

# **Is active case finding of depression in primary care patients aged 65-74 worthwhile?**

Thesis submitted for the Degree of  
Doctor of Medicine  
at the University of Leicester

by

Ulrich Freudenstein  
University of Leicester

December 2000

UMI Number: U140307

All rights reserved

INFORMATION TO ALL USERS

The quality of this reproduction is dependent upon the quality of the copy submitted.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if material had to be removed, a note will indicate the deletion.



UMI U140307

Published by ProQuest LLC 2013. Copyright in the Dissertation held by the Author.  
Microform Edition © ProQuest LLC.

All rights reserved. This work is protected against  
unauthorized copying under Title 17, United States Code.



ProQuest LLC  
789 East Eisenhower Parkway  
P.O. Box 1346  
Ann Arbor, MI 48106-1346

## **Acknowledgements**

I received funding through a grant for the research from the Regional Office of the NHS Executive Trent (Research and Development).

Carol Jagger was my supervisor during the research and provided invaluable support. The members of the steering group, in particular Antony Arthur, Mike Clarke, James Lindesay, Alison Hipkin and Barbara Holt gave advice on many aspects of the work at all stages. Carol Jagger and Antony Arthur contributed to the systematic review of treatment for late life depression. Special thanks have to go to all the doctors and staff at Latham House Medical Practice who supported this research project as they have done with many others in the past.

I am grateful to Jane Johnson, Jayne Wilson, Peta Halls, Di Hampson, Joy Slater and Sarah Gilbert who sent out letters, interviewed participants, collected information from general practice records and transferred the information onto the electronic database. Jane Johnson, Jayne Wilson and Peta Halls reviewed studies for the systematic review of treatment for depression in primary care and also extracted data.

Danny Kirby helped with transfer of data and the merging of data files. Ruth Flynn provided support with the analysis of the data and statistical advice. Julie-Ann Watson suggested relevant databases for the literature search and tested the search strategies.

Arnold Heaney from Melton Mowbray Social Services, Joan Hill of the Community Mental Health Team and Steven Carr of the Leicestershire and Rutland Healthcare Trust provided valuable information.

I also acknowledge the use of data from the General Household Survey 1994 and 1996 for comparison with our data. The material from the General Household Survey is Crown Copyright; it has been made available by the Office for National Statistics (ONS) through the Data Archive and has been used by permission. Neither the ONS nor the Data Archive bear any responsibility for the analysis or interpretation of the data reported here.

Most of all I wish to thank all those people registered with Latham House Medical Practice who generously gave their time and took part in the research.

# Table of Contents

<b>Table of Tables</b>	<b>3</b>
<b>Table of Figures</b>	<b>5</b>
<b>Glossary of Abbreviations and Terms</b>	<b>6</b>
<b>Chapter 1: Introduction</b>	<b>7</b>
<b>Chapter 2: Background</b>	<b>8</b>
2.1 Review of the Literature on Depression	9
2.2 Depression	10
2.3 Diagnosing Depression	10
2.4 Prevalence of Late Life Depression	11
2.5 Incidence of Late Life depression	14
2.6 Factors associated with the Onset of Depression in Old Age	16
2.7 Natural History of Depression in Older People	17
2.8 Depression in Rural and Urban Areas	18
2.9 Minor and Major Depression	18
2.10 Adherence to Treatment for Late Life Depression	20
2.11 Treatment for Depression in Older People in Primary Care	26
2.11.1 Methods	26
2.12 Case finding and Screening for Late Life Depression in Primary Care	36
2.13 Summary of the Background	37
<b>Chapter 3: Population Survey and Patient Record Audit</b>	<b>38</b>
3.1 Aim	38
3.2 Objectives	38
3.3 Setting, Population and Methods	39
3.4 Setting	39
3.4.1 Melton Mowbray	39
3.4.2 General Practice Characteristics and Staffing	40
3.4.3 Data recording and information management within the practice	42
3.4.4 Emergency Treatment, Out of Hours Treatment and Community Hospital Care	42
3.4.5 Community Mental Health Team	42
3.4.6 Workload of the Community Mental Health Team (CMHT)	43
3.4.7 Community Nursing Services	44
3.4.8 Workload of the Community Nursing Service	45
3.5 Population	46
3.6 The Survey	46
3.7 Time Period covered by Survey Questions	48
3.8 Selection and Recruitment of Subjects for the Survey	48
3.9 Exclusion Criteria - Survey	49
3.10 Second Stage of the Survey - Psychiatric Interview using SCAN	49
3.11 Exclusion Criteria - SCAN Interview	51
3.12 General Practice Record Audit	51
3.13 Exclusion Criteria – Record Audit	53

