or Illness perception$.mp.</td>
<td>exp therapy/ or exp decision making/ or exp treatment planning/ or exp medical decision making/ or treatment decision.mp.</td>
<td></td>
</tr>
<tr>
<td>GP$.mp. or general practitioners.mp. or Physicians, Family/</td>
<td>exp Perception/ or Illness perception$.mp. representations.mp.</td>
<td></td>
<td>exp Depression/ or Depression.mp. or exp long term depression/ or exp &quot;mixed anxiety and depression&quot;/ or major depression/</td>
</tr>
<tr>
<td>general practitioner$.mp. or Physicians, Family/</td>
<td>Health belief$.mp.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>general practitioner$.mp. or Physicians, Family/</td>
<td>Personal model$.mp.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary Health Care/ or Primary care doctors.mp. or Physicians/</td>
<td>Self-regulation.mp.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>exp Primary Health Care/ or Primary care doctor$.mp. or exp Physicians/</td>
<td>self-efficacy.mp. or exp Self Efficacy/ attitude to Health/ or Attitude/ or attitude.mp.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>general practice.mp. or exp Family Practice/</td>
<td>exp Attitude to Health/ or exp Attitude/ or attitude.mp. beliefs.mp. or exp health belief/ perceptions.mp. or exp perception/ exp health personnel attitude/ or exp attitude to health/ or exp attitude to mental illness/ or attitude.mp. or exp attitude/ or exp physician assistant attitude/ or exp nurse attitude/ or exp attitude to illness/ or exp physician attitude/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>exp Nurses/ or nurses.mp.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>exp Physicians/ or doctors.mp.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Appendix E: Scoping review (Medline, Update 15.06.2015)

1. ((psycholog* or mental or behav*) adj3 distress).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]
2. exp Depression/ or depression.mp.
3. mood disorder.mp. or exp Mood Disorders/
4. depress$.mp.
5. exp Depressive Disorder, Major/ or exp Depressive Disorder/ or Major depression.mp.
6. Long term depression.mp.
7. exp Dysthymic Disorder/ or dysthymia.mp.
8. "mixed anxiety and depression".mp.
9. 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8
10. general practitioner$.mp. or exp Physicians, Family/
11. exp Health Personnel/ or Health professional$.mp. or exp Physicians, Family/
12. exp Physicians, Family/ or exp Family Practice/ or GP.mp.
13. (practice adj3 nurs*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]
14. GP$.mp.
15. exp Nurse Practitioners/
16. Primary care.mp.
17. exp Primary Health Care/ or Primary care doctor*.mp.
18. exp Nurses/ or nurses.mp.
19. exp Physicians/ or doctors.mp.
20. 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19
21. exp "Attitude of Health Personnel"/
22. exp Cognition/ or Illness cognition$.mp.
23. exp Attitude to Health/ or Illness belief$.mp.
24. Perception/ or Illness perception$.mp.
25. exp Perception/ or Illness perception$.mp.
26. representation*.mp.
27. Health belief$.mp.
28. Personal model$.mp.
29. Self-regulation.mp.
30. self-efficacy.mp. or exp Self Efficacy/
31. attitude to Health/ or Attitude/ or attitude.mp.
32. exp Attitude to Health/ or exp Attitude/ or attitude.mp.
33. belief*.mp. or exp health belief/
34. perceptions.mp. or exp perception/
35. exp health personnel attitude/ or exp attitude to health/ or exp attitude to mental illness/ or attitude.mp. or exp attitude/ or exp physician assistant attitude/ or exp nurse attitude/ or exp attitude to illness/ or exp physician attitude/
36. 21 or 22 or 23 or 24 or 25 or 26 or 27 or 28 or 29 or 30 or 31 or 32 or 33 or 34 or 35
37. 9 and 20 and 36
38. 9 and 20 and 36
### Appendix F: Scoping review included studies: Quantitative studies

<table>
<thead>
<tr>
<th>No</th>
<th>Author/Year</th>
<th>Title</th>
<th>Journal</th>
<th>Volume, page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Byng et al. (2003)</td>
<td>GPs’ beliefs about their management of depression and needs for supporting change in practice</td>
<td>Primary care Psychiatry</td>
<td>8(4)</td>
</tr>
<tr>
<td>3</td>
<td>Haws et al. (2011)</td>
<td>A national survey of GP and nurse attitudes and beliefs towards depression after myocardial infarction</td>
<td>Journal of Clinical Nursing</td>
<td>20: 3215-3223</td>
</tr>
<tr>
<td>7</td>
<td>Naji et al. (2004)</td>
<td>How ready are practice nurses to participate in the identification and management of depressed patients in primary care?</td>
<td>Primary care Mental Health</td>
<td>2: 47-54</td>
</tr>
</tbody>
</table>
Appendix G: Scoping review included studies: Qualitative studies

<table>
<thead>
<tr>
<th>No</th>
<th>Author/Year</th>
<th>Title</th>
<th>Journal/ Volume, Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Barley et al. (2012)</td>
<td>General practitioners' and practice nurses' views and experience of managing depression in coronary heart disease: a qualitative interview study</td>
<td>BMC Family Practice 13(1):1</td>
</tr>
<tr>
<td>6</td>
<td>Coventry et al., (2011)</td>
<td>Talking about depression: a qualitative study of barriers to managing depression in people with long term conditions in Primary care</td>
<td>BMC Family Practice 12:10</td>
</tr>
<tr>
<td>7</td>
<td>Gask et al. (2005)</td>
<td>Qualitative study of an educational intervention for GPs in the assessment and management of depression</td>
<td>British Journal of General Practice 55(520):854-9</td>
</tr>
<tr>
<td>8</td>
<td>Hyde et al. (2005)</td>
<td>A qualitative study exploring how GPs decide to prescribe antidepressants</td>
<td>British Journal of General Practice 55(519):755-62</td>
</tr>
<tr>
<td>10</td>
<td>MacDonald et al., (2009)</td>
<td>'A coal face option': GPs' perspectives on the rise in antidepressant prescribing</td>
<td>British Journal of General Practice 59(566):e299-397</td>
</tr>
<tr>
<td>11</td>
<td>Maxwell et al. (2005)</td>
<td>Women's and doctors' accounts of their experiences of depression in primary care: the influence of social and moral reasoning on patients' and doctors' decisions</td>
<td>Chronic Illness 1(1) 61-71</td>
</tr>
<tr>
<td>14</td>
<td>Murray et al., 2006)</td>
<td>primary care professionals' perceptions of depression in older people: a qualitative study</td>
<td>Social Science &amp; Medicine 63(5): 1363-73</td>
</tr>
<tr>
<td>No</td>
<td>Author/Year</td>
<td>Title</td>
<td>Journal</td>
</tr>
<tr>
<td>----</td>
<td>----------------------</td>
<td>----------------------------------------------------------------------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td>15</td>
<td>Pollock &amp; Grime et al., (2003)</td>
<td>GPs’ perspectives on managing time in consultations with patients suffering from depression: a qualitative study</td>
<td>Family Practice</td>
</tr>
<tr>
<td>16</td>
<td>Rogers et al. (2001)</td>
<td>Experiencing depression, experiencing the depressed: The separate worlds of patients and doctors</td>
<td>Journal of Mental Health</td>
</tr>
</tbody>
</table>
### Appendix H: Scoping review - Characteristics of the quantitative studies included in the scoping review

<table>
<thead>
<tr>
<th>No</th>
<th>Author/Year</th>
<th>Study design and methods</th>
<th>N analysed; speciality</th>
<th>Settings characteristics</th>
<th>Aim</th>
<th>Instrument</th>
<th>Variables: Illness Beliefs/Attitudes/other constructs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Byng et al. (2003)</td>
<td>Cross-sectional questionnaire survey study (online questionnaire)</td>
<td>274 GPs</td>
<td>Three London boroughs: all GPs within Lambeth Southwark and Lewisham Health Authority</td>
<td>To explore GPs’ views about management of depression</td>
<td>de novo questionnaire</td>
<td>GPs’ views about managing depression and perceived need to change Components of the consultations Antidepressant dosage Report of preference for different continuation periods following remission</td>
</tr>
<tr>
<td>2</td>
<td>Dowrick et al. (2000)</td>
<td>Cross-sectional study survey</td>
<td>40 GPs</td>
<td>Volunteer sample by a research team and development funded RCT based in the universities of Manchester and Liverpool</td>
<td>Testing two hypotheses: questionnaire measures of GPs' confidence in identifying depression predict their ability to identify depression in their patients; and (2) that GPs who prefer antidepressants prescribe more than those who prefer psychotherapy</td>
<td>DAQ PACT Likert scale depression ratings</td>
<td>Diagnostic accuracy and bias</td>
</tr>
<tr>
<td>3</td>
<td>Haws et al. (2011)</td>
<td>Cross-sectional questionnaire survey study</td>
<td>813 (106 GPs, 707 PNs)</td>
<td>GPs and PNs registered in primary care Cardiovascular Journal (PCCJ) or the British Journal of Primary care Nursing (BJPCN)</td>
<td>To determine and compare the attitudes and beliefs about the prevalence, impact, diagnosis and treatment of depression, (2) practice in screening, diagnosing and managing depression in post-MI patients.</td>
<td>de novo questionnaire</td>
<td>(A) impact (the effect of depression on post-MI patients) (B) diagnosis (making a depression diagnosis) (C) depression treatment (part of my role) (D) effective treatments (range of treatments) (E) my management (of depression).</td>
</tr>
<tr>
<td>No</td>
<td>Author/Year</td>
<td>Study design and methods</td>
<td>N analysed; speciality</td>
<td>Setting characteristics</td>
<td>Aim</td>
<td>Instrument</td>
<td>Variables: Illness Beliefs/Attitudes/other constructs</td>
</tr>
<tr>
<td>----</td>
<td>-------------</td>
<td>--------------------------</td>
<td>------------------------</td>
<td>------------------------</td>
<td>-----</td>
<td>------------</td>
<td>---------------------------------------------------</td>
</tr>
<tr>
<td>4</td>
<td>Kendrick et al. (2005)</td>
<td>Observational study survey</td>
<td>17 GPs</td>
<td>7 GP practices in Southampton</td>
<td>To explore the relationship among GPs’ treatment decisions, depression severity, patient demographic factors, and adverse life events, and patients attitudes towards antidepressants</td>
<td>Measure devised for this study Ratings from patients characteristics GPs’ treatment options</td>
<td>Treatment decisions based on depression severity Treatment decisions based on patients’ attitudes towards antidepressants</td>
</tr>
<tr>
<td>5</td>
<td>Livingston et al. (2000)</td>
<td>Prospective cohort study</td>
<td>55 (31 GPs, 24 PNs)</td>
<td>14 practices in West Essex, East Hertfordshire, Redbridge, UK</td>
<td>To assess the feasibility and acceptability of an educational training for management of depression in old people</td>
<td>DAQ** and GPs’ practice Vignettes Baseline data only used for synthesis</td>
<td>GPs’ practice such as recorded diagnosis, referral and appropriate prescription of antidepressants</td>
</tr>
<tr>
<td>6</td>
<td>Manning &amp; Marr (2003)</td>
<td>Cross-sectional questionnaire survey study</td>
<td>202 GPs</td>
<td>GP practices in UK</td>
<td>To compare GPs’ and patients’ expectations in the management of relapse depression</td>
<td>Measure devised for this study by a market research company Online questionnaire</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Naji et al. (2004)</td>
<td>Cross-sectional study</td>
<td>442 PNs</td>
<td>428 Scottish general practices</td>
<td>To assess PNs’ knowledge, attitudes training and management of people with depression</td>
<td>1. DAQ and 2. some questions developed for this study about views/beliefs using 12 statements (postal survey)</td>
<td>Depression questions: 1. Intention: how often nurses ask about depression 2. Self-efficacy: whether nurses feel able to deal with depression 3. Decision-making: actions taken after identifying depression</td>
</tr>
<tr>
<td>No.</td>
<td>Author/Year</td>
<td>Study Design</td>
<td>N analysed; speciality</td>
<td>Settings characteristics</td>
<td>Aim</td>
<td>Instrument</td>
<td>Variables: Illness Beliefs/Attitudes/other constructs</td>
</tr>
<tr>
<td>-----</td>
<td>-------------</td>
<td>--------------</td>
<td>------------------------</td>
<td>--------------------------</td>
<td>-----</td>
<td>------------</td>
<td>----------------------------------------------------</td>
</tr>
<tr>
<td>8</td>
<td>Oladinni (2002)</td>
<td>Cross-sectional study</td>
<td>61 GPs</td>
<td>GP surgeries, a mixture of group and single-handed practices in Lambeth, London</td>
<td>To assess GPs’ attitudes towards depression</td>
<td>DAQ** (postal survey)</td>
<td>Identification of depression Causal factors Attitudes towards treatment Professional unease</td>
</tr>
<tr>
<td>9</td>
<td>Telford et al. (2002)</td>
<td>Cross-sectional questionnaire survey study</td>
<td>1,703 GPs</td>
<td>11 health authorities (urban, rural deprived and privileged): 1 from each English region, 1 each from Wales, N. Ireland and Scotland.</td>
<td>To assess GPs’ perceptions of the availability and quality of care. To identify barriers to provide effective care</td>
<td>Measure devised for this study and piloted in 131 GPs</td>
<td>Perceived barriers to provide good service to people with depression Influences concerning decision to refer patients Treatment attitudes Awareness for guidelines Details of training for depression management</td>
</tr>
<tr>
<td>10</td>
<td>Rothera et al. (2002)</td>
<td>Cross-sectional study</td>
<td>263 GPs</td>
<td>116 general practices within the Nottingham Health Authority</td>
<td>To examine GPs’ attitudes and practice in managing late-life depression</td>
<td>Likert attitudinal scale measuring GPs’ attitudes Vignettes: comparison of GP responses in two different studies using similar vignettes</td>
<td>Attitudes towards difficulties with the detection, treatment and management of late-life depression. Antidepressant medication</td>
</tr>
</tbody>
</table>

*Internal Clinician Discomfort About Exploring Depression, Clinician Perceptions of Patient Discomfort With Exploring Depression, Professional Burden of Depression to Clinician and Practice, Perceived Self-Efficacy in Diagnosing and Treating Depression, and Clinician Perception of the Importance of Depression. A single-item Level of Satisfaction in Treating Depression scale and a three-item Level of Training in Depression scale. ** DAQ always measures Attitudes towards treatment; Professional unease; Depression malleability and; Identification of depression.
Appendix I: Scoping review - Form for data extraction for scoping review

Reference information

1. Reviewer:
2. Date:
3. Paper 1st author:
4. Title:
5. More than one paper for this data set? [Yes/ no/ don’t know
6. If yes, Index paper where data collection fully described (if applicable) [free text]
8. Reason for exclusion: [drop down] non English; not depression; not primary care; not healthcare professional in primary care); other

Study information

9. What is the research question?
10. Who were the population of interest?
11. How many HCPs were analysed?
12. What are the main findings?
13. What methods have been used for analysis of interviews/ focus groups?
14. What other data collection was performed? Patient interview?
15. What format did the interview take? Unstructured interview; semi structured interview; other
16. What are the authors’ main conclusions?
17. What are the reviewer’s main conclusions? Include comments on the value of the research
### Appendix J: Characteristics of the qualitative studies included in the scoping review