3.14	Quality Assurance and Safeguarding of Patients' Interests	53
3.15	Data Handling, Entry and Statistical Analysis	54
3.16	Summary of Setting, Population and Methods	55
<b>Chapter 4: Results</b>		<b>57</b>
4.1	Responders and Non-responders to the Population Survey	59
4.2	Profile of Health, Disability and Service Use	60
4.3	Drug treatment and Use of Psychoactive Drugs in the Study Population	66
4.4	Prevalence of Dementia	69
4.5	Prevalence of Depression	71
4.6	Distribution of Depressive Symptoms among Survey Participants	71
4.7	Estimated Population Prevalence of Major Depression	72
4.8	Responders and Non-Responders to Present State Examination (SCAN)	73
4.9	Psychiatric Co-morbidity of Patients with Major Depression	74
4.10	Case finding Strategies for Depression	77
4.11	Modelling the outcomes of case finding	78
4.11.1	Assumptions underlying the Model	79
4.11.2	Models of the Outcome of Major Depressive Episode in Community Samples of people in the UK	82
4.12	Summary of the Results	87
<b>Chapter 5: Discussion</b>		<b>89</b>
5.1	Implications of the Active Case Finding of Depression in Primary Care in the UK	89
5.2	Reliability, Completeness, Generalisability of the Literature Review	90
5.3	Validity, Reliability and Generalisability of the Survey	92
5.4	Validity, Reliability and Generalisability of the Psychiatric Interview	93
5.5	Validity, Reliability and Generalisability of the Record Audit	95
5.6	Generalisability of the choice of subgroups for case finding of depression	98
5.7	Generalisability of Strategies for Finding Cases of Late Life Depression in Primary Care	98
<b>Chapter 6: Conclusions and Recommendations for Future Research</b>		<b>101</b>
6.1	Conclusions and Recommendations based on Review of the Literature	101
6.2	Conclusions and Recommendations based on the Results of this Study	102
<b>Appendix 1 Letters sent to the study population</b>		<b>103</b>
<b>Appendix 2 Letter of invitation to the SCAN interview</b>		<b>105</b>
<b>Appendix 3 Patient information leaflet</b>		<b>106</b>
<b>Appendix 4 The patient consent form</b>		<b>107</b>
<b>Appendix 5 The survey data collection form</b>		<b>108</b>
<b>Appendix 6 The general practice record data collection form</b>		<b>141</b>
<b>Appendix 7 Coding Table for Psychoactive Drugs</b>		<b>151</b>
<b>Appendix 8 Literature review – Search strategies</b>		<b>155</b>
<b>References</b>		<b>160</b>

## Table of Tables

<i>Table 2 - 1 Summary of the Literature Review, Search Strategies and Databases searched</i>	9
<i>Table 2 - 2 Population prevalence of major depression and depressive symptoms in People aged &gt;65 in Europe</i>	12
<i>Table 2 - 3 Factors associated with depression or depressive symptoms of older people</i>	16
<i>Table 2 - 4 Table reproduced from a meta-analysis of studies of prognosis of depression</i>	17
<i>Table 2 - 5 Compliance with treatment for depression: Taking less than prescribed – Summary of Studies</i>	22
<i>Table 2 - 6 Compliance with treatment for depression: Stopping treatment – Summary of Studies</i>	23
<i>Table 2 - 7 Compliance with treatment for depression: Refusing treatment</i>	24
<i>Table 2 - 8 Compliance with treatment for depression: Dropping out due to side-effects of a specific drug*</i>	24
<i>Table 2 - 9 Included studies meeting all selection and quality criteria of patients over the age of 60 years and studies which included some patients over 60 years of age</i>	29
<i>Table 2 - 10 Excluded studies meeting all selection but not all quality criteria of patients over the age of 60 years and those including some patients over the age of 60 years with reason for exclusion</i>	32
<i>Table 2 - 11 Common Exclusion Criteria for Trials of Antidepressant Drugs in Older People (based on the reviewed trials)</i>	35
<i>Table 3 - 1 Practice Characteristics and Staff Numbers</i>	41
<i>Table 3 - 2 Staffing, population coverage and approximate caseload of the Community Mental Health Team based in Melton Mowbray</i>	43
<i>Table 3 - 3 Contacts with all members of the Community Mental Health Team and inpatient bed days for 65-74 year old patients and those over 75 in 1996/7 for Latham House Medical Practice (% in brackets)</i>	44
<i>Table 3 - 4 Community Nursing Team contacts with Latham House Medical Practice patients between 1/4/98 and 30/9/98 N (%)</i>	45
<i>Table 3 - 5 Community Nurses working for Latham House Medical Practice compared with other practices in Leicestershire (Whole Time Equivalent (WTE) per 100,000 population) by age group</i>	45
<i>Table 3 - 6 Contents of survey</i>	47

<i>Table 3 - 7 Contents of the Audit of General Practice Records</i>	52
<i>Table 4 - 1 Comparison of responders and non-responders to the survey using data from the general practice record audit</i>	59
<i>Table 4 - 2 Profile of survey participants (N=1912): Age, sex and mental health</i>	61
<i>Table 4 - 3 Profile of survey participants (N=1912): Self-reported social service use</i>	62
<i>Table 4 - 4 Profile of survey participants (N=1912): Self-reported health service use</i>	64
<i>Table 4 - 5 Profile of survey participants (N=1912): Self-reported activities of daily living</i>	65
<i>Table 4 - 6 Patients on any prescribed drug treatment (excluding immunisations) and psychoactive drugs in the preceding complete calendar month (N=2622)</i>	66
<i>Table 4 - 7 Tranquillisers and Hypnotics, Generic Name and Proportion of Prescriptions (N=138)</i>	67
<i>Table 4 - 8 Antidepressants prescribed, generic name and proportion of prescriptions (N=102)</i>	68
<i>Table 4 - 9 Neuroleptics prescribed, generic name and proportion of prescriptions (N=32) (excludes Prochlorperazine)</i>	69
<i>Table 4 - 10 Comparison of participants and non-participants in SCAN interview, using survey and general practice record audit data</i>	73
<i>Table 4 - 11 Comparison of those with major depression from SCAN with the rest of the study population using survey information</i>	75
<i>Table 4 - 12 Comparison of those with major depression from SCAN with the rest of the survey respondents using general practice record audit information</i>	76
<i>Table 4 - 13 Numbers needed to find one case of severe depression by using GDS and SCAN in subgroups of the population</i>	78
<i>Table 4 - 14 Population outcomes of late life depression</i>	80