<table>
<thead>
<tr>
<th>Author/Year</th>
<th>Aim</th>
<th>Methods and research analysis (quality assessment)</th>
<th>N analysed; specialty</th>
<th>Settings characteristics</th>
<th>Quality assessment score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barley et al. (2012)</td>
<td>To understand GPs’ and PNs’ views and experiences of managing depression in CHD</td>
<td>In-depth interviews, Thematic analysis using principles of constant comparison</td>
<td>10 GPs and 12 PNs</td>
<td>12 GP practices from 4 London boroughs (Lambeth, Lewisham, Southwark and Croydon). Purposive sampling based on ethnicity, age, practice setting (inner city vs. suburban) and type (single-handed vs. group) Snowballing used to identify participants independent of the UPBEAT-UK programme</td>
<td>8/10</td>
</tr>
<tr>
<td>Burroughs et al. (2006)</td>
<td>To explore how Primary care professionals and patients view late-life depression</td>
<td>Semi-structured interviews, Constant comparison</td>
<td>9 GPs, 3 PNs</td>
<td>1 PCT in NW England purposive sampling; criteria not stated</td>
<td>8/10</td>
</tr>
<tr>
<td>Chew-Graham et al. (2000)</td>
<td>To explore GPs’ attitudes to the management of depression</td>
<td>Semi-structured interviews, Constant comparison</td>
<td>22 GPs</td>
<td>22 inner city GPs; group part of a larger group of GPs</td>
<td>8/10</td>
</tr>
<tr>
<td>Chew-Graham et al. (2002)</td>
<td>To explore GPs’ attitudes to the management of patients with depression; Views were compared between deprived and affluent populations</td>
<td>Semi-structured interviews, Constant comparison</td>
<td>35 GPs (22 GPs in one study and 13 GPs in a second study)</td>
<td>22 inner city GPs vs 13 suburban and semi-rural GPs in NW England Purposive sampling based on practice size</td>
<td>7/10</td>
</tr>
<tr>
<td>Chew-Graham &amp; Hogg (2002)</td>
<td>To explore GPs’ views and beliefs about depression in people with LTCs</td>
<td>Semi-structured interviews, Constant comparison</td>
<td>25 GPs</td>
<td>NW England Purposive sampling based on age, area of work, number of partners and interest in mental health</td>
<td>8/10</td>
</tr>
<tr>
<td>Coventry et al. (2011)</td>
<td>To identify and explore barriers to detecting and managing depression in Primary care in people with diabetes and CHD</td>
<td>In-depth, semi-structured interviews and focus group, Thematic approach using principles of constant comparison</td>
<td>19 HCPs for interviews, 6 HCPs for a focus group (8 GPs, 4 PNs, 12 others).</td>
<td>NHS trusts in Greater Manchester Purposive sampling; criteria not stated</td>
<td>9/10</td>
</tr>
<tr>
<td>Author/Year</td>
<td>Aim</td>
<td>Methods and research analysis (quality assessment)</td>
<td>N analysed; specialty</td>
<td>Settings characteristics</td>
<td>Quality assessment score</td>
</tr>
<tr>
<td>------------------</td>
<td>----------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------</td>
<td>------------------------------------------------------------------------------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>Gask et al. (2005)</td>
<td>To explore the relationships between process and outcome in the setting of a RCT of a complex intervention designed to provide GPs with training in the assessment and management of depression</td>
<td>Semi-structured interviews Grounded theory Attribution theory was used to understand data</td>
<td>30 GPs</td>
<td>All GP principals in Manchester, Liverpool, Sefton and Wirral</td>
<td>8/10</td>
</tr>
<tr>
<td>Hyde et al. (2005)</td>
<td>To explore how GPs decide to prescribe antidepressants</td>
<td>Five focus groups Constant comparison</td>
<td>27 GPs</td>
<td>GPs from 74 general practices within Bristol and the surrounding districts in both prosperous and deprived areas Purposive sampling based on type of practice that they worked in and the type of patient they saw</td>
<td>9/10</td>
</tr>
<tr>
<td>Johnston et al. (2007)</td>
<td>To identify issues of importance to GPs regarding depression management</td>
<td>Semi-structured interviews Grounded theory—comparative analysis</td>
<td>32 GPs</td>
<td>28 GP practices in and around Southampton (plus 2 GPs in Leicester) Purposive sampling</td>
<td>10/10</td>
</tr>
<tr>
<td>MacDonald et al. (2009)</td>
<td>To explore GPs’ views about and explanations for the increase of antidepressants</td>
<td>In-depth, semi-structured interviews Framework approach</td>
<td>63 GPs</td>
<td>30 practices across Scotland Purposive sampling based on practice characteristics and levels of antidepressant prescribing</td>
<td>8/10</td>
</tr>
<tr>
<td>Maxwell et al. (2005)</td>
<td>To explore female GPs’ experience of recognising and managing depression in female patients</td>
<td>Semi-structured interviews Critical realist perspective Grounded theory—Constant comparison</td>
<td>20 GPs</td>
<td>11 practices from 4 NHS board areas of Scotland Purposive sampling</td>
<td>7/10</td>
</tr>
<tr>
<td>Maxwell et al. (2013)</td>
<td>To explore the views and experiences of PCPs to understand how the implementation of screening might impact on its effectiveness.</td>
<td>Two complementary qualitative focus group studies 1study: 4 focus groups 2 study: 10 focus groups Constant comparison</td>
<td>Study 1: 14 (6 GPs, 8 PNs) Study 2: 76 (14 GPs, 13 PNs, 28 specialists, 21 practice managers)</td>
<td>Five Primary care practices and five Community Health Partnerships in Scotland Convenient sampling Four Health Board areas of Scotland</td>
<td>7/10</td>
</tr>
<tr>
<td>Author/ Year</td>
<td>Aim</td>
<td>Methods and research analysis (quality assessment)</td>
<td>N analysed; specialty</td>
<td>Settings characteristics</td>
<td>Quality assessment score</td>
</tr>
<tr>
<td>----------------------</td>
<td>----------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------</td>
<td>------------------------</td>
<td>------------------------------------------------------------------------------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>McPherson &amp; Armstrong (2009)</td>
<td>To examine how GPs would construct depression when asked to talk about patients with no respond to treatment</td>
<td>In-depth, semi-structured interviews Thematic analysis driven by a social constructionist framework</td>
<td>20 GPs</td>
<td>Greater London Purposive sampling; criteria not stated</td>
<td>8/10</td>
</tr>
<tr>
<td>Murray et al. (2006)</td>
<td>To explore perceptions of the experience and presentation of depression older people</td>
<td>In-depth, semi-structured interviews; grounded theory</td>
<td>18 GPs, 7 PNs</td>
<td>18 GP practices in South London (Lambeth, Southwark, Lewisham, Croydon and Wandsworth) Purposive sampling (single-handed and group practices)</td>
<td>8/10</td>
</tr>
<tr>
<td>Pollock &amp; Grime (2003)</td>
<td>To investigate GP perspectives on consultation time and the management of depression in general practice</td>
<td>Semi-structured interviews Grounded theory</td>
<td>19 GPs</td>
<td>8 West Midland practices Purposive sampling to cover different socio-economic and geographical settings, and patient list size</td>
<td>9/10</td>
</tr>
<tr>
<td>Rogers et al. (2001)</td>
<td>To explore GPs’ views on depression management</td>
<td>In-depth, semi-structured interviews Content analysis</td>
<td>10 GPs</td>
<td>8 practices in Greater Manchester representing inner city and suburban areas Purposive sampling based on age, gender and practice size</td>
<td>5/10</td>
</tr>
<tr>
<td>Stavrou et al. (2009)</td>
<td>To explore GPs’ views of decisions to refer or not refer, patients for psychological therapy</td>
<td>Semi-structured interviews using a matched-patient procedure Thematic analysis</td>
<td>14 GPs</td>
<td>Two inner London boroughs’ GP practices</td>
<td>8/10</td>
</tr>
</tbody>
</table>
## Appendix K: Scoping review - STROBE Statement // Checklist of items that should be included in reports of cross-sectional studies

<table>
<thead>
<tr>
<th>Item</th>
<th>N</th>
<th>Recommendation</th>
</tr>
</thead>
</table>
| **Title and abstract**            | 1 | *(a)* Indicate the study’s design with a commonly used term in the title or the abstract  
                                        *(b)* Provide in the abstract an informative and balanced summary of what was done and what was found |
| **Introduction**                  |   |                                                                                 |
| Background/rationale              | 2 | Explain the scientific background and rationale for the investigation being reported |
| Objectives                        | 3 | State specific objectives, including any pre-specified hypotheses                |
| **Methods**                      |   |                                                                                 |
| Study design                      | 4 | Present key elements of study design early in the paper                         |
| Setting                           | 5 | Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection |
| Participants                      | 6 | *(a)* Give the eligibility criteria, and the sources and methods of selection of participants |
| Variables                         | 7 | Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable |
| Data sources/measurement          | 8*| For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group |
| **Bias**                         | 9 | Describe any efforts to address potential sources of bias                        |
| **Study size**                   | 10| Explain how the study size was arrived at                                       |
| Quantitative variables            | 11| Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why |
| Statistical methods               | 12| *(a)* Describe all statistical methods, including those used to control for confounding  
                                        *(b)* Describe any methods used to examine subgroups and interactions  
                                        *(c)* Explain how missing data were addressed  
                                        *(d)* If applicable, describe analytical methods taking account of sampling strategy  
                                        *(e)* Describe any sensitivity analyses |
<table>
<thead>
<tr>
<th>Section</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Results</td>
<td></td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Participants    | 13*  | (a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed  
(b) Give reasons for non-participation at each stage  
(c) Consider use of a flow diagram                                                                                                                                                                                                                     |
| Descriptive data| 14*  | (a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders  
(b) Indicate number of participants with missing data for each variable of interest                                                                                                                                                                           |
| Outcome data    | 15*  | Report numbers of outcome events or summary measures                                                                                                                                                                                                                           |
| Main results    | 16   | (a) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included  
(b) Report category boundaries when continuous variables were categorized  
(c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period                                                                                                                                 |
| Other analyses  | 17   | Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses                                                                                                                                                                                                                                               |
| Discussion      |      |                                                                                                                                                                                                                                                                                                                                                     |
| Key results     | 18   | Summarise key results with reference to study objectives                                                                                                                                                                                                                           |
| Limitations     | 19   | Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias                                                                                                                                                                                                 |
| Interpretation  | 20   | Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence                                                                                                                                                                              |
| Generalisability| 21   | Discuss the generalisability (external validity) of the study results                                                                                                                                                                                                                      |
| Other information| 22   | Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based                                                                                                                                   |
**Appendix L: Scoping review - Checklist devised for this study to assess the quality of studies included in the review using the STROBE checklist**

<table>
<thead>
<tr>
<th><strong>Introduction</strong></th>
<th>Were the aims of the study stated?</th>
<th>Yes/No/NA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Did the author state the specific objectives, including any pre-specified hypotheses</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Methods</strong></th>
<th>Was the selection of participants appropriate?</th>
<th>Yes/No/NA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Did the author report source population, inclusion or exclusion criteria, methods of selection of participants</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Was the measurement of variables appropriate?</td>
<td>Yes/No/NA</td>
</tr>
<tr>
<td></td>
<td>Did the author report validity and reliability of instruments/measures used</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Was there appropriate control of bias?</td>
<td>Yes/No/NA</td>
</tr>
<tr>
<td></td>
<td>Did the author report source of bias, and the appropriate methods to address any issues such as recall bias, interviewer bias. Did the author report response rate?</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Statistical methods</strong></th>
<th>Did the author describe the statistical methods used for analysis?</th>
<th>Yes/No/NA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>What is the sample size? Were the primary outcomes stated?</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Results</strong></th>
<th>Were the characteristics of study participants and the outcome data reported?</th>
<th>Yes/No/NA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Demographic or clinical? Did they report numbers of outcome events or summary of measures?</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Discussion</strong></th>
<th>Were the key results stated? Limitations?</th>
<th>Yes/No/NA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Consider key results with reference to study objectives, and limitations by taking into account sources of potential bias</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Did the author report the competing interests?</td>
<td>Yes/No/NA</td>
</tr>
<tr>
<td></td>
<td>Were there any declarations of conflict of interest or identification of funding sources?</td>
<td></td>
</tr>
</tbody>
</table>
## Appendix M: Scoping review - Tabular summary of the results of the quality assessment: Quantitative studies

<table>
<thead>
<tr>
<th>Study ID</th>
<th>First Author</th>
<th>Aim</th>
<th>External validity</th>
<th>Response rate</th>
<th>Statistical methods used for analysis/sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Byng et al. (2003)</td>
<td>Yes</td>
<td>Convenience sampling/ letters sent in 3 setting in London (Yes)</td>
<td>64%; Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>Dowrick et al. (2000)</td>
<td>Yes</td>
<td>Convenient sample/Volunteer sample by a research team based in the universities of Manchester and Liverpool from a NHS research and development-funded RCT (Yes)</td>
<td>N/A due to study design: Self-selected</td>
<td>Yes</td>
</tr>
<tr>
<td>3</td>
<td>Haws et al. (2011)</td>
<td>Yes</td>
<td>Convenience sampling</td>
<td>8.9%</td>
<td>Yes</td>
</tr>
<tr>
<td>4</td>
<td>Kendrick et al. (2005)</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>5</td>
<td>Livingston et al. (2000)</td>
<td>Yes</td>
<td>Convenience sampling/letters sent in 3 areas in London</td>
<td>Yes; RR 12% of practices approached</td>
<td>Yes</td>
</tr>
<tr>
<td>6</td>
<td>Manning &amp; Marr (2003)</td>
<td>Yes</td>
<td>Convenient sampling/survey</td>
<td>Yes (50%)</td>
<td>Yes</td>
</tr>
<tr>
<td>7</td>
<td>Naji et al. (2004)</td>
<td>Yes</td>
<td>Consecutive sampling/one-in-two random sample</td>
<td>Yes (56.2%)</td>
<td>Yes</td>
</tr>
<tr>
<td>8</td>
<td>Oladinni (2002)</td>
<td>Yes</td>
<td>Postal survey; Oct 2000, 101 GPs randomly selected and sent letters (Yes)</td>
<td>Yes (60%)</td>
<td>Yes</td>
</tr>
<tr>
<td>9</td>
<td>Telford et al. (2002)</td>
<td>Yes</td>
<td>Postal survey: 11 health authorities that included a mix of urban/rural and socially deprived/privileged areas across UK</td>
<td>Yes (48%)</td>
<td>Yes</td>
</tr>
<tr>
<td>10</td>
<td>Rothera et al. (2002)</td>
<td>Yes</td>
<td>Convenience sampling</td>
<td>Yes (73%)</td>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
<td>First Author</td>
<td>Characteristics of study participants; Outcome data</td>
<td>Bias: Measurement of variables appropriate?</td>
<td>Key results; Limitations?</td>
<td>Competing interests reported</td>
</tr>
<tr>
<td>----</td>
<td>------------------------------</td>
<td>-----------------------------------------------------</td>
<td>--------------------------------------------</td>
<td>--------------------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>1</td>
<td>Byng et al. (2003)</td>
<td>No</td>
<td>De novo questionnaire</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>2</td>
<td>Dowrick et al. (2000)</td>
<td>No</td>
<td>Validated N/A</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>3</td>
<td>Haws et al. (2011)</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>4</td>
<td>Kendrick et al. (2005)</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>5</td>
<td>Livingston et al. (2000)</td>
<td>No</td>
<td>N.R</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>6</td>
<td>Manning &amp; Marr (2003)</td>
<td>Yes</td>
<td>N.R</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>7</td>
<td>Naji et al. (2004)</td>
<td>Yes</td>
<td>N.R</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>8</td>
<td>Oladinni (2002)</td>
<td>Yes</td>
<td>N.R</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>9</td>
<td>Telford et al. (2002)</td>
<td>Yes</td>
<td>N.R</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>10</td>
<td>Rothera et al. (2002)</td>
<td>Yes</td>
<td>N.R</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>
## Appendix N: Scoping review - Quality appraisal of qualitative studies using CASP; [http://www.casp-uk.net](http://www.casp-uk.net)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Was there a clear statement of the aims of the research?</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Consider:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• What was the goal of the research?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Why it was thought important?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Its relevance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is a qualitative methodology appropriate?</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Consider:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• If the research seeks to interpret or illuminate the actions and/or subjective experiences of research participants</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Is qualitative research the right methodology for addressing the research goal?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Was the research design appropriate to address the aims of the research?</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Consider:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• If the researcher has justified the research design (e.g. have they discussed how they decided which method to use)?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Was the recruitment strategy appropriate to aims of the research?</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Consider:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• If the researcher has explained how the participants were selected</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• If they explained why the participants they selected were the most appropriate to provide access to the type of knowledge sought by the study</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• If there are any discussions around recruitment (e.g. why some people chose not to take part)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------</td>
<td>------------------------</td>
<td>----------------------</td>
<td>-------------------------</td>
<td>------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td><strong>Was the data collected in a way that addressed the research issue?</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Consider:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• If the setting for data collection was justified</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• If it is clear how data were collected (e.g. focus group, semi-structured interview etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• If the researcher has justified the methods chosen</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• If the researcher has made the methods explicit (e.g. for interview method, is there an indication of how interviews were conducted, or did they use a topic guide)?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• If methods were modified during the study. If so, has the researcher explained how and why?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• If the form of data is clear (e.g. tape recordings, video, material, notes etc)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• If the researcher has discussed saturation of data</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Has the relationship between researcher and participants been adequately considered?</strong></td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Consider:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• If the researcher critically examined their own role, potential bias and influence during</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) Formulation of the research questions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(b) Data collection, including sample recruitment and choice of location</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• How the researcher responded to events during the study and whether they considered the implications of any changes in the research design</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Have ethical issues been taken into consideration?</strong></td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Consider:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• If there are sufficient details of how the research was explained to participants for the reader to assess whether ethical standards were maintained</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• If the researcher has discussed issues raised by the study (e.g. issues around informed consent or confidentiality or how they have handled the effects of the study on the participants during and after the study)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• If approval has been sought from the ethics committee</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Was the data analysis sufficiently rigorous?</strong></td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Consider:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• If there is an in-depth description of the analysis process</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• If thematic analysis is used. If so, is it clear how the categories/themes were derived from the data?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Whether the researcher explains how the data presented were selected from the original sample to demonstrate the analysis process</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• If sufficient data are presented to support the findings-To what extent contradictory data are taken into account</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Whether the researcher critically examined their own role, potential bias and influence during analysis and selection of data for presentation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------</td>
<td>-----------------------</td>
<td>----------------------</td>
<td>-------------------------</td>
<td>------------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>Is there a clear statement of findings?</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Consider:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• If the findings are explicit</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• If there is adequate discussion of the evidence both for and against the researchers arguments</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• If the researcher has discussed the credibility of their findings (e.g. triangulation, respondent validation, more than one analyst)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• If the findings are discussed in relation to the original research question</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How valuable is the research?</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Consider:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• If the researcher discusses the contribution the study makes to existing knowledge or understanding e.g. do they consider the findings in relation to current practice or policy?, or relevant research-based literature?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• If they identify new areas where research is necessary</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• If the researchers have discussed whether or how the findings can be transferred to other populations or considered other ways the research may be used</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total score out of 10</td>
<td>7/10 (70%)</td>
<td>8/10 (80%)</td>
<td>8/10 (80%)</td>
<td>9/10 (90%)</td>
<td>10/10 (100%)</td>
</tr>
<tr>
<td>(Every yes score marked as 1 point)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Scoping review—Quality appraisal of qualitative studies (continued)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Was there a clear statement of the aims of the research?</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Is a qualitative methodology appropriate?</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Was the research design appropriate to address the aims of the research?</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Was the recruitment strategy appropriate to aims of the research?</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Was the data collected in a way that addressed the research issue?</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Has the relationship between researcher and participants been adequately considered?</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Have ethical issues been taken into consideration?</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Was the data analysis sufficiently rigorous?</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Is there a clear statement of findings?</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>How valuable is the research?</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td><strong>Total score out of 10</strong>&lt;br&gt;(Every yes score marked as 1 point)</td>
<td>9/10 (90%)</td>
<td>8/10 (80%)</td>
<td>9/10 (90%)</td>
<td>5/10 (50%)</td>
<td>9/10 (90%)</td>
<td>8/10 (80%)</td>
</tr>
</tbody>
</table>
### Scoping review-Quality appraisal of included studies (continued)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Was there a clear statement of the aims of the research?</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Is a qualitative methodology appropriate?</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Was the research design appropriate to address the aims of the research?</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Was the recruitment strategy appropriate to aims of the research?</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Was the data collected in a way that addressed the research issue?</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Has the relationship between researcher and participants been adequately considered?</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Have ethical issues been taken into consideration?</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Was the data analysis sufficiently rigorous?</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Is there a clear statement of findings?</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>How valuable is the research?</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Total score out of 10</strong> <em>(Every yes score marked as 1 point)</em></td>
<td>8/10 (80%)</td>
<td>8/10 (80%)</td>
<td>7/10 (70%)</td>
<td>7/10 (70%)</td>
<td>8/10 (80%)</td>
<td>8/10 (80%)</td>
</tr>
</tbody>
</table>
### Appendix O: Scoping review - Results of quantitative studies

<table>
<thead>
<tr>
<th>No.</th>
<th>First Author/Year</th>
<th>PMs towards recognition/identification of depression</th>
<th>PMs towards cause, consequences of depression</th>
</tr>
</thead>
</table>
| 1   | Byng et al. (2003) | • 92% discussed the possibility of depression with their patients  
    • 81% reported usually asking about suicide risk | N/A |
| 2   | Dowrick et al. (2000) | • Mean score for DAQ component Identification of depression was 40.62 (SD 16.06)  
    • GPs who considered that depression is a malleable condition were more likely to identify it accurately | • Mean score for DAQ component Inevitability of depression was 24.53 (SD 14.88), which suggests that most GPs did not believe that depression was an inevitable condition |
| 3   | Haws et al. (2011) | Diagnosis of depression is  
    • A. Straightforward  
      GPs 26% agreed; M=2.82 (SD=0.94)  
      PNs 8% agreed; M=2.34 (SD=0.86)  
    • B. Something Primary care practitioners are well trained to undertake  
      GPs 74% agreed; M=3.30 (SD=1.06)  
      PNs 16% agreed; M=2.47 (SD=1.03)  
    • C. As important as other risk factors, e.g. dyslipidaemia  
      GPs 63% agreed; M=3.75 (SD=0.92)  
      PNs 78% agreed; M=4.10 (SD=0.91) | • A) Depression is linked to increased risk of further CV events  
      GPs 65% agreed; M=3.67 (SD=0.94)  
      PNs 69% agreed; M=3.81 (SD=0.88)  
    • Likely to negatively affect treatment adherence  
      GPs 76% agreed; M=3.93 (SD=0.96)  
      PNs 70% agreed; M=3.87 (SD=0.96)  
    • A barrier to cardiac rehabilitation  
      GPs 79% agreed; M=3.91 (SD=0.96)  
      PNs 73% agreed; M=3.88 (SD=0.99) |
| 4   | Kendrick et al. (2005) | • Phase I: GPs acknowledged depression in 30 cases (49%)  
    • Phase II: GPs acknowledged depression in 14 cases (35%) | N/A |
| 5   | Livingston et al. (2000) | (No tables) Doctors were more likely than nurses to  
    • link depression with biochemical abnormality; (p<0.005)  
    • believe that it was difficult to differentiate unhappiness from depression in older people; (p<0.05) | • Doctors were more likely than nurses to consider depression to be associated with deprivation in earlier life; (p<0.005) |
<p>| 6   | Manning &amp; Marr (2003) | • 27% of GPs stated that they follow their practice guidelines on prescribing | • 65.3% of GPs believed that depression is chronic and patients would have one or more further episodes at some stage |</p>
<table>
<thead>
<tr>
<th>No</th>
<th>First Author/Year</th>
<th>PMs towards recognition/identification of depression</th>
<th>PMs towards cause, consequences of depression</th>
</tr>
</thead>
</table>
| 7  | Naji et al. (2004) | Identification of depression:  
▪ High score = difficulty distinguishing depression from unhappiness, depression comes from peoples’ misfortunes, little help beyond GP; mean 39.2 (SD 15.1) | Inevitability of depression:  
▪ High score = pessimism towards depression, depression is caused by deprivation in early life and not amenable to change, is a natural part of being old, patients are better off with psychiatrists than GPs; mean 26.8 (SD 13.8) |
| 8  | Oladinni (2002)   | Identification of depression:  
▪ 44% reported difficulty in distinguishing depression from unhappiness or clinical depression  
▪ 77% disagreed that it was possible to distinguish 2 main groups, the biochemical basis of depression vs psychological in origin depression  
▪ 82% of the doctors disagreed with the item ‘becoming depressed is a way that people with poor stamina deal with life difficulties | Inevitability of depression:  
▪ 77% disagreed that depression is caused by deprivation in early life and not amenable to change  
▪ 88% disagreed that it is a natural part of being old  
▪ 54% agreed that depressed patients were more likely to experience deprivation in early life than other people |
| 9  | Telford et al. (2002) | N/A | N/A |
| 10 | Rothera et al. (2002) | N/A |  
▪ 74.5% disagreed that people when elderly get depressed  
▪ 85.4% disagreed that depression in the elderly is a natural consequence of ageing |
### Attitudes/Perceptions/Beliefs/Behaviour

<table>
<thead>
<tr>
<th>No</th>
<th>First Author/Year</th>
<th>Treatment attitudes/Management approaches/Referral strategies</th>
</tr>
</thead>
</table>
| 1  | Byng et al. (2003) | • 81% consider the option of referral  
• 92% involve patients in decisions about treatment |
| 2  | Dowrick et al. (2000) | • Mean score for DAQ component attitudes towards treatment was 47.51 (SD 10.91)  
• GPs’ attitudes were associated with antidepressants prescription and their choice |
| 3  | Haws et al. (2011) | Treatment of depression in patients post-MI is  
• A. Not required (R)  
  GPs 9% agreed; M=1.54 (SD=1.05)  
  PNs 10% agreed; M=1.59 (SD=1.13)  
• B. Not part of my role (R)  
  GPs 3% agreed; M=1.36 (SD=0.76)  
  PNs 12% agreed; M=1.97 (SD=1.17)  
• C. Clearly specified in available protocols  
  GPs 13% agreed; M=2.54 (SD=0.99)  
  PNs 26% agreed; M=2.80 (SD=1.19)  
Exercise is an effective treatment for depression  
  GPs 78% agreed; M=3.96 (SD=0.89)  
  PNs 77% agreed; M=4.04 (SD=0.83)  
Antidepressant medication is addictive (R)  
  GPs 4% agreed; M=1.45 (SD=0.81)  
  PNs 10% agreed; M=2.19 (SD=0.99)  
Antidepressant medication can make people suicidal (R)  
  GPs 17% agreed; M=2.34 (SD=1.00)  
  PNs 11% agreed; M=2.46 (SD=0.92)  
There is a stigma attached to taking anti-depressant medication  
  GPs 69% agreed; M=3.67 (SD=0.99)  
  PNs 69% agreed; M=3.78 (SD=1.00)  
It is best to avoid prescribing antidepressant medication to patients post-MI (R)  
  GPs 10% agreed; M=1.95 (SD=0.99)  
  PNs 8% agreed; M=2.29 (SD=0.92)  
Psychological therapies can be easily accessed  
  GPs 16% agreed; M=2.08 (SD=1.18)  
  PNs 16% agreed; M=2.35 (SD=1.11)  
CBT is as effective as anti-depressant medication  
  GPs 60% agreed; M=3.62 (SD=0.88)  
  PNs 45% agreed; M=3.48 (SD=0.80)  |
<table>
<thead>
<tr>
<th>No</th>
<th>First Author/Year</th>
<th>Treatment attitudes/Management approaches/Referral strategies</th>
</tr>
</thead>
</table>
| 4  | Kendrick et al. (2005)  | • Phase I: antidepressants offered by five (8%), and follow-up or referral for counselling offered by 10 (16%) GPs  
• Phase II: antidepressants offered by nine (22%), and follow-up or counselling by three (7%) GPs  
• In phase I, antidepressants were offered more frequently to patients by GPs who rated them as very effective for depression, compared to those rating them fairly/not very effective (P=0.031), but this was not significant in phase II (P=0.255) |
| 5  | Livingston et al. (2000) | • Doctors were more likely than nurses to feel that antidepressants produced a satisfactory response (p<0.005)                                                                                                                                                                     |
| 6  | Manning & Marr (2003)   | • 71% of GPs would be more likely to prescribe an SSRI                                                                                                                                                                                                                         |
| 7  | Naji et al. (2004)      | Attitudes towards treatment (high score = biochemical basis of severe depression, antidepressants useful, psychotherapy unsuccessful): mean 50.0 (SD 8.5)  
• 65.9% of the nurses reported referral to a GP  
• 48.4% of the nurses give counselling  
• GPs will ask patients for follow up 55 (88.7%) vs 193 (68.7%), P, 0.01, OR = 3.6, 95% CI = 1.6 to 8.2)                                                                                                            |
| 8  | Oladinni (2002)         | • 41% of GPs agreed that depression improves without medication  
• 79% disagreed with the statement ‘psychotherapy tends to be unsuccessful with depressed patients’  
• 38% agreed about the use of SSRIs, whereas 9% agreed with tricyclics as first-line treatment  
• 70% agreed that antidepressants usually produced satisfactory results in the treatment of depression in general practice |
| 9  | Telford et al. (2002)   | • 98% of GPs preferred medication as the most frequently used treatment followed by advice (92%) and counselling (85%)  
• 14% reported that talking therapies are unavailable  
• High levels of satisfaction with the quality of services but poor accessibility to services was found (95% and 76% respectively)                                                                                   |
<p>| 10 | Rothera et al. (2002)   | N/A                                                                                                                                                                                                                                                                              |</p>
<table>
<thead>
<tr>
<th>No</th>
<th>First Author/Year</th>
<th>Self-efficacy/Lack of self-efficacy</th>
<th>Inadequate knowledge and training</th>
<th>Other constructs/results</th>
</tr>
</thead>
</table>
| 1  | Byng et al. (2003) | • 23.8% did not feel confident to deal with depressed patients  
• 37.7% did not feel satisfied with the way they managed depression  
• 37.6% did not enjoy managing depressed patients  
• 37.7% didn’t not feel confident to decide which patients need medication  
• 25.5% did not feel their current understanding in managing depression is adequate  
• 37.7% did not feel confident about deciding which patients may benefit from antidepressants  
• Confidence in prescribing was associated with prescribing for longer periods (chi-squared 6.8, P=0.009) | • 91% offer follow-up  
• 84% reported that they explain to patients that antidepressants are not physically addictive  
• 53.6% planned to change the way they manage depression  
• 51.5% have time to invest in changing the way they manage depression  
• 37.6% do not enjoy managing patients with depression |
| 2  | Dowrick et al. (2000) | • Mean score for DAQ component Professional unease was 43.03 (SD 17.04)  
• GPs’ confidence in their identification of depression did not predict their accuracy in identifying depression in their patients’, Spearman's rho was 0.1494, with a P value of 0.358 | • No association between the component Identification of depression and GP accuracy (r=0.1544, p=0.342)  
• A sense of professional unease was negatively correlated with accuracy (r=-0.3604, p=0.022)  
• Inevitability of depression was negatively associated with their accuracy in diagnosis (r=-0.4796, p=0.002).  
• Accuracy in diagnosis was associated with a preference for psychotherapy (r=-0.3582, p=0.023) |
<table>
<thead>
<tr>
<th>No</th>
<th>First Author/ Year</th>
<th>Self-efficacy/Lack of self-efficacy</th>
<th>Inadequate knowledge and training</th>
<th>Other constructs/ results</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Haws et al. (2011)</td>
<td>“I am competent in using screening tools for depression”</td>
<td>GPs 80% agreed; M=4·03 (SD=0·76)</td>
<td>Practitioners who reported that they had had recent training in the management of depression were significantly more accurate in diagnosis (20.25 vs. 17·20; t = 2·14, p = 0.033)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“I am confident I know the signs and symptoms of depression”</td>
<td>GPs 87% agreed; M=4·13 (SD=0·79)</td>
<td>“I routinely ask the two prompt questions to screen for depression”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“I am comfortable discussing depression with these patients”</td>
<td>GPs 94% agreed; M=4·39 (SD=0·66)</td>
<td>GPs 67% agreed; M=3.75 (SD=1.07)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“I have had adequate training in diagnosis of depression”</td>
<td>GPs 74% agreed; M=3·94 (SD=0·96)</td>
<td>PNs 73% agreed; M=4.04 (SD=1.20)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“I have had adequate training in the management of depression”</td>
<td>GPs 72% agreed; M=3·90 (SD=0·89)</td>
<td>“I only ask the two prompt questions if I think patients are depressed” (R)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>PNs 10% agreed; M=2·02 (SD=1.07)</td>
<td>GPs 22% agreed M=2.47 (SD=1.17)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PNs 9% agreed; M=1.77 (SD=1.02)</td>
</tr>
<tr>
<td>4</td>
<td>Kendrick et al. (2005)</td>
<td>N/A</td>
<td></td>
<td>Of five patients offered antidepressants in phase I, two scored 0–7 on the HAD-D (major depression unlikely), two scored 8–10 (possible major depression), and only one scored 11 or more (probable major depression).</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Antidepressants were significantly more likely to be offered in both phases where the GPs perceived the depression to be moderate rather than mild</td>
</tr>
<tr>
<td>5</td>
<td>Livingston et al. (2000)</td>
<td>Doctors were more likely than nurses to be confident about dealing with depressed older people (p&lt;0.005), to feel comfortable in dealing with the needs of older depressed patient (p&lt;0.05)</td>
<td></td>
<td>Before versus after change was found in question ‘I need more training to be able to deal effectively with depression in the elderly’, mean 0.73 and 0.47, respectively; (p50.05; 95% CI 3.2±47.1); After receiving training, GPs were less likely to perceive themselves as still in need of such training.</td>
</tr>
<tr>
<td>No</td>
<td>First Author/Year</td>
<td>Self-efficacy/Lack of self-efficacy</td>
<td>Inadequate knowledge and training</td>
<td>Other constructs/results</td>
</tr>
<tr>
<td>----</td>
<td>------------------</td>
<td>----------------------------------</td>
<td>---------------------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>6</td>
<td>Manning &amp; Marr (2003)</td>
<td>N/A</td>
<td>N/A</td>
<td>Barrier: ‘Depression is time-consuming’. The most time-consuming elements of treating patients with depression were: comorbid conditions (e.g. concomitant medical/psychiatric conditions) (50%), treating recurrent episodes of depression (50%), diagnosis of depression (45%), lack of patient compliance (29%) and counselling/supporting/listening to patients (10%)</td>
</tr>
<tr>
<td>7</td>
<td>Naji et al. (2004)</td>
<td>• Professional unease (low score = comfortable managing depression, such work is not heavy-going, such work is rewarding, psychotherapy should be left to a specialist): Mean 60.5 (SD 16.1)</td>
<td>• 82% reported lack of adequate knowledge/training</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• 17.6% of the GPs had the ability to deal with depressed patients</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Those who felt able to deal effectively with depression had</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• lower professional unease scores (48.6 (17.2%) versus 63.0 (14.6%), P = 0.001, 95% CI = −18.2 to −10.7)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• lower ‘inevitability of depression’ scores (23.4 (15.3%) versus 27.4 (13.2%), P = 0.05, 95% CI = −7.4 to −0.6)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• lower ‘identification of depression’ scores (32.7 (17.1%) versus 40.8 (14.3%), P = 0.001, 95% CI = −11.7 to −4.3)</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Oladinni (2002)</td>
<td>Professional unease:</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 60% felt comfortable managing depression</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 63.5% agreed that working with depressed people is heavy-going</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 73% agreed that such work is rewarding</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 88% agreed that patients are better off with ‘psychiatrists than GP’</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 96% disagreed there is little to be offered to those with depression that does not respond to what GPs do</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>First Author/Year</td>
<td>Self-efficacy/Lack of self-efficacy &amp; Inadequate knowledge and training</td>
<td>Other constructs/ results</td>
<td></td>
</tr>
<tr>
<td>----</td>
<td>-------------------</td>
<td>------------------------------------------------------------------------</td>
<td>--------------------------</td>
<td></td>
</tr>
</tbody>
</table>
| 9  | Telford et al. (2002) | • 74.8% of GPs reported not enough training  
• 2.1% of GPs reported lack of skills | • 62.6% of GPs reported not enough time to treat people with depression  
• 63% of GPs reported lack of provision of services to refer patients to  
• 66.9% of GPs reported difficulty in accessing services to refer patients to |
| 10 | Rothera et al. (2002) | • 74.3% asked for more training regarding treating depression in the elderly  
• 67.5% reported confidence in treating depression  
• Younger GPs were more confident that older GPs in treating depression  
• Female GPs were more likely to feel that they needed further training ($\chi^2=4.3$, df=1, $p<0.05$) and were less confident than their male counterparts in treating depression ($\chi=9.2$, df=1, $p=0.01$) | • 97.0% agreed that depression in the elderly is masked by other illnesses |
Appendix P: Studies that contributed to each sub-theme of the scoping review