## Table of Figures

<i>Figure 3 - 1 The Catchment Area of the Study Practice in Leicestershire</i>	40
<i>Figure 3 - 2 The Study Process in Overview</i>	56
<i>Figure 4 - 1 Flowchart of survey participation</i>	58
<i>Figure 4 - 2 Distribution of scores of the Clifton Assessment Schedule (Information/Orientation Sub-scale) among the participants of the survey</i>	70
<i>Figure 4 - 3 Distribution of Geriatric Depression Scale scores in the survey population (N=1912)</i>	72
<i>Figure 4 - 4 Psychiatric co-morbidity of the patients with a major depressive episode</i>	74
<i>Figure 4 - 5 Baseline Model – Usual General Practice Care</i>	82
<i>Figure 4 - 6 Model of Case finding in the General Population</i>	82
<i>Figure 4 - 7 Model of Case finding among People living alone</i>	83
<i>Figure 4 - 8 Model of Case finding among patients on antidepressants</i>	83
<i>Figure 4 - 9 Model of Case finding among patients on tranquillisers or hypnotics (excluding those also on antidepressants)</i>	84
<i>Figure 4 - 10 Model of Case finding among patients on antidepressants or tranquillisers or hypnotics</i>	85
<i>Figure 4 - 11 Models of Case finding among GP attenders (in a 3-month period)</i>	86
<i>Figure 4 - 12 Comparing Models and Outcomes of Case finding for Late Life Depression</i>	87



## Glossary of Abbreviations and Terms

AD	Dementia of the Alzheimer Type
CAMDEX	Cambridge Mental Disorders of the Elderly
CAPE I/O	Clifton Assessment Procedures for the Elderly, Information and Orientation Subscale
CES-D	Center for Epidemiological Studies Depression Scale
CMHT	Community Mental Health Team
DIS	Diagnostic Interview Schedule
DSM	Diagnostic Statistical Manual of the American Psychiatric Association
GDS	Geriatric Depression Scale (15 item version unless stated otherwise)
GMS - Agecat	Geriatric Mental State Examination (using computerised diagnostic algorithm)
GP	General Practitioner
Ham-D	Hamilton Rating Scale for Depression
Heterocyclic	Heterocyclic Antidepressant
ICD	International Classification of Diseases
LRHT	Leicestershire and Rutland Healthcare NHS Trust
MADRS	Montgomery Åsberg Depression Rating Scale
MHE	Mental Health Expectancy
NAI	Nurse Assessment Instrument
ONS	Office for National Statistics
PSE	Present State Examination
SCAN	Schedule for Clinical Assessment in Neuropsychiatry
SSRI	Selective Serotonin Reuptake Inhibitor
Tricyclic	Tricyclic Antidepressant
VaD	Vascular Dementia
WTE	Whole Time Equivalent

## Chapter 1: Introduction

Major depression as defined in ICD 10<sup>1</sup> is associated with reduced wellbeing, increased mortality<sup>2,3</sup> and increased health service utilisation.<sup>4-6</sup> Major depression in population and primary care samples over the age of 55 has a prevalence of 1.8% although estimates as high as 35% have been reported. Depressive symptoms below the level of major depression are more common at around 9.8%.<sup>7</sup>

Major depression can be alleviated or cured, at least in the short term, by antidepressant drug therapy<sup>8</sup> or psychotherapy.<sup>9-12</sup> However, screening for depression in general has not been recommended in the USA.<sup>13</sup> A consensus statement by psychiatrists and general practitioners in the UK suggested that general screening for depression in older people should not be carried out because it might overload clinical services. It stated further that beneficial outcomes from screening had not been clearly established for older people.<sup>14</sup>

Objections to general screening notwithstanding, one of the authors of the consensus statement suggested in an earlier publication that depression should be actively sought in depressed primary care attenders in the UK because of their increased prevalence of depression compared with the general population.<sup>15</sup> The author did not elaborate on the numbers that might be involved in such a strategy and the implications for primary care. Moreover, the present author could not identify any information that would help primary care practitioners and planners to target subgroups of the population (other than primary care attenders) for case finding or screening of depression.

This study therefore intended to establish how many older patients with major depression could be identified by targeting subgroups of the population in primary care. Many general practices in the UK keep computerised records of patients' personal details, morbidity and prescribing information. Therefore they are able to identify patients on antidepressant therapy, on anxiolytic and hypnotic drugs and primary care attenders. Patients who live alone are less easily identified from patient records but could be targeted if such information was routinely sought and recorded on the computerised age/sex register.