*Key to the following tables*

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(i)</td>
<td>Chew-Graham et al. (2002a)</td>
<td>(s)</td>
<td>Dowrick et al. (2000)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Themes and subthemes</td>
<td>(a)</td>
<td>(b)</td>
<td>(c)</td>
<td>(d)</td>
<td>(e)</td>
</tr>
<tr>
<td>----------------------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td><strong>Personal models towards causes and consequences of depression</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social (reactive) depression</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>LTCs as a cause of depression</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Biological-endogenous depression</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personality</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Consequences of depression</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Personal models towards ways to recognise depression</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guidelines and diagnostic tools</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Relationship (knowing the patient) &amp; listening</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Experience and intuition</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td><strong>Attitudes towards depression and patients with depression in primary care</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative stereotypes (heavy-going, unrewarding, difficult, manipulative, miserable)</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Medicalising problems or ‘Depression is not a real illness’</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
</tbody>
</table>
### Personal models towards barriers to recognise depression

| Unclear understanding and diagnostic accuracy | * | * | * | * | * | * | * | * | * | * | * | * |
| Time constraints for effective recognition and management | * | * | * | * | * | * | * | * | * | * | * | * |
| Stigma | * | * | * | * | * | * | * | * | * | * | * | * |

### Personal models towards the management depression

| Confidence (self-efficacy) and personal control | * | * | * | * | * | * | * | * | * | * | * | * |
| My ‘role’ | * | * | * | * | * | * | * | * | * | * | * | * |
| Lack of confidence | * | * | * | * | * | * | * | * | * | * | * | * |
| Inadequate knowledge and training - Need for more training | * | * | * | * | * | * | * | * | * | * | * | * |

### Attitudes to management strategies

<p>| Positive attitudes towards medication | * | * | * | * | * | * | * | * | * | * | * | * |
| Positive attitudes towards talking therapies | * | * | * | * | * | * | * | * | * | * | * | * |
| Concerns for available treatment options | * | * | * | * | * | * | * | * | * | * | * | * |</p>
<table>
<thead>
<tr>
<th>Themes</th>
<th>(r)</th>
<th>(s)</th>
<th>(t)</th>
<th>(u)</th>
<th>(v)</th>
<th>(w)</th>
<th>(x)</th>
<th>(y)</th>
<th>(z)</th>
<th>(1)</th>
<th>(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Personal models towards causes and consequences of depression</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social (reactive) depression</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LTCs as a cause of depression</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biological (endogenous) depression</td>
<td>*</td>
<td></td>
<td></td>
<td>*</td>
<td>*</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personality</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consequences of depression</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Personal models towards ways to recognise depression</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guidelines and diagnostic tools</td>
<td></td>
<td>*</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experience and intuition</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Attitudes towards depression and patients with depression in primary care</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative stereotypes (heavy-going, unrewarding, difficult, manipulative, miserable)</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medicalising problems or ‘Depression is not a real illness’</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Personal models towards barriers to recognise depression</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unclear understanding and diagnostic accuracy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time constraints for effective recognition and management</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stigma</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Personal models towards the management depression

<table>
<thead>
<tr>
<th>Personal Models</th>
<th>*</th>
<th>*</th>
<th>*</th>
<th>*</th>
<th>*</th>
<th>*</th>
<th>*</th>
<th>*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confidence (self-efficacy) and personal control</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>My ‘role’ which gives me satisfaction</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>Lack of confidence</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inadequate knowledge and training - Need for more training</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
</tbody>
</table>

### Attitudes to management strategies

<table>
<thead>
<tr>
<th>Attitudes to Strategies</th>
<th>*</th>
<th>*</th>
<th>*</th>
<th>*</th>
<th>*</th>
<th>*</th>
<th>*</th>
<th>*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive attitudes towards medication</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Positive attitudes towards talking therapies</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Concerns for available treatment options</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td>*</td>
</tr>
</tbody>
</table>

445
Appendix Q: Qualitative study: Interview topic guide

Interview Topic Guide: Healthcare Practitioners

Introduction

Introduce self
Introduce the study: who it is for, what is it about
Talk through the key points
Purpose of the interview
Length of interview
Voluntary nature of participation and right to withdraw
Recording of interview
Confidentiality
Any questions they have

<table>
<thead>
<tr>
<th>Role</th>
<th>To start with, could you tell me a bit about your role as a clinical psychologist?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment population</td>
<td>What is the most common LTC you see in patients referred to you with depression?</td>
</tr>
<tr>
<td>Experience</td>
<td>What is your experience working with people with physical LTCs?</td>
</tr>
<tr>
<td></td>
<td>What do you consider your role to be as a psychologist regarding the patients who have a LTC and depression?</td>
</tr>
</tbody>
</table>
Psychological problems in LTC—Identity

<table>
<thead>
<tr>
<th>Prevalence</th>
<th>How common are psychological problems in patients with LTC?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>What types of psychological problems do you see in patients with LTCs?</td>
</tr>
</tbody>
</table>

Presentation, Cause, Consequences, Timeline

<table>
<thead>
<tr>
<th>Presentation</th>
<th>How do the patients with LTCs seem to view their psychological symptoms?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reporting</td>
<td>What are the main psychological symptoms that patients self-report? How do they do this with or without being prompted?</td>
</tr>
<tr>
<td>Differences</td>
<td>Is there any difference between depression on its own and depression with LTC? How would you tell the difference between normal sadness and depression?</td>
</tr>
<tr>
<td>Cause</td>
<td>In your experience, what are the main causes of depression in people with physical LTCs?</td>
</tr>
<tr>
<td>Comorbidity</td>
<td>How do you perceive the relationship LTCs and depression?</td>
</tr>
<tr>
<td>Consequences</td>
<td>What are the main consequences of having depression on patients’ life when they also have diabetes or CHD? Potential prompts: social and occupational life</td>
</tr>
<tr>
<td>Consequences diagnosed</td>
<td>Has the diagnosis of depression has an impact on patient’s life? Do you perceive any stigma?</td>
</tr>
<tr>
<td>Timeline</td>
<td>Tell me what you think about the timeline of depression in people with LTCs? Does depression change during the illness trajectory? How long do you think the depression in people with LTC tends to last? Does it get better spontaneously; does it tend to get worse over time?</td>
</tr>
<tr>
<td>Personal control</td>
<td>How does the LTC impact your treatment of depression? How does your approach differ toward LTC patients compared to a person with depression on its own? Could you tell me about your control over your patients’ conditions? (able to deal with comorbid depression, exercise, more check-ups, stress management, therapies) Could you tell me if you believe that your patients have control over their depression in the context of a LTC?</td>
</tr>
</tbody>
</table>
## Detection & Management (Decision-making to recognise/diagnose AND treat depression); Treatment control

| Screening | How do you assess for depression?  
When do you screen? How often? |
|-----------|----------------------------------|
| How do you assess depression? | What do you think is the ‘best practice’ to recognise depression?  
Do you use screening questionnaires?  
If so, how accurate do you think is the GPs diagnosis/referrals (limitations, strength)? |
| Treatment options | What would you think would be ‘best practice’ to deal with depression when it presents with a LTC?  
Different approaches  
Is there any particular therapy relevant to this group?  
e.g. When - When would treatment be offered?  
e.g. What - What are other treatment options?  
e.g. How – How do you decide which treatments to offer?  
e.g. Who - In what way does the patient play a role in making decisions? |
| Treatment control | To what extent do you think that the treatment you offer help the management of depression? |
| Frequency | What arrangements would you make for managing depression? |

### Communication and confidence / emotional representations

<table>
<thead>
<tr>
<th>Communication</th>
<th>What factors do you think affect patient-professional communication?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression</td>
<td>Can you think of any occasions when you have experienced problems communicating with people with depression and LTCs?</td>
</tr>
</tbody>
</table>
| Emotional representations | What is your emotional response working with people with comorbidities  
What thoughts go through your mind before or during the consultation with this patient? |
| Confidence and attitudes | How confident do you feel when working with people with depression comorbid with LTCs? |

### Problem:
- Why do you think that depression is not detected or treated in people with LTCs in primary care?

### Recommendations:
- Are there any strategies that could be helpful for doctors to deal with depression?
- What kind of intervention could be useful to help doctors to better detect and manage depression?
- How do you see doctors’ attitudes towards depression? (positive/negative)
- To what extent do doctors’ attitudes have an impact in their engagement with depression?
- How would you tell the difference between depression on its own and depression as a comorbid condition?
Appendix R: FoR.D intervention; storyline between Dr Bennett and Mrs Blake

**Need to rule out all medical diagnoses before provisionally accepting an emotional diagnosis**

I think I have to rule out the physical illness first as it can lead to more complications.

The problem here for me lies in the fact that I sometimes didn’t engage with my patients’ mood – as was the case with Maria’s because there are so many other physical problems going on.

I have to show him simple strategies for addressing low mood in his clinic.

I understand that testing this, looking for that, checking this out, you might miss depression.

**Presentation of predominantly physical or ambiguous symptoms**

Reaction to illness?

Developing psychological problems?

I think it’s very difficult to decide whether it is a reaction or a psychological problem.

However, it’s also very difficult to differentiate between how much is depression and how much is actually pain.

It can be challenging to decide between the two diagnoses.

Poor diabetes control can cause symptoms similar to those of depression.

So, depression assessment is key to knowing who does and who doesn’t have mental health issues.

**Patients are reluctant to share depressive symptoms**

A lot of the appointments will be about the physical part of the problem.

I believe that people don’t tend to report emotional symptoms they’ve got an LTC, so they may think that that’s how it’s going to be.

I don’t think it comes up naturally in a conversation.

So how do you feel today?

Hmm.

At least two-thirds of people who see their GP don’t disclose emotional difficulties so they’re less likely to be recognised as having depression.

**Limited consultation time**

I haven’t got time to follow up low feelings correctly when there is so much going on.

Depression increases the consultation by 5-10 min but saves time in the long run.

A diabetes review will take 8-10 minutes but opening “a can of worms” is then going to make the surgery run even later.

I’ve got no time left, this is why I’m saying I don’t want to recognise it because it’s going to take too long.

The limited consultation time is reported as one of the main barriers for recognising depression.

Depression is also perceived as a time-consuming assessment.
**DEPRESSION IS A NORMAL RESPONSE TO STRESS BY THE LTC**

- **LTC**
  - Depressed
  - That's normal

I think patients who have LTCs almost expect to feel low and down, as if it's part of the problem.

- It is normal to feel upset about having a condition such as diabetes.
- You know, instead of just being healthy, you have to continuously monitor this and that.

Patients perceive the symptoms of depression as a normal response to the LTC, as well as a part of the LTC, which has an impact on a CP's behaviour for its recognition and management.

- Common and normal are being confused here. Normal sets up expectations that they should feel low, better to say not uncommon and something can be done.

**DEPRESSION IS NOT A CURABLE ILLNESS**

- I'm so sad, Doctor
  - FFFFF

Having limited time with patients is a bit frustrating, full stop.

- On the other hand, spending time with patients who over the years you know are impossible to help because depression is not curable, is also a waste of time.
- You know, it's not a good use of time.

Depression, even severe forms of it, is highly treatable.

- The sooner a person with depression receives treatment, the more effective it will be.
- Studies have shown that early intervention significantly reduces the chances of recurrence.

**TREATING THE CAUSE OF THE LOW MOOD**

- I believe that her low mood is a reaction to the complications of her diabetes, like a symptom, let's say...

  - I will make sure I'll give proper treatment, and good advice about her physical condition.

  - Therefore, her low mood will change once her diabetes gets better.

**MENTAL ILLNESS STIGMA**

- Receiving a diagnosis of diabetes is upsetting.

  - A further diagnosis of depression will probably have very negative effects and could worsen the diabetes.

  - Therefore it's probably better to treat her low mood without labeling it as depression.

**HOW DID YOU FEEL ABOUT THIS CONSULTATION?**

- I was a little stressed as I felt I didn't have the time to engage in further discussion about her low mood. This also makes me feel a bit guilty as there must be more to her 'not feeling right' as she puts in.

- You can try this goal setting and action plan idea which targets the things your patient wishes to change. It is a good way to ensure that your patient is healthier and happier.
Appendix S: FoR.D intervention; storyline between Dr Tipping and Mrs Blake

**Deal with Ambiguous Symptoms**

I WOULD LIKE TO RULE OUT THE MAIN SYMPTOMS AS I HAVE A FEELING THAT THE PRESENTED SYMPTOMS ARE QUITE SIMILAR FOR DIABETES, CHD AND DEPRESSION.

I WANT ALSO TO UNDERSTAND WHAT IS MORE URGENT TO DEAL WITH IN 12 AVAILABLE CONSULTATION MINUTES.

SO MAYBE THERE'S A CLINICAL PRIORITY BUT IF THERE'S NO PROBLEMS WITH THAT URGENCY, IDEALLY IN TERMS OF MY APPROACH I WANT TO INTEGRATE THE PHYSICAL AND THE EMOTIONAL PERSPECTIVES.

**What's Going On?**

SOME SYMPTOMS SUCH AS PAIN, DIZZINESS, FATIGUE, SHORTNESS OF BREATH, LACK OF ENERGY AND LOSS OF APETITE MAY BE SIMILAR TO THOSE CAUSED BY THE PHYSICAL ILLNESS OR ITS TREATMENT.

SYMPTOMS LIKE ABDOMINAL PAIN CAN CAUSE DEPRESSION SO IT IS IMPORTANT TO CHECK ALL THE SYMPTOMS ANYWAY.

**Concerns about the Causes**

I WONDER WHAT HER BELIEFS ARE ABOUT THE CAUSES OF THE PAIN THEN I MIGHT FIGURE OUT WHY SHE FEELS LOW HAVING A LTC COULD HAVE A MAJOR IMPACT IN EVERYONE'S MOOD.

DEPRESSION OR ANOTHER MOOD DISORDER COULD BE VERY POSSIBLE. SHE HAS BEEN SICK FOR A LONG TIME AND IN RECENT MONTHS HER SELF-MANAGEMENT IS POOR.

**Why?**

THERE IS NO SINGLE CAUSE OF DEPRESSION EVERYONE CAN DEVELOP IT FOR DIFFERENT REASONS.

REGARDLESS OF THE CAUSE I NEED TO HELP MY PATIENTS ANYWAY TO INCREASE THEIR SELF-MANAGEMENT. WE CAN TREAT DEPRESSION AND MARIA WILL BE BETTER AT SELF-MANAGING.

**What's Going On?**

PEOPLE WHO ARE DIAGNOSED WITH AN LTC SUCH AS DIABETES ARE 3 TIMES MORE LIKELY TO BE DIAGNOSED WITH DEPRESSION THAN PEOPLE WITHOUT AN LTC.

HOWEVER, THIS DOES NOT MEAN THAT EVERYONE WILL DEVELOP DEPRESSION.

**Concerns about the Consequences**

ASKING HER ABOUT THE IMPACT OF HER DIABETES ON HER QUALITY OF LIFE WOULD OPEN A CAN OF WORMS BUT MIGHT ALSO HELP ME TO UNDERSTAND MY PATIENT BETTER.

**What's Going On?**

RECOGNISING THE QUALITY OF LIFE I SSUE IS SOMETHING THAT PATIENTS FIND USEFUL, TRY TO ALWAYS AGREE AN ACTION PLAN WITH YOUR PATIENTS AND STEP UP AS IN THE NICE GUIDELINE. IF IT DOESN'T WORK

SOMETIMES I DON'T HAVE TIME THAT'S WHY I NEED SOMETHING MORE EFFECTIVE IN MY CONSULTATIONS.

IT IS IMPORTANT FOR HER TO KNOW WHAT ALL THE CONSEQUENCES OF DEPRESSION ARE ON HER HEALTH AND HELP HER TO SET GOALS.

**Is it Depression or Not?**

NEED TO ASSESS WHETHER THERE IS DEPRESSION OR NOT FOR SO MANY REASONS
MAKE YOUR CONSULTATION SMART

**ASSESSMENT**
- Try to understand the problem from the patient's perspective.
- What bothers them?
- What do they want to change?

**GOAL SETTING**
- Discuss and set some realistic goals.
- Give specific details, e.g., exercise which increases heart rate to about 100 BPM for 15 mins 3 times per week.

**ACTION PLANNING**
- Note down steps as to how the goals can be achieved.
- Have a plan A and a plan B.
- To achieve the goals, ask the patient to keep a diary of what they actually did.

**REVISION**
- When the patient visits you again, assess the effectiveness of the plan.
- Alter the plan of action if it has not been successfully achieving the goals.

**MANAGING THE MOST PRESSING CONDITION**
- We need to manage the LTCs and all the physical symptoms.
- This also includes our patients' low mood. It is not possible to separate them out.

**FIND A RATIONALE FOR UNEXPLAINED SYMPTOMS**
- I think about a third of the problems that we see in primary care are explained. The complexity arises when you've got patients with LTCs with medically unexplained aspects or components.
- That's often for me, a trigger to explore patients' life situation and screen for depression and things like that.

**ACKNOWLEDGE EMOTIONAL IMPACT**
- Maria is obviously stressed about her diabetes. I am not quite sure about depression but I will investigate her situation at the next follow-up meeting.
- However, I wouldn't think that being anxious is a laughier matter. Anxiety will lead to depression and also both anxiety and depression impact negatively to any illness self-management, social life and quality of life.

**HOLISTIC APPROACH**
- Physical
- General well-being
- Emotional
- Mental

**WHATS GOING ON?**
- Physicians often attempt to separate depression from anxiety.
- But such distinctions are often challenging and artificial.
- Anxiety symptoms are common in patients with depression.
FIND A RATIONAL FOR UNEXPLAINED SYMPTOMS

The course of the depression also depends on the management of both conditions. Therefore both conditions should be treated equally and the patient should be approached holistically.

If the LTC is not well managed, then the course of depression will be longer or if we don’t treat depression, the LTC will be worse and as a vicious cycle the depression will be more severe.

Lack of social interaction
Lack of exercise or physical exertion
Unhealthy behaviour such as smoking and binge drinking
Diet of processed foods

Increases

Depression
Lethargy
Lack of motivation
Extreme mood swings
Low energy
Indecisiveness

Causes

Poor diabetes management
Diabetes related complications
HOW WOULD YOU MANAGE HER LOW MOOD?

I WILL DISCUSS WITH MY PATIENT ALL THE OPTIONS

PATIENTS TAKE A LOT OF MEDICATION SO THEY DON’T REALLY PREFER TAKING MORE TABLETS

EXERCISE, RELAXATION TECHNIQUES AND TALKING THERAPIES ARE USUALLY QUITE EFFECTIVE FOR MODERATE TO SEVERE DEPRESSION

I KNOW THE MENTAL HEALTH SERVICES ARE LIMITED BUT PROVIDING A GOOD LIFE STYLE PLAN, HEALTHY DIET, EXERCISE AND SOME HELP-LINES BEFORE I MEET HER AGAIN CAN BE HELPFUL FOR MANY THAN PRESCRIBING ONLY ANTIDEPRESSANTS.
## Appendix T: Initial item pool for designing the IPAD measure

<table>
<thead>
<tr>
<th>Item content</th>
<th>Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have a clear picture or understanding of depression in the context of a LTC</td>
<td>Illness coherence</td>
</tr>
<tr>
<td>Depression is a medical condition, just like any other illness</td>
<td></td>
</tr>
<tr>
<td>I don’t understand depression when it is presented with LTC</td>
<td></td>
</tr>
<tr>
<td>Depression symptoms when they are presented with a LTC confuse me</td>
<td></td>
</tr>
<tr>
<td>It is difficult to differentiate whether patients are presenting with unhappiness or a clinical depressive disorder that needs treatment.</td>
<td></td>
</tr>
<tr>
<td>Depression reflects a characteristic response in patients which is not amenable to change</td>
<td></td>
</tr>
<tr>
<td>In LTCs, depression is not a real disorder</td>
<td></td>
</tr>
<tr>
<td>I expect depression when it is presented with a LTC will last for the whole of a person's life</td>
<td>Timeline acute/chronic</td>
</tr>
<tr>
<td>Depression when it is presented with LTC will last a short time</td>
<td></td>
</tr>
<tr>
<td>Depression when it is presented with LTC will last a long time</td>
<td></td>
</tr>
<tr>
<td>Depression in patients with LTCs will only improve if their physical condition improves</td>
<td></td>
</tr>
<tr>
<td>Depression when it is presented with LTC will pass very quickly</td>
<td></td>
</tr>
<tr>
<td>Depression when it is presented with LTC will improve in time</td>
<td></td>
</tr>
<tr>
<td>Depression may change from time to time when it is presented in patients with LTCs</td>
<td>Timeline cyclical</td>
</tr>
<tr>
<td>Depression symptoms come and go in cycles when it is presented with a LTC</td>
<td></td>
</tr>
<tr>
<td>Depression when it is presented with LTC is very unpredictable</td>
<td></td>
</tr>
<tr>
<td>Depression when it is presented with a LTC has major consequences on patient’s lives</td>
<td>Consequences</td>
</tr>
<tr>
<td>Depression when it is presented with LTC strongly affects the way others see that patient</td>
<td></td>
</tr>
<tr>
<td>Depression when it is presented with LTC has serious financial consequences for the patient</td>
<td></td>
</tr>
<tr>
<td>Depression when it is presented with LTC causes difficulties for those who are close to the patient</td>
<td></td>
</tr>
<tr>
<td>Depression when it is presented with a LTC is a serious condition</td>
<td></td>
</tr>
<tr>
<td>Depression when it is presented with a LTC does not have much effect on patients’ life</td>
<td></td>
</tr>
<tr>
<td>Giving a patient with a LTC a formal diagnosis of depression will just be an added burden for them</td>
<td></td>
</tr>
<tr>
<td>Antidepressants are an effective treatment for depression in patients with LTCs</td>
<td>Perceived treatment control</td>
</tr>
<tr>
<td>Antidepressants usually produce a satisfactory result in the treatment of depressed patients in general practice</td>
<td></td>
</tr>
<tr>
<td>Psychological treatments are effective for patients with LTCs and depression</td>
<td></td>
</tr>
<tr>
<td>Psychotherapy tends to be unsuccessful with depressed patients.</td>
<td></td>
</tr>
<tr>
<td>Most depressive disorders seen in general practice improve without medication</td>
<td></td>
</tr>
<tr>
<td>Depression with a LTC does not usually get better with any treatment</td>
<td></td>
</tr>
<tr>
<td>Depression in people with LTC will improve in time without treatment</td>
<td></td>
</tr>
<tr>
<td>If psychotherapy were freely available, this would be more beneficial than antidepressants for most depressed patients</td>
<td></td>
</tr>
<tr>
<td>Depression can be avoided with good LTC management</td>
<td></td>
</tr>
<tr>
<td>Item content</td>
<td>Theme</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>---------------------------</td>
</tr>
</tbody>
</table>
| I would not try to manage depression in people with LTCs myself but always refer to a mental health professional  
Psychotherapy for depressed patients should be left to a specialist  
Working with depressed patients is heavy going  
There is little to be offered to those depressed patients who do not respond to what GPs do  
There is little I can do to manage depression when it is presented with LTC  
If depressed patients need antidepressants, they are better off with a psychiatrist than with a general practitioner  
I believe that psychotherapy for depressed patients should be left to a specialist  
I have lack of knowledge about effective management                                                                                     | Perceived personal control|
| Looking after the mental wellbeing of patients with LTCs is as important as looking after their physical wellbeing  
Identifying depression in patients with LTCs is an important part of their management  
It is rewarding to spend time looking after depressed patients                                                                                       | Illness priority          |
| An underlying biochemical abnormality is at the basis of severe cases of depression  
Depression is an inevitable consequence of having a LTC  
The majority of depression in general practice originates from patients' recent misfortunes  
Becoming depressed is a way that people with poor stamina deal with life difficulties  
Becoming depressed is a natural part of being old  
It is possible to distinguish two main groups of depression: one psychological in origin and the other caused by biochemical mechanisms  
Depressed people are more likely to have experienced deprivation in early life than other people                                                                 | Causes                   |
| I feel comfortable  
…in dealing with depressed patients' needs  
…identifying and discussing depression  
…formally assess depression/anxiety using a standardised instrument (e.g. the PHQ9  
…exploring the patient's beliefs about their illnesses  
…exploring the patient's emotional responses to their illnesses (both depression and LTC)  
…choosing a treatment that is most appropriate for a patient's psychological distress  
…making appropriate referrals to mental health services  
…treating depression with antidepressants  
…treating depression with brief psychological interventions  
…working together with the patient to generate suitable goals  
…working together with the patient to generate an appropriate action plan based on the patient's goals                                                                 | Professional confidence   |
<table>
<thead>
<tr>
<th>Item content</th>
<th>Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>I intend to ...(at the beginning of the consultation) what their expectations of the consultation are ...(at the end of the consultation) I invite the patient's feedback on whether the consultation has fulfilled their expectations...discuss psychological distress/ low mood with a patient who has a LTC...formally assess depression/anxiety using a standardised instrument (e.g. the PHQ9)...conduct a formal assessment of risk (of self/ other harm or suicide) with the patient...work with the patient and the information they have provided to help them understand how their psychological state might interact with their LTC...work with the patient to generate appropriate goals (specific, measurable, attainable, realistic and time limited)...identify with the patient possible barriers to implementing their plans...use a standardised instrument (e.g. the PHQ9) to explore a patient's views on their psychological distress...explore the patient's beliefs about their illnesses...explore the patient's emotional responses to their illnesses...explore the patient's understanding of how their psychological state interacts with their LTC...work with the patient to generate an action plan based on their goal</td>
<td>Intention</td>
</tr>
</tbody>
</table>
### Appendix U: Final IPAD measure

<table>
<thead>
<tr>
<th>Item content</th>
<th>Dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression is a medical condition, just like any other illness <strong>IC1</strong></td>
<td>Illness</td>
</tr>
<tr>
<td>It is difficult to decide whether patients with LTCs who are psychologically distressed are just unhappy or have a psychological problem that needs treatment <strong>IC2</strong></td>
<td>Coherence</td>
</tr>
<tr>
<td>I understand the mechanism linking LTC &amp; depression <strong>IC3</strong></td>
<td></td>
</tr>
<tr>
<td><strong>IC1</strong></td>
<td></td>
</tr>
<tr>
<td>Depression in patients with LTCs will only improve if their physical condition improves <strong>Timeline1</strong></td>
<td>Timeline</td>
</tr>
<tr>
<td>I expect depression when it is presented with a LTC will last for the whole of a person's life <strong>Timeline2</strong></td>
<td></td>
</tr>
<tr>
<td>Depression in people with LTC will improve in time without treatment <strong>Timeline3</strong></td>
<td></td>
</tr>
<tr>
<td>Depression symptoms come and go in cycles when it is presented with a LTC <strong>Timeline_cyclical</strong></td>
<td></td>
</tr>
<tr>
<td><strong>IC2</strong></td>
<td></td>
</tr>
<tr>
<td>Giving a patient with a LTC a formal diagnosis of depression will just be an added burden for them <strong>Cons1</strong></td>
<td>Consequences</td>
</tr>
<tr>
<td>Depression has major consequences the LTC <strong>Cons2</strong></td>
<td></td>
</tr>
<tr>
<td>Depression when it is presented with a LTC does not have much effect on patients’ life <strong>Cons3</strong></td>
<td></td>
</tr>
<tr>
<td>Depression when accompanied with a LTC is a serious condition <strong>Cons4</strong></td>
<td></td>
</tr>
<tr>
<td>Depression is an inevitable consequence of having a LTC <strong>Cons5</strong></td>
<td></td>
</tr>
<tr>
<td><strong>IC3</strong></td>
<td></td>
</tr>
<tr>
<td>Depression with a LTC does not usually get better with any treatment <strong>PTC1</strong></td>
<td>Perceived control</td>
</tr>
<tr>
<td>Antidepressants are an effective treatment for depression in patients with LTCs <strong>PTC2</strong></td>
<td></td>
</tr>
<tr>
<td>Psychological treatments are effective for patients with LTCs and depression <strong>PTC3</strong></td>
<td></td>
</tr>
<tr>
<td>Depression can be avoided with good LTC management <strong>PTC4</strong></td>
<td></td>
</tr>
<tr>
<td><strong>IC4</strong></td>
<td></td>
</tr>
<tr>
<td>Working with patients with depression and a LTC is hard <strong>PPC1</strong></td>
<td>Perceived control</td>
</tr>
<tr>
<td>Managing depression in patients with LTCs is too time consuming <strong>PPC2</strong></td>
<td></td>
</tr>
<tr>
<td>I would not try to manage depression in people with LTCs myself but always refer to a mental health professional <strong>PPC3</strong></td>
<td></td>
</tr>
<tr>
<td>There is little I can do to manage depression when it is presented with LTC <strong>PPC4</strong></td>
<td></td>
</tr>
<tr>
<td>It is gratifying to invest time in treating patients with a LTC and depression <strong>PPC5</strong></td>
<td></td>
</tr>
<tr>
<td><strong>IC5</strong></td>
<td></td>
</tr>
<tr>
<td>Looking after the mental wellbeing of patients with LTCs is as important as looking after their physical wellbeing <strong>IP1</strong></td>
<td>Illness priority</td>
</tr>
<tr>
<td>Identifying depression in patients with LTCs is an important part of their management <strong>IP2</strong></td>
<td></td>
</tr>
<tr>
<td>Item content</td>
<td>Dimension</td>
</tr>
<tr>
<td>--------------</td>
<td>-----------</td>
</tr>
<tr>
<td>I am confident in....</td>
<td>Professional confidence/self-efficacy</td>
</tr>
<tr>
<td>...identifying and discussing depression</td>
<td></td>
</tr>
<tr>
<td>...formally assess depression/anxiety using a standardised instrument (e.g. the PHQ9)</td>
<td></td>
</tr>
<tr>
<td>...exploring the patient's views on their conditions (both LTC and depression)</td>
<td></td>
</tr>
<tr>
<td>...exploring the patient's emotional responses to their illnesses (both depression and LTC)</td>
<td></td>
</tr>
<tr>
<td>...choosing a treatment that is most appropriate for a patient's psychological distress</td>
<td></td>
</tr>
<tr>
<td>...making appropriate referrals to mental health services</td>
<td></td>
</tr>
<tr>
<td>...treating depression with antidepressants</td>
<td></td>
</tr>
<tr>
<td>...treating depression with brief psychological interventions</td>
<td></td>
</tr>
<tr>
<td>...working together with the patient to generate suitable goals</td>
<td></td>
</tr>
<tr>
<td>...working together with the patient to generate an appropriate action plan based on the patient's goals</td>
<td></td>
</tr>
<tr>
<td>I am likely to...</td>
<td>Intentions</td>
</tr>
<tr>
<td>.....discuss psychological distress/ low mood with a patient who has a LTC</td>
<td></td>
</tr>
<tr>
<td>.....formally assess depression/anxiety using a standardised instrument (e.g. the PHQ9)</td>
<td></td>
</tr>
<tr>
<td>..conduct a formal assessment of risk (of self/other harm or suicide) with the patient</td>
<td></td>
</tr>
<tr>
<td>...work with the patient and the information they have provided to help them understand how their psychological state might interact with their LTC</td>
<td></td>
</tr>
<tr>
<td>...work with the patient to generate appropriate goals</td>
<td></td>
</tr>
<tr>
<td>...work with the patient to generate an action plan based on their goal</td>
<td></td>
</tr>
<tr>
<td>...identify with the patient possible barriers to implementing their plans</td>
<td></td>
</tr>
<tr>
<td>...use a standardised instrument (e.g. the PHQ9) to explore a patient's views on their psychological distress</td>
<td></td>
</tr>
<tr>
<td>...explore the patient's beliefs about their illnesses</td>
<td></td>
</tr>
<tr>
<td>...explore the patient's emotional responses to their illnesses</td>
<td></td>
</tr>
<tr>
<td>...explore the patient's understanding of how their psychological state interacts with their LTC</td>
<td></td>
</tr>
</tbody>
</table>

*The asterisk * indicates that the research team did not reach consensus about what these items represent.*
Appendix V: Barriers and treatment preferences sections in IPAD measure

<table>
<thead>
<tr>
<th>Barriers Section</th>
<th>Treatment Preferences Section</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Barriers to identifying people with depression in people with LTCs.</strong></td>
<td><strong>To what extent do you agree or disagree that the following are effective in the treatment of depression?</strong></td>
</tr>
<tr>
<td>Please disagree or agree with each statement below:</td>
<td></td>
</tr>
<tr>
<td>There is greater need to focus on the medical condition</td>
<td>Talking to friends</td>
</tr>
<tr>
<td>Presentation of predominantly physical or ambiguous symptoms</td>
<td>Talking antidepressants</td>
</tr>
<tr>
<td>My patients are reluctant to talk about depressive symptoms</td>
<td>Referring the patient for a talking therapy</td>
</tr>
<tr>
<td>Limited consultation time</td>
<td>Proposing Activities (e.g. sports, yoga, gardening)</td>
</tr>
<tr>
<td>My lack of knowledge about effective management</td>
<td>Suggesting to take Herbal remedies, such as St John's Wort</td>
</tr>
<tr>
<td>In LTCs, depression is not a real disorder</td>
<td>Healthy lifestyle changes (e.g. reduce alcohol / quit smoking)</td>
</tr>
<tr>
<td>It is not my role to treat depression or when dealing with a LTC</td>
<td></td>
</tr>
<tr>
<td>Stigma associated with the illness</td>
<td></td>
</tr>
</tbody>
</table>
Appendix W: IPAD measure as it is presented online

About this evaluation

We are interested in your views of depression in patients with Long Term Conditions (LTCs).

What will happen with your responses?

Your individual responses are anonymous and the researchers collecting data will not be able to link specific responses to you. If you wish, a summary of all responses can be sent to you when this research is completed.

Any questions?

If you have any questions about this evaluation, or you prefer to give your feedback on the phone please contact me dimitra.karachaliou@postgrad.manchester.ac.uk

Filled out the questionnaire already?

Click here to continue straight to the illustrations

Question 1 : We are interested in your views of depression in patients with Long Term Conditions (LTCs).

Please indicate how much you disagree or agree with the following statements by choosing the appropriate number (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree 5 = strongly agree).

<table>
<thead>
<tr>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression with a LTC does not usually get better with any treatment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antidepressants are an effective treatment for depression in patients with LTCs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depression when accompanied by a LTC is a serious condition</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depression is a medical condition, just like any other illness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological treatments are effective for patients with LTCs and depression</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working with patients with depression and a LTC is hard</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is difficult to decide whether patients with LTCs who are psychologically distressed are just unhappy or have a psychological problem that needs treatment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is gratifying to invest time in treating patients with a LTC and depression</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Looking after the mental wellbeing of patients with LTCs is as important as looking after their physical wellbeing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depression in patients with LTCs will only improve if their physical condition improves</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Giving a patient with a LTC a formal diagnosis of depression will just be an added burden for them</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depression is an inevitable consequence of having a LTC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Managing depression in patients with LTCs is too time consuming</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identifying depression in patients with LTCs is an important part of their management</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I would not try to manage depression in people with LTCs myself but always refer to a mental health professional</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depression symptoms come and go in cycles when it is presented with a LTC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I understand the mechanism linking LTC &amp; depression</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
I expect depression when it is presented with a LTC will last for the whole of a person's life

Depression has major consequences on the LTC

There is little I can do to manage depression when it is presented with LTC

Depression when it is presented with LTC does not have much effect on patients lives.