The proportion of patients with major depression in the total population contained in these subgroups was identified. This was possible through a population survey of depression

among a 65-74 year old population and a concurrent audit of the general practice record of the same group.

The results are presented within the context of a systematic review of the available evidence on treatment benefit, a general review of the literature on compliance with treatment and the natural history of late life depression. The results of this study should help general practitioners in the UK to decide whether or not to practise active case finding among subgroups of their older patients.

## **Chapter 2: Background**

This chapter presents the relevant literature on late life depression in primary care. The methods of obtaining the cited information are described at the beginning, followed by an overview of the definition of depression, its diagnosis, its prevalence, incidence and natural history among older people. There is also a section on the compliance of older people with antidepressant treatment. In addition, this chapter includes a systematic review of the literature on the effectiveness of treatment of late life depression in primary care. The term 'case finding' is used in preference to 'screening' throughout this thesis. The meaning of these terms is defined in section 2.12 at the end of this chapter.

By the time this study ended the UK government published its National Service Framework for Mental Health.<sup>16</sup> It emphasised that any primary care attender with a mental health problem should have their mental health needs identified and assessed and be offered effective treatment.<sup>16</sup> This makes the review of treatment particularly useful in the current policy context as the aim was to identify the evidence of effectiveness among older people of commonly used treatments for depression either in primary care or primary care patients.

## **2.1 Review of the Literature on Depression**

The extent of the literature review that accompanied the survey and audit are presented below in tabular form. The systematic review of treatments of late life depression in primary care will be described in detail in a separate section.

All literature included in this chapter had the present author as the sole reviewer with the exception of the systematic review of treatment referred to above. The initial process for identifying relevant published research, however, was the same for the general and systematic review. The present author produced and refined search strategies tested by the librarian. Unless specified otherwise, material in English, French and German published between 1980 and June 1999 was included. The present author decided which articles to obtain on the basis of the abstract, or title if no abstract was available. Details of the search strategies are contained in the appendix.

**Table 2 - 1     Summary of the Literature Review, Search Strategies and Databases searched**

<b>Subject of Review (Databases)</b>	<b>Summary of Search strategy</b>	<b>Time period and languages of publications included</b>
Epidemiology of Depression in Europe (Embase, Medline)	Prevalence or incidence Depression Age over 65	1980-1999 English, French, German
Adherence to antidepressant medication (Medline, Embase, IDIS, Pharmline)	Adherence to or compliance with drug treatment of depression Age over 65	1980-1999 English, French, German

The searches produced many other useful references. They contained information on the diagnosis and treatment of depression, the epidemiology of depression in subgroups of the population and health service utilisation by depressed patients in primary care settings as well as the natural history of depression. These diverse publications were appeared within the same time period and in the same languages as outlined above. They are cited within the background and discussion section of this report.

## **2.2 Depression**

Blanchard summarised the nature of depression succinctly as a mixture of subjective experiences, usually involving unhappiness and generally lowered mood.<sup>17</sup> Lesser degrees of unhappiness are fairly common.<sup>7</sup> What distinguishes the level of low mood experienced by many from severe depression is the duration and the severity of symptoms.<sup>17</sup> The diagnosis does not rely on any objective test, but on the judgement of the interviewer. He may be helped by a structured approach such as the Present State Examination taught to UK psychiatrists or by structured or semi-structured research questionnaires in epidemiological studies.

## **2.3 Diagnosing Depression**

In psychiatry and epidemiological research the diagnosis is commonly based on a minimum number of symptoms required to be present and a minimum duration of at least two weeks. This is the approach codified in classification systems such as the International Classification of Diseases (ICD)<sup>1</sup> or the Diagnostic Statistical Manual of the American Psychiatric Association (DSM).<sup>18</sup>

Instruments based on ICD or DSM classifications do not yield the same results for major depressive disorder. ICD-10 allows the diagnosis of mild, moderate or severe depressive