Depression can be avoided with good LTC management

Depression in people with LTC will improve in time without treatment

**Question 2**

Barriers to identifying people with depression in people with LTCs. * Please disagree or agree with each statement below (1 = strongly disagree, 5 = strongly agree)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>There is greater need to focus on the medical condition</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Presentation of predominantly physical or ambiguous symptoms</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My patients are reluctant to talk about depressive symptoms</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limited consultation time</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My Lack of knowledge about effective management</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In LTCs, depression is not a real disorder</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is not my role to treat depression or when</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**dealing with a LTC**

<table>
<thead>
<tr>
<th>Stigma associated with the illness X</th>
</tr>
</thead>
</table>

**Question 3:** Causes of depression in people with LTCs * Please identify below what you consider to be the three main causes of depression in patients with LTCs.

Causes 1, Causes 2, Causes 3

**Question 4:** There are different ways of treating depression in the context of a LTC. To what extent do you agree or disagree that the following are effective in the treatment of depression? (1=strongly disagree, 5=strongly agree)

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Talk to friends</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Take antidepressants</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refer the patient for a talking therapy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activities (e.g. sports, yoga, gardening)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Herbal remedies, such as St John's Wort</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Healthy lifestyle changes (e.g reduce alcohol / quit smoking)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Question 5** We are now interested in how CONFIDENT you are in managing people with depression and LTCs. For each statement, please choose a number to indicate how strongly you disagree/agree (1=strongly disagree, 5=strongly agree).

<table>
<thead>
<tr>
<th>I am confident in...</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>...identifying and discussing depression</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>...formally assessing symptoms of depression/anxiety using a diagnostic tool</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>...exploring the patient's views on their conditions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
(both LTC and depression)

...exploring the patient's emotional responses to their illnesses (both depression and LTC)

...choosing a treatment that is most appropriate for a patient's psychological distress

...making appropriate referrals to mental health services

...treating depression with antidepressants

...treating depression with brief psychological interventions

...working together with the patient to generate suitable goals

...working together with the patient to generate an appropriate action plan based on patient's goals
**Question 6**

We are now interested in how LIKELY you are to manage people with depression and LTCs. For each statement, please choose a number to indicate how strongly you disagree/agree (1=strongly disagree, 5=strongly agree).

<table>
<thead>
<tr>
<th>I am likely to...</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>...discuss psychological distress/ low mood with a patient who has a LTC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>...formally assess depression/anxiety using a standardised instrument (e.g. the PHQ9)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>...conduct a formal assessment of risk (of self/other harm or suicide) with the patient</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>...work with the patient and the information they have provided to help them understand how their psychological state might interact with their LTC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>...work with the patient to generate appropriate goals</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>...work with the patient to generate an action plan based on their goal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>...Identify with the patient possible barriers to implementing their plans</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>...Use a standardised instrument (e.g. the PHQ9) to explore a patient's views on their psychological distress</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>...explore the patient's beliefs about their illnesses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>...explore the patient's emotional responses to their illnesses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Question 7: What is your age?

Question 8: What is your job title/grade?

Question 9: How many years have you been practising?

Question 10: Did you experience any difficulties completing this questionnaire? If yes, please tell us why.

Personal Code

Please could you enter a four character code; for example your initials plus day of birth: DK01. This code will be used to identify your data and to ensure that you remain anonymous.

Submit
Appendix X: Evaluation form for FoR.D intervention

About this evaluation
The following questions are about the online F.O.R/D training
What will happen with your responses?
Your individual responses are anonymous and the researchers collecting data will not be able to link specific responses to you. If you wish, a summary of all responses can be sent to you when this research is completed.
Any questions?
If you have any questions about this evaluation, or you prefer to give your feedback on the phone please contact me
dimitra.karachaliou@postgrad.manchester.ac.uk

Question 1: What is your age?

Question 2: What is your job title/grade?

Question 3: What were your main reasons for taking part in the training? *
Please choose as many as apply. Select at least 1.

<table>
<thead>
<tr>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>It is part of my personal development plan</td>
</tr>
<tr>
<td>My job or responsibilities have changed</td>
</tr>
<tr>
<td>To improve my skills or knowledge</td>
</tr>
<tr>
<td>To improve how I work with my patients</td>
</tr>
<tr>
<td>I found this research topic interesting or relevant</td>
</tr>
<tr>
<td>I am keen to support research</td>
</tr>
<tr>
<td>I was asked to take part by my practice manager</td>
</tr>
<tr>
<td>Other, please specify</td>
</tr>
</tbody>
</table>
**Question 4:** How far do you feel the following training objectives were met? (1 = Not met, 5 = fully met) *

<table>
<thead>
<tr>
<th>Training Objective</th>
<th>Scale 1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understanding of the impact of depression in the physical illness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understanding of the causes of depression in the context of a physical illness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understanding of prevalence and symptoms of depression among people with LTCs such as diabetes and CHD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improved knowledge of depression</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Awareness of available psychological interventions and assessment tools</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Question 5:** If you have any further comments about how far the training objectives were met, please add them here.

**Question 6:** How useful was the following information for you? (1 = Not useful, 5 = Very useful) *

<table>
<thead>
<tr>
<th>Information</th>
<th>Scale 1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symptoms of depression</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Causes of depression</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consequences of depression</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management of depression</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication styles</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Question 7:** If you have any further comments about the usefulness or relevance of the training, please add them here.
**Question 8:** By attending this online training, I see the value to me in the following ways (check all that apply) * Select at least 2.

<table>
<thead>
<tr>
<th>Option</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>I was able to update my skills</td>
<td></td>
</tr>
<tr>
<td>I acquired new and/or advanced skills</td>
<td></td>
</tr>
<tr>
<td>I have better knowledge upon which to base my decisions/actions in the practice setting</td>
<td></td>
</tr>
<tr>
<td>I am reconsidering my views toward the topic(s) presented</td>
<td></td>
</tr>
<tr>
<td>I gained one or more specific ideas that I can implement in my area of practice</td>
<td></td>
</tr>
<tr>
<td>I learned a new approach to my practice</td>
<td></td>
</tr>
<tr>
<td>It may help me do a better job</td>
<td></td>
</tr>
<tr>
<td>I do not see the impact of this course on my job</td>
<td></td>
</tr>
<tr>
<td>Other, please specify</td>
<td></td>
</tr>
</tbody>
</table>

**Question 9:** Please click the number to indicate your level of agreement or disagreement with each of the aspects of the course design (1 = strongly disagree, 5 = strongly agree) *

<table>
<thead>
<tr>
<th>Aspect</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>The training content met my expectations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Length of the training was adequate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The website was comprehensive enough in what was covered</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The training was presented in an interesting manner</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The content was well organised and easy to follow</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The illustrations were pertinent and useful</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
I understood all the information presented at the website

Content was presented clearly

and effectively

Teaching style was effective

Content presented was applicable to my practice

**Question 10**: In general, how do you rate the training overall? (1 = Very poor, 5 = Very good)*

<table>
<thead>
<tr>
<th>Rating</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

**Question 11**: What impact do you think this training will have on your work performance? (1 = No impact, 5 = Very big impact) *

<table>
<thead>
<tr>
<th>Rating</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

**Question 12**: Do you prefer *

<table>
<thead>
<tr>
<th>Learning through</th>
<th>half-day class training</th>
<th>full-day class training</th>
<th>multi-day class training</th>
<th>Online training</th>
<th>other</th>
</tr>
</thead>
</table>

**Question 13**: Do you prefer *

<table>
<thead>
<tr>
<th>Training in?</th>
<th>Hotels</th>
<th>Hospital classes</th>
<th>My working place</th>
<th>Online</th>
<th>other</th>
</tr>
</thead>
</table>
The following open-ended questions are related to outcomes of the program. We are interested in determining how well the design of the program meets its stated goals and your needs.

**Question 14**
What did you like least about the online training?

**Question 15**
What specific things did you like most about the online training? *

**Question 16**
What aspects of the training could be left out or improved? *

**Question 17**
Any other comments that you would like to add on the training?

**Question 18**
What is your gender? male/female

Submit
Appendix Y: Familiarisation, indexing and charting: Qualitative study

<table>
<thead>
<tr>
<th>GP</th>
<th>Relationship</th>
<th>Identity: Identity, the name or label of a threat</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td><strong>Go together vicious cycle</strong>—exaggerate each other** Depressions dependent** to the LTC</td>
<td>Depression and LTC go together; an understandable and justifiable response to the LTC; p2; 43-447 Depressed behind a minor illness; p3; 75-77 Recognition of symptoms to identify depression; p4; 105-108 Distinguish between sadness and depression; presence of trigger. p4; 99-101 Confusion of physical and psychological symptoms; not able to find out what is what; p9; 255-262</td>
</tr>
<tr>
<td>p</td>
<td><strong>Hand in Hand p; 3; 122</strong> Depression as a consequence of the LTC p4; 150-152 p10; 462-463</td>
<td>Difference between sadness and depression based on the PHQ9; p4; 139-140 Depression possibly because of the LTC; p10; 462-464 Triggers instead of presented symptoms for recognition; non-verbal cues</td>
</tr>
<tr>
<td>6</td>
<td>Association between LTC and depression p4; 114-116 Vicious cycle; Exacerbation of the physical illness and depression</td>
<td>Identity though symptoms of depression p13; 369-374 Parallel relationship p4; 114-116 Being old p4; 120 Difficult to say the difference between low mood and depression. p6; 155-169</td>
</tr>
<tr>
<td>7</td>
<td><strong>Causal</strong>—one lead to the other <strong>Vicious cycle</strong>—exaggerate each other <strong>Independent</strong>—it happens separately but have an impact on the LTC; p9; 334-341 Preconceptions that depression might happen; p14; 565-569</td>
<td>Physical and psychological symptoms are similar; difficult to if the symptoms are depression or reactions to the chronic illness; p3; 84-92 Symptoms very much inter-linked p3; 97-98 or 103-111 Recognition of vulnerability of depression in the context of the LTC p11; 427-436 Normalising the idea of depression ; p11; 446-451</td>
</tr>
<tr>
<td>8</td>
<td><strong>Vicious cycle; Exacerbation of the physical illness and depression p7; 322-329</strong></td>
<td>Physical and psychological symptoms are similar p14; 675-677 Depression as common undiagnosed condition on LTCs p4; 156 Identity of anxiety and depression through symptoms p6; 262-269 Distinguish between sadness and depression; presence of trigger and length of time p7; 289-293 Sadness as a response to bereavement p7; 297-299</td>
</tr>
<tr>
<td>10</td>
<td><strong>Strong connection between having a LTC and being depressed p4; 101-102</strong> Depression hidden by pains; p18; 565-568</td>
<td>Psychological problems are incredibly common in patients with LTC p1; 24-27 Women and old men more vulnerable to depression p2; 54-58 Distinguish between sadness and depression; presence of trigger. Depression with no reason P4; 94-97 Depression hidden by pains, hard to be diagnosed if not experienced; p18; 565-568 if detected then treated p19; 573-574</td>
</tr>
</tbody>
</table>
### Symptoms such as tiredness, lack of interest, bad sleep; check first that's not a LTC

Patients recognise psychological distress; they are mature, they know if they feel good or not

Distinguish between sadness and depression; presence of trigger; easy to tell when there is sadness

Younger age group more vulnerable

Report of symptoms or worse pain as a trigger to ask for low mood

Verbal and non-verbal cues for recognition, some specific psychical symptoms that could be psychological

Depression is not part of ageing

Women more vulnerable to depression

Symptoms of depression as an identity of depression

Sadness has no serious symptoms

Distinguish between sadness and depression; link of causes and symptoms

Depression is the same clinically as the depression in the context of a LTC

---

<table>
<thead>
<tr>
<th>GP</th>
<th>Cause</th>
<th>Consequences</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Chronic condition lead to depression and vice versa; difficult to say what causes what; Because of the condition; being ill itself makes them feeling depressed</td>
<td>Exacerbation of the physical illness They put them in more risk, patients in trouble</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Quality of life gets worse</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Difficulties to make decisions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lack of power and motivation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Isolation, all situation aggravates</td>
</tr>
<tr>
<td></td>
<td></td>
<td>People with depression think less clearly, less logical</td>
</tr>
<tr>
<td>5</td>
<td>Social factors or Because of having a physical condition</td>
<td>Exacerbation of the physical illness Quality of life gets worse, impact on their social life</td>
</tr>
<tr>
<td></td>
<td>Endogenous depression Exacerbation of the physical illness</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>The nature of the LTC, coping with the LTC; Medication regimes; stress about complications of the LTC</td>
<td>Problems to comply with medication Adaption of unhealthy habits which deteriorates depression and LTC</td>
</tr>
</tbody>
</table>
### Pre-morbid personalities, risk with ageing

**Due to life events such as bereavement, chemical imbalance p18; 514-523**

<table>
<thead>
<tr>
<th>Page</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>p4; 118-123 , p; 509 , p18; 535-540</td>
<td>Pre-morbid personalities, risk with ageing</td>
</tr>
<tr>
<td>P10; 276-280</td>
<td></td>
</tr>
</tbody>
</table>

### Changes in their identity; not a healthy person anymore

**Due to life events such as bereavement, chemical imbalance p18; 514-523**

<table>
<thead>
<tr>
<th>Page</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>p4; 118-123 , p; 509 , p18; 535-540</td>
<td>Changes in their identity; not a healthy person anymore</td>
</tr>
<tr>
<td>P10; 276-280</td>
<td></td>
</tr>
</tbody>
</table>

### Chronic pain lead to depression and vice versa

**Due to life events such as bereavement, chemical imbalance p18; 514-523**

<table>
<thead>
<tr>
<th>Page</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>p3; 95-101</td>
<td>Chronic pain lead to depression and vice versa</td>
</tr>
<tr>
<td>P13; 634-639</td>
<td></td>
</tr>
</tbody>
</table>

### Depression lead to chronic pain and vice versa

**Due to life events such as bereavement, chemical imbalance p18; 514-523**

<table>
<thead>
<tr>
<th>Page</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>p3; 91-101</td>
<td>Depression lead to chronic pain and vice versa</td>
</tr>
<tr>
<td>P5; 180-198</td>
<td></td>
</tr>
</tbody>
</table>

### Coping with the illness, medication regimes

**Due to life events such as bereavement, chemical imbalance p18; 514-523**

<table>
<thead>
<tr>
<th>Page</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>p1; 24-27</td>
<td>Coping with the illness, medication regimes</td>
</tr>
<tr>
<td>p12; 30-33</td>
<td></td>
</tr>
<tr>
<td>p4; 105-109</td>
<td></td>
</tr>
<tr>
<td>p4; 117-122</td>
<td></td>
</tr>
</tbody>
</table>

### Alcohol abuse to cope with depression p4; 157-163

<table>
<thead>
<tr>
<th>Page</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>p4; 157-163</td>
<td>Alcohol abuse to cope with depression p4; 157-163</td>
</tr>
<tr>
<td>P7; 283-284</td>
<td></td>
</tr>
</tbody>
</table>

### Isolation and change of daily activities because of the LTC

**Due to life events such as bereavement, chemical imbalance p18; 514-523**

<table>
<thead>
<tr>
<th>Page</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>p1; 24-27</td>
<td>Isolation and change of daily activities because of the LTC</td>
</tr>
<tr>
<td>p12; 30-33</td>
<td></td>
</tr>
<tr>
<td>p4; 105-109</td>
<td></td>
</tr>
<tr>
<td>p4; 117-122</td>
<td></td>
</tr>
</tbody>
</table>

### Occupational and functional consequences.

**Due to life events such as bereavement, chemical imbalance p18; 514-523**

<table>
<thead>
<tr>
<th>Page</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>p1; 24-27</td>
<td>Occupational and functional consequences.</td>
</tr>
<tr>
<td>p12; 30-33</td>
<td>Difficulties for the family</td>
</tr>
<tr>
<td>p4; 105-109</td>
<td>Change of the identity</td>
</tr>
<tr>
<td>p4; 117-122</td>
<td>Isolation p5; 138-149</td>
</tr>
<tr>
<td>Page</td>
<td>Text</td>
</tr>
<tr>
<td>------</td>
<td>------------------</td>
</tr>
</tbody>
</table>
| 11   | The nature of the LTC, coping with the LTC: Medication regimes; lifestyle changes: *the doctors and the dieticians and everybody is telling you don’t do this and don’t do that. That’s enough to make anybody feel depressed. But they know they have to make wholesale lifestyle changes, which is extremely difficult.*

Nobody can make lifestyle changes overnight in one week, two months, three months. It’s very difficult – however extreme the lifestyle changes will be. Even that, you can understand, is very difficult.

*P5; 156-176*

The nature of the condition affects them in all aspects

LTC is not treatable; cause

That will then cause a bit of self pity

---

<table>
<thead>
<tr>
<th>Page</th>
<th>Text</th>
</tr>
</thead>
</table>
| 12   | Cope with the LTC P3; 97-98

**Chemical imbalance p5; 230**

When patients life have been affected by their problem such as mobility and their quality of life has been affected

Changes in their identity; not a healthy person anymore, like grief

The LTC itself, coping with the illness, medication regimes and check ups

Response of pain, disability, symptoms of the LTC

---

<table>
<thead>
<tr>
<th>Page</th>
<th>Text</th>
</tr>
</thead>
</table>
| 13   | *Exacerbation of the physical illness and vicious cycle*

Problems to comply with medication and follow ups: p12; 492-500

“That the treatment and management thing tends to escalate, that's the consequence of it to the patient and to the GP, as to escalate the patient’s treatment is not an easy thing for a doctor”

---

<table>
<thead>
<tr>
<th>Page</th>
<th>Text</th>
</tr>
</thead>
</table>
| 14   | No able to listen, concentrate and manage the condition if there is an underlying depression

Depression exacerbates the physical illness, the pain.

Impact on medication compliance p5; 203-212

“So secondly, it disturbs everything else. It prevents people from concentrating and coping with everything else they have to deal with. So it’s going to help them to cope with their long term condition. And thirdly, I think it has a direct effect on symptoms, which includes pain”. P5; 231-234

Difficulties to make decisions P8; 389-393

---
<table>
<thead>
<tr>
<th>GP</th>
<th>Timeline: the threat’s believed time trajectory (e.g., acute, chronic, cyclical)</th>
<th>Doctors’ biomedical/biosocial treatment control: whether something can be done to control the threat</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Depends on the LTC; When brain is affected then the depression is long term. Depression improves following the illness trajectory or there is support P11; 307-323</td>
<td>Managing depression through different options. Shared decision-making when they can’t make decision on their own p4; 109-113 p8; 216-218 Different options depends on the severity P7; 185-199 Easy to recognise and confident to treat when there is time and know the patients p10; 291-296</td>
</tr>
<tr>
<td>5</td>
<td>Parallel relationship-Depression gets better when LTC gets better P3; 122 Depression’s timeline depends on the cause of depression. If it is not endogenous then it can be treated so the timeline shorter p6; 233-239 253-255 When physical illness deteriorates then depression deteriorates and timeline longer p6; 247-251 When depression driven by other issues, then depression will lift despite the physical illness p6; 253-255</td>
<td>Treatment control with medication as an encouragement by external pressures; pharmaceutical companies p2; 77-80 Ultimate control over treatment p7; 293-297</td>
</tr>
<tr>
<td>6</td>
<td>Depression might appear at some point when something happens due to the LTC p17; 491-503 ‘No there’s something that precipitates that maybe just makes it worse’ p17; 507 Depression is exacerbated by sort of individual things p18; 509-511</td>
<td>No much control, the only control is treatment over medication p11; 303-306 p19; 556-557 and health lifestyle modifications p19; 559-573 Treatment always with medication because no services available p286-292</td>
</tr>
<tr>
<td>7</td>
<td>Depression changes when the disease changes; Depression resolves over time P11; 415-424</td>
<td>Recognising and treating depression after prompting patients to report symptoms P3; 99-101 GPs’ control over patients condition by medical (medication) and psychosocial treatment (modifications, therapies) P7; 246-250 p11; 439-445 p12; 459-483</td>
</tr>
<tr>
<td>8</td>
<td>Depression lasts longer than low mood p7; 289-293 Depression gets better with antidepressants but it is longer, slower and insidious p10; 451-457</td>
<td>Control over prevention through modifications of life style, and pharmacological and psychological management p4; 139-147, P11; 502-508 P11; 512-522 Doctor control over patient’s condition; limited as the patient is not motivated P8; 355-363 But gets better with antidepressants p10; 45-457</td>
</tr>
<tr>
<td>10</td>
<td>Timeline depends on the person and the nature of the condition, could be immediately or after many years when something happens because of the LTC [p6;183-193]</td>
<td>Depression can be controlled by medication [p5;126-128] [p7;196] and exercise [p8;224-229] Control to prevent depression: lifestyle modifications, asking about the mood constantly [p7;202-220] pros and cons of the LTC; less likely to get depression if you are clear about the LTC [p8;234-246] treatment provided helps to a great extent [p13;393-396]</td>
</tr>
<tr>
<td>11</td>
<td>The timeline of depression is sinusoidal: Depression gets WORSE when LTC gets worse [p7;307-311] “Most patients with diabetes, once they’ve been diagnosed with that, they may also have depression at the same time, but if not they sooner or later get depressed, depending on how they manage it and what response they’re getting and so on.” [p7;314-317] Anytime; straight away or later on; [p14;568] It could be a LTC but not strictly [p15;614-623]</td>
<td>No much control, not help from other services: “Because I’m not a mental health practitioner there’s not more that I can do to help that patient” [pg 3 69-77] Treatment as a second best option: [p4;120-128]</td>
</tr>
<tr>
<td>12</td>
<td>The timeline of depression is sinusoidal: Depression appears straight with the LTC gets better when LTC gets better deteriorates when LTC deteriorates but it is always persistent [p16;744-758]</td>
<td>Make sure that the treatment is optimised in terms of medication and alternative therapies [p2;74-78] Treatment control over patients conditions [p8;388-393]’</td>
</tr>
<tr>
<td>GP</td>
<td>Doctor’s personal control: whether something can be done to control the threat</td>
<td>Emotional representations</td>
</tr>
<tr>
<td>----</td>
<td>--------------------------------------------------------------------------------</td>
<td>----------------------------</td>
</tr>
<tr>
<td>2</td>
<td>Lack of control as recognition is difficult even with experience and training p10; 278-286</td>
<td>Pressure and frustration; there is not time to deal with depression and patients are waiting for the GP P3; 84-88</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mentally ill after many hours working with many patients p3; 84-88</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Feeling hopeless and powerless when he can’t fix the problems p6; 171-179</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Negative emotions for patients resistance to accept advice; Feeling depressed when deal with patients with comorbid depression; due to transference of feelings p11; 339-334</td>
</tr>
<tr>
<td>5</td>
<td>If patients do not comply then no much control p6; 264-272</td>
<td>“It depends on the patient; if the patient is an absolute pain, you know, a winger and a help-rejecting complainer then you don’t feel very positive about it” p8; 353-355</td>
</tr>
<tr>
<td></td>
<td>Confidence to recognise/manage depression p10; 437-447</td>
<td><strong>Frustrated to work with rejecting complainers, waste of time p8; 359-372</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Protect himself not to feel squeezed-out sponge P8; 376-381</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Finish the consultation as quick as possible p8; 392-393</td>
</tr>
<tr>
<td>6</td>
<td>Confidence to work with people with depression p16; 465-473</td>
<td>There is a lot of stress but it is pleasant and enjoyable to work in Primary care but horrible when there are many complaints p22; 619-630</td>
</tr>
<tr>
<td>7</td>
<td>Confidence but you always miss depression; when you concentrate in other things p14; 561-569</td>
<td>Feeling hopeless and rejection when you manage conditions but things get worse p11; 405-41</td>
</tr>
<tr>
<td></td>
<td></td>
<td>p15; 577-595</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Feelings of challenge to work with patients who do not recognise it, feelings of rewarding and defeated when things get worse p14; 537-549</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Feeling rejecting when things go wrong</td>
</tr>
<tr>
<td>8</td>
<td>“sometimes you feel more concerned because they’re unwell psychologically, so I don’t think it would be tricky” p13; 606-611</td>
<td>“Moderate control; I suppose, we can do something, we can’t do everything but we can do bits and, yeah, moderately” p12; 577-588</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Quite confident to manage depression despite the fact that the symptoms are confused to each other p14; 673-677</td>
</tr>
<tr>
<td>10</td>
<td>Confidence for then ability to communicate and manage patients with depression and LTCs p14; 433-434</td>
<td>“I like the challenge and when patients come back feeling better I feel very good” p16; 486-494.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>It doesn’t feel good when you have tried everything and all goes wrong P16; 502-505</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“I like to see patients getting better, it’s very rewarding for me” p17; 529-530</td>
</tr>
<tr>
<td>11</td>
<td>Confidence to recognise and treat people with psychological problems based on training and experience</td>
<td>“Consequences is the GP suffers. That’s the consequence.” p12: 489 With good communication, he gets job satisfaction p18;709-720</td>
</tr>
<tr>
<td>12</td>
<td>“I don’t think there’s any difficulty making a diagnosis of depression if you ask the right questions” p7;335-336, p9416-420</td>
<td>“I have to say I feel a little anxious, a little tense, a bit resigned. I feel, ‘Oh no, this is going to take some sorting out, but I better get on with it.’ So resigned, is the main word. And then I start feeling frustrated if I can’t get on quickly enough and a bit guilty because I think, ‘I should really do this now.’ ”. P11; 496-503 Positive feelings and happiness for doing a good job when recognise and treat depression correctly p12;507-548</td>
</tr>
<tr>
<td>Th</td>
<td>NEW</td>
<td>Th</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td><strong>GP</strong></td>
<td><strong>Patients’ control</strong></td>
<td><strong>Proactive behaviour to recognise depression</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| 2 | Lack of control by the patients as the depression makes them less motivated and powerless | No verbal cues; do not express it, they come for minor illness but they really want to discuss is depression | Patients self-report symptoms depends on their culture
P3; 71-82
GP’s expectations from the patients to express psychological issues | |
| | | Patients do not present symptoms as they believe that GP is not to discuss it | |
| | | Recognition of depression when the presented symptoms have an impact on the LTC | |
| | | P4; 144-146 | |
| 5 | Patients’ control in difference aspects life style changes p7; 284-289 and social support | Recognition of depression by the patients or the relatives, more awareness | Most of the patients would report psychological symptoms, but you need to ask them
P3; 93-95
Managing time asking the patient to decide what discuss at the consultation, next time something else | |
| | P11; 496-506; | | P9; 398-401 | |
| 6 | Patients’ control: self-management and compliance p13; 382-386 | | | |
| 7 | Patients have the most control over things; compliance; life style and social support | Patients do not report symptoms as they are confused with the LTC’s ones, so GP needs to ask them about psychological issues | If you are lucky then the patients make the link between the symptoms and they report them.
P3; 103-111
Rarely you get people who ar e aware of their conditions | |
| | “it’s not my illness” | P3; 95-101
Know the patient, the feeling of something’s happening | P5; 171-177 | |
| | P12; 459-483
P13; 472-483 | P4; 123-126 | | |
| 8 | “Trying to maintain any preventative things that will be helpful, stop smoking, drinking, losing weight”‘p4; 139-142
‘I think there’s a lot of stuff you can do about psychological well being’ | Life style modifications for general prevention | More often they have to focus on the physical side of the problem-following QOF, unless people ask about working on depression | |
| | p512-522
Looking at personality type vulnerable to depression and social circumstances | p5; 564-569 | p5; 210-217 | |
| 10 | **Patients' control: self-management**  
    P8; 251-254 |
|-----|------------------------------------------------|
| 11 | **The patient's control is by complying.**  
    p13; 556-563 |
| 12 | **Limited control by patients;**  
    **put their locus on control on the doctor.**  
    **Patients don’t behave in an adult way;**  
    **they expect everything from doctors**  
    p14; 654-675 |
|     | **Control through life style modifications instead of**  
    **only treatment for the LTC.**  
    **P2; 74-82** |
<table>
<thead>
<tr>
<th>GP</th>
<th>Coherence by the doctor or patient VS ambiguity: Whether a person thinks about the threat in a coherent way.</th>
<th>Perceived barriers to recognise/manage depression</th>
</tr>
</thead>
</table>
| 2  | Difficult to say what causes what; p2;40-42  
   p5;139-147  
   Patients do not make the connection that’s why they do not self report psychological symptoms  
   Patients report physical symptoms as psychological symptoms  
   p9; 259-266 | Denial of label; Patients reluctant to accept diagnosis p2; 48-51  
   Practice time pressure determines the communication and whether you recognise and treat depression  
   P8; 230-235  
   Time pressure, barriers of the system level to refer patients. When there is no time then recognition gets difficult p10-283-290 |
| 5  | Patients do not make the link between physical and psychological symptoms p3;117-118  
   Recognition of depression increases coherence of the symptoms | Systems barriers for recognition; not enough therapist to refer patients. p3;34-36  
   Recognition of depression when there is time to ask, when GP is interested p3;99-104  
   Inappropriate management of depression; Unavailability of services increases medication treatment when it shouldn’t provided  
   P5;204-206  
   Treatment depends on the severity would suggest biomedical of psychosocial treatment but referral services are ‘‘rubbish’’ p5; 211-216 |
| 6  | Difficult to say the difference between low mood and depression as the principle symptom of depression is low mood. The screening tools would say the difference p6; 155-169 | Inappropriate management of depression; Unavailability of services increases medication treatment when it shouldn’t provided  
   p286-292, p297-301  
   Barrier for the treatment when medication for both conditions clash p11; 307-311  
   No services available a lot of medication p12; 359-350 p13; 360-362 |
| 7  | Lack of coherence. Very difficult to say what is depression and what is chronic pain.  
   P3; 77-81  
   P9; 346-354  
   Link between mood, emotions and chronic pain P4; 108-111  
   Patients report many symptoms but which are confused with physical symptoms.  
   P4; 127-137  
   P5; 159-170 | Rejection of label; Patients reluctant to accept diagnosis p6; 227-229  
   Busy practices, not time for relationship with the patients p10; 377-387  
   p10; 398-404  
   Practice configuration determines whether you recognise and treat depression  
   P10; 388-393  
   Multiple medication is a burden p13; 503-515 |
| 8  | Lack of coherence for LTC; symptoms are confused with other health care problems p3; 122-139  
   Physical and psychological symptoms are similar and the diagnosis is difficult p14; 675-677  
   Confusion of symptoms between anxiety and COPD; problem for under recognition; “It’s very difficult to unpick the anxiety, the arousal part of COPD” p5; 191-200 | Even with patients with good relationship, people do not report psychological issues, too busy to cope with the LTC p6; 243-247  
   Hard to communicate when you are in rush, the most important thing, the time that’s available for recognition p14; 652-661 |
<p>| 10 | Depression is missed because LTC is always complex to be managed; “The problem I think lies in the fact that we sometimes miss it (depression) because there are so many other physical problems going on, we are testing this, looking for that, checking this out and we miss the depression” p5;127-132 Recognition of depression increases coherence of the problem and you can treat it correctly p5;153-155 Recognition of depression is a good thing: makes the doctor aware of what’s going on and the patients to comply with the LTC medication. “get a better patient” P17; 520-530 Depression hidden by pains, hard to be diagnosed if not experienced p18; 565-568 |
| 11 | Lack of coherence for depression symptoms; symptoms are confused with other health care problems; somatisation of depression That is depression that’s happening. It can manifest that way. So they think there’s something physically wrong with them. That’s very common. It’s the most commonest way that people manifest with depression. p6-7 235-266 Recognition helps the patients to see what the problem is Challenging for the doctor- you’ve got more things to keep an eye on. For patients; more tablets p13;508-518, Sick and tired of taking medication p13; 520-523 Problem; ambiguity of both conditions’ symptoms Treating each symptom separately Lack of communication p15; 697-707 |
| 12 | importance of recognising depression; to settle down physical symptoms as are confused with psychological p3; 102-112 “It’s a disease on its own right, so it should be treated. Because my own view is that it’s a chemical imbalance that needs to be put right. Because it’s a problem” p5; 229-231 The patients themselves don’t recognise that they have a problem. They just think it’s naturally a part of ageing, when it isn’t p7; 304-212 Recognition of depression reduces ambiguity; understand the condition and treat it correctly p:11; 507-515 “Sometimes I am too busy or I just don’t connect” p3;111-112 If interrupted p10; 440-446 or when the patient is on dial p10 444-446 Practice time pressure determines the communication and connection and whether you recognise and treat depression p3; 117-129 Barrier for the treatment when medication for both conditions clash p8; 359-364 No recognition because it is time consuming and people are waiting p10; 456-471 |</p>
<table>
<thead>
<tr>
<th>GP</th>
<th>Communication and Trust, continuity of care</th>
<th>Manner of prioritisation of the management of depression</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>The Importance of the continuity of care- Follow-ups, important for recognition of depression p5; 126-129 Communication is crucial for the recognitions and management, p8; 220-235 Doctor as a placebo effect</td>
<td>Priority to the most urgent condition at this point. Severe depression leads to suicide; Reason to prioritise the treatment. p5;126-136 Priority to the physical illness for a quick consultation when there is no time p3; 102-104 Treatment of depression equally important as treating the LTC P4;157-159</td>
</tr>
<tr>
<td>5</td>
<td>Doctor as a placebo effect p7; 306-314 Advantage of general practice; you get to know the patients and how to manage the depression p9;401-410</td>
<td>Checking first the physical symptoms and if everything is manageable then work on psychological symptoms p4; 137-145 Doctors start with the physical illness and miss depression P9/10;358-368</td>
</tr>
<tr>
<td>6</td>
<td>Advantage of general practice; you get to know the patients and you communicate better. Better management of depression p15 426-429 and p 14; 398-340 Better recognition than before because of the continuity of care p 21; 610-614</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Trust is needed in order to help patients to accept diagnosis and treatment P7;268-274 Balance in the relationship and negotiation with patients P8; 244-245 Importance of communication in recognition of depression p8; 293-308</td>
<td>More often they have to focus on the physical side of the problem following QOF, unless people ask about working on depression p5; 210-217 “Yeah, you don’t rush to make a diagnosis (for depression), I wouldn’t say” p8; 379-384 Focus on the physical illness, easier diagnosis; you don’t know how much the diagnosis of depression is going to be helpful. But priority to young people p9; 392-408</td>
</tr>
<tr>
<td>8</td>
<td>Screening test as a prompt but also family involvement and how well you know the patient p11; 493-498</td>
<td>Depression is treatable once it is recognised but it is missed as you check first the complex physical illness ”so many other physical problems going on” p5; 128-130 Treatment of both condition at the same time if possible p9;264-269 When limited of time then priority to LTC till the next meeting p9;274-280 but depression is severe which means life threatened then first p10; 285-293</td>
</tr>
<tr>
<td>10</td>
<td>Communication important for recognition; Easy to diagnose when you know the person p11; 296-311 It’s very important, otherwise you will not get eh you will not get the patient to come and tell you ‘by the way doctor I’ve been feeling very low ‘or you know any, any signs or symptoms of depression anxiety you will not get P14; 422-425 Not easy to communicate with patients with LTC and depression p 14; 430-434</td>
<td>For patients who do not comply, then it’s more important to check the physical illness first</td>
</tr>
<tr>
<td>11</td>
<td>Communication is crucial for the recognitions and management, for trust and sharing feelings; p8-9; 329-368</td>
<td></td>
</tr>
<tr>
<td>Page</td>
<td>Text</td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>------</td>
<td></td>
</tr>
<tr>
<td>P11; 433-445</td>
<td>Positive attitudes towards continuity of care p9; 372-378 Easy to communicate with patients who comply p9; 372-378</td>
<td></td>
</tr>
<tr>
<td>P10; 380-400</td>
<td>If the person is sable in general then it’s important to check the psychological aspect P10; 401-408 LTC is easy to be treated. When patients are on treatment for the LTC then with communication, depression is easy to be treated too p10; 411-422</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Pastoral as a role, listen and provide trust to hear complaints and help patients coping with the LTC and other psychological problems p3; 83-90 The Importance of the continuity of care- Follow-ups, important for recognition of depression p9; 420-424</td>
<td></td>
</tr>
<tr>
<td></td>
<td>“More of the time it depends on my mood and if I’m on the ball and willing to spend time or ask, and be astute, I will say, ‘So tell me about your mood.’ But, sometimes, I’m too busy or I just don’t connect.” P3; 109-112 Dealing with depression at the next consultation, too rush for now p3; 117-129 Depends on its importance at this time p4; 165-177 “So how do I prioritise? I suppose, it just happens naturally” p4; 179-180</td>
<td></td>
</tr>
<tr>
<td>GP</td>
<td>Perceived Benefits of recognising or managing depression</td>
<td>Perceived negative consequences if not recognised or managed</td>
</tr>
<tr>
<td>----</td>
<td>--------------------------------------------------------</td>
<td>----------------------------------------------------------</td>
</tr>
<tr>
<td>2</td>
<td>Importance of management on quality of life p4;162-164</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Correct diagnosis and appropriate treatment of both conditions is ideal for patients p5; 204-204</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Importance of management on quality of life p4;162-165</td>
<td>Need of holistic treatment, otherwise the illness doesn’t get better p3;122-126</td>
</tr>
<tr>
<td>6</td>
<td>Improve self-management of the LTC</td>
<td>Patients adopt unhealthy habits that might affect the LTC p9;239-243</td>
</tr>
<tr>
<td>7</td>
<td>Reduce pain, cope with pain. p4/5; 147-151</td>
<td>Vicious cycle of low mood, movement p6; 197-198</td>
</tr>
<tr>
<td></td>
<td>Contradiction be holistic but using separated $\phi$ and $\psi$ models p5; 152-155</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Diagnosis as a positive thing; importance of label, know what’s happening p6; 209-211</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Importance of apprehension for the next consultations: p14; 552-558</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>At the early stage of the LTC, the recognition/treatment helps the prognosis of the LTC and its self management and at the late stages makes the LTC palliative p9;413-420</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prognosis of LTC worse when depression is not manageable p8; 362-363</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Recognition of depression increases coherence of the problem and you can treat it correctly and patients feel better p5;153-155</td>
<td></td>
</tr>
<tr>
<td></td>
<td>“I think if you diagnose depression and treat the depression then we get a patient who’s more aware of what’s going on, who’s better at work, better in life and generally does better” p6;167-169</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Impact of diagnosis in LTC and life: LTC better controlled</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Comply to medication To checkups p6; 176-178</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Importance of recognition; Reduces ambiguity P13; 539-544</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>LTC better managed, patients co-operate and comply to doctor’s treatment p4: 169-174 p5; 203-220</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Improvement of the LTC p5; 207-209 P8; 382-387</td>
<td></td>
</tr>
<tr>
<td></td>
<td>It’s a condition on its own and it has to be treated p5; 229-231</td>
<td></td>
</tr>
<tr>
<td></td>
<td>“So by getting depression right, you’re dealing with a disorder, you’re helping them cope with something else they’ve got to deal with, and you’re dealing with some of the symptoms they’ve got, which are physical, that are related to the depression” p6; 235-238.</td>
<td></td>
</tr>
<tr>
<td>GP</td>
<td>Stigma</td>
<td>Attitudes towards patients adjustment: To get used to the condition</td>
</tr>
<tr>
<td>----</td>
<td>------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Stigma of depression; “Having limited time with patients, full stop is a bit frustrating. But on the other hand spending time with patients who over the years you know are impossible to help is also a waste of time, you know, it’s not a good use of time” <strong>p8; 370-372</strong></td>
<td>Adjustment and at some point you present it: “I think that just they present at some point in time where you think oh yeah well I think they’ve got depression so they may have had it for some time then” <strong>p17; 501-502</strong></td>
</tr>
<tr>
<td>6</td>
<td>Recognition could be a burden as it would be a second diagnosis <strong>p6; 212-229</strong></td>
<td>Depression resolves over time with social support <strong>p11; 420-421</strong></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>*I don’t know that people want to volunteer symptoms because they’ve got a long term condition so they maybe think that that’s how it’s going to be, they can’t see that it would maybe be different, if they’re feeling a bit hopeless or having problems with their mood then they might put it down to...and I don’t think it comes up naturally in a conversation <strong>p5; 213-217</strong></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Stigma just for young people, they do not want it in their records <strong>p9; 398-404</strong></td>
<td>*Patients prioritise the physical illness, psychological conditions not important, they want just the LTC checked <strong>p4; 184-196</strong></td>
</tr>
<tr>
<td>12</td>
<td>Stigma just for young people, they do not want it in their records <strong>p9; 398-404</strong></td>
<td>*Patients prioritise the physical illness, psychological conditions not important, they want just the LTC checked <strong>p4; 184-196</strong></td>
</tr>
<tr>
<td>Struggle to distinguish between sadness and depression (Identity)</td>
<td>Problems in coherence; physical and psychological symptoms interlinked</td>
<td>Ambiguity of symptoms (Identity confusing) Depression hidden by physical symptoms</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Ambiguity of symptoms (Identity of depression is confusing)</td>
<td>Struggle to distinguish between sadness and depression (Identity)</td>
<td>LTC and depression go hand in hand- normal response (Identity)</td>
</tr>
<tr>
<td>Depression is caused by the LTC. Change of the healthy identity, being ill for the rest of the life, unsure future</td>
<td>Depression is caused because of the exacerbation of the LTC, chronic pain and complications</td>
<td>Depression is caused by anxiety for the timeline of the LTC</td>
</tr>
<tr>
<td>Depression is treatable with medication and other therapies (treatment control) Therefore the consequences on the LTC are less (perceived benefits)</td>
<td>Vicious cycle; exacerbates each other (consequences) Depression makes the LTC worse (compliance, self-management, more risk, lack of motivation, quality of life)</td>
<td>Depression as a consequence of the LTC; More as a symptom than a medical condition; the cause of depression is the LTC</td>
</tr>
<tr>
<td>Depression is persistent as a LTC (timeline)</td>
<td>LTC and depression timeline is sinusoidal; LTC gets better when depression gets better and vice versa (as a cause and consequence)</td>
<td>Depression gets better when the LTC gets better</td>
</tr>
</tbody>
</table>

GPs see depression as a consequence of the LTC and mostly as a symptom of the LTC. They do not conceptualise it as a medical condition to be treated when there is not an impact on the LTC. Some acknowledge the importance of treatment as beneficial for the LTC. Link the causes of the depression to the symptoms in order to recognise and manage depression.
Appendix Z: Invitation letter to practice managers for the qualitative study

Room 7.29 Williamson Building
University of Manchester
Oxford Road
Manchester
M15 9PL

Dear ,

My name is Dimitra Karachaliou and as part of my PhD project I am conducting a study to find out about healthcare professionals’ views of patients with long term conditions (LTC) and depression. We would like to invite your clinical staff to take part in our study as we hope that this study will lead to new ways of helping people to cope with depression and physical LTCs.

The purpose of the study is:
- To examine clinicians’ illness beliefs and perceptions about physical LTCs
- To explore clinicians’ intention to recognise depression in patients with physical LTCs and how this impacts on their decision making for treating and managing depression among individuals with physical LTCs.
- To look at the influence of other factors such as experience and confidence on decision making for treating and recognizing depression in people with LTCs.

We are looking for general practitioners, practice nurses and Primary Care specialists working with people with LTCs in a primary care setting. The study requires approximately 45 minutes of the clinician’s time to take part in an interview discussion.

I am aware that your practice is quite busy but I am flexible to arrange the interviews at a time and location convenient for the staff. I would be very grateful if you forward the information to the clinical staff. Enclosed is an information sheet that provides you with further details about the aims and objectives of the study.

If you would like to know more, please do not hesitate to contact me on 0161 3067043 and I will answer any questions you may have. Otherwise, I will contact you next week to discuss the possibility of helping out with my study.

For more information you may also contact my supervisor Dr Christine Bundy at christine.bundy@manchester.ac.uk

Yours faithfully,
Dimitra Karachaliou
PhD Student
Greater Manchester CLAHRC
dimitra.karachaliou@postgrad.manchester.ac.uk
Appendix ZZ: Participant information sheet for qualitative study

**Participant Information Sheet**

Exploring clinicians' personal models of self-care and comorbidity

Dimitra Karachaliou, PhD student
University of Manchester, School of Community Based Medicine

**Introduction**

You are being invited to take part in a university research study to help us understand how clinicians think about people who suffer from a physical long term condition (LTC) such as diabetes and/or coronary heart disease and depression. Before you decide whether to take part it is important for you to understand why the research is being done and what it will involve. Please take time to read this information sheet carefully and feel free to ask any question.

**What is the purpose of the study?**

Depression is common among people who also suffer from physical LTCs such as coronary heart disease or diabetes. Depression in people who have these LTC is also linked to poor outcomes such as worse quality of life and more episodes of illness. The purpose of the study is to examine to what extent your beliefs and perceptions about patients’ LTC affect your decision and intention to recognise and treat depression.

**Why have I been chosen?**

You have been chosen because you are involved with the management of people with physical LTC and depression and you have stated a willingness to help with this study.

**Do I have to take part?**

If you decide to participate in this study it is completely voluntary and you may withdraw from the study at any time, without giving a reason. You may also withdraw your data from the study up to 1 month after the interview has been taken place. The answers you will provide during the interview will be kept confidentially. The data will only be used and assessed by the main investigator and reviewed by the research team. If you would like to take part in then please read the information overleaf carefully and if you are still interested in taking part, please sign and return the consent form to Dimitra Karachaliou.
What will happen to me if I take part?
If you agree to take part you will spend about forty-five to sixty minutes with the researcher who will ask you questions about your experience of caring for someone with a LTC such as coronary heart disease or diabetes.

The researcher will arrange with you a time and a place for the interview to take place. Before the interview takes place the researcher will ask for your permission to make an audio recording. You do not have to agree to this. If you feel tired or unable to continue with the interview you can stop and take a break. The researcher will not ask you to finish the interview if you do not want to.

What are the possible disadvantages and risks of taking part?
As this part of the study only involves one face-to-face interview there is no disadvantage in taking part. If you have any concerns about the interview you can ask the researcher.

What are the possible benefits of taking part?
We cannot promise that the study will help you directly, but the information we get from the interviews might help improve the care and treatment of people with physical LTCs.

What happens when the research study stops?
When the study is completed I will write to you and let you have a summary of the results.

What if there is a problem?
If you have any questions or require further information about the study you can ask the main investigator for assistance or for further explanation at any time throughout the study. If you have any queries once the study is over you may contact Dimitra Karachaliou on 07800996560 or via mail at dimitra.karachaliou@postgrad.manchester.ac.uk

If you still remain unhappy and wish to complain formally, you can get in touch with Dr Christine Bundy or Dr Peter Coventry, at the University of Manchester (0161 276 5272) who are in overall charge of the conduct of this project.

If they are unable to resolve your concern or you wish to make a complaint regarding the study, please contact a University Research Practice and Governance Co-ordinator on 0161 2757583 or 0161 2758093 or by email to research.governance@manchester.ac.uk.

Will my taking part in the study be kept confidential?
The confidentiality of your personal information and your anonymity will be preserved in the following way: Each participant will choose a personal code, consisting of numbers and letters which will be used throughout analysis of the interview. All the interview transcripts and records will be stored by the researcher in a locked filing cabinet and in secured University computers. Any audio recording made of the interview and any information
about you will have your name and address removed so that you cannot be recognised from it. All information related to this study will be kept for 10 years and then confidentially destroyed.

**Who is organising and funding the research?**

The National Institute of Health Research is funding this study as part of the Greater Manchester CLAHRC

**Who has reviewed the study?**

An independent panel of experts have reviewed this study as part of the GM-CLAHRC on behalf of the National Institute of Health Research. The study supervisors have reviewed the study along with the CLAHRC Practitioner Theme research group.

**Contact details**

The lead researchers for this study are Miss Dimitra Karachaliou, Dr Christine Bundy, Dr Peter Coventry and Dr Christopher Dickens who are based at the University of Manchester, and can be reached on 0161 276 5272.

Thank you for taking the time to read this information sheet.

Dimitra Karachaliou

PhD Student
Greater Manchester CLAHRC
School of Community Based Medicine
7th Floor Williamson Building, Suite 13, tel: 0161 3067043
The University of Manchester
Oxford Road
Manchester M13 9PL
Web: [http://clahrc-gm.nihr.ac.uk/](http://clahrc-gm.nihr.ac.uk/)
dimitra.karachaliou@postgrad.manchester.ac.uk
Appendix ZZZ: Additional statistical analysis

Distribution and difference between Time 1 and Time 2
Self-efficacy and Intentions sections (Time 1 and Time 2) were also explored using the Kolmogorov-Smirnov (K-S) test to assess (and confirm) whether the distributions were normal. Skewness and Kurtosis values as well as box-plots and histograms were obtained for the 16 participants to examine the distributions for the self-efficacy and intentions variables prior and after to participating in the FoR.D intervention. The results in table A showed that the ‘Self-efficacy’ and ‘Intentions’, however, presented a non-significant result (sig value of more than .05) which indicates normality.

Table-Appendix ZZZ: Kolmogorov-Smirnov (K-S) test for self-efficacy and Intentions sections

<table>
<thead>
<tr>
<th>Time Subsection</th>
<th>Before FoR.D (n=16)</th>
<th>After FoR.D (n=16)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Kolmogorov-Smirnov</td>
<td>Kolmogorov-Smirnov</td>
</tr>
<tr>
<td></td>
<td>Statistic p-value</td>
<td>Skewness Kurtosis</td>
</tr>
<tr>
<td>Self-efficacy</td>
<td>.16 .200</td>
<td>.42 -.58</td>
</tr>
<tr>
<td>Intentions</td>
<td>.19 .123</td>
<td>-.42 .19</td>
</tr>
</tbody>
</table>

Statistically significant difference at the *P<0.05 level, **p<0.01 level and ***p<0.001 level

Owing to the small sample size, any significant differences presented after conducting a paired samples t-test to compare two related means must be treated with great caution. The group descriptive data and tests of difference results are presented in Table B.
Table-Appendix A: Differences and Effect size

<table>
<thead>
<tr>
<th>Outcome measure</th>
<th>RAW DIFFERENCE</th>
<th>STANDARDISED EFFECT SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DATA ENTRY</td>
<td>RAW DIFFERENCE</td>
</tr>
<tr>
<td></td>
<td>mean</td>
<td>n</td>
</tr>
<tr>
<td>Self-efficacy</td>
<td>40.81</td>
<td>16</td>
</tr>
<tr>
<td>Intentions</td>
<td>46.63</td>
<td>16</td>
</tr>
</tbody>
</table>

Statistically significant difference at the *P<0.05 level
The mean difference in both variables shows that participants tended to have higher self-efficacy and intentions to recognising and managing depression more after the FoR.D intervention.

The results suggest that HCPs scored higher in self-efficacy following FoR.D (Mean= 40.81, SD=7.08) than before taking part in the FoR.D (M= 37.88, SD = 8.25). Additionally, the results indicate that HCPs scored higher in intentions following FoR.D (Mean= 46.63, SD=5.23) than before taking part in the FoR.D (M= 41.56, SD = 8.25). In order to test the efficacy of the FoR.D intervention, a paired sample t-test was conducted, as this is a one-group pre-post design. This paired sample t-test was found statistically significant for intentions, t(15)=−3.232, p<0.05; Hedges's g = .68. The effect size for this analysis (Hedges's g = .68) was found to exceed Cohen’s (1988)3 convention for a medium effect (d = .50). Self-efficacy did not reach statistical significance.

Regardless the significant result, any differences can only be taken into consideration with great caution as the study is underpowered.

---

2 The Hedges’s g was used as it incorporates an adjustment which removes the bias of Cohen’s d and it is more appropriate for very small sample sizes (Durlak, 2009). Although the difference between Hedges's gs and Cohen's ds is very small (Kline, 2004), it is preferable (and just as easy) to report Hedges's gs.

3 Cohen's (1988) SMDs of 0.20 are “small” in magnitude; those around 0.50 are “medium” and those around or above 0.80 are “large.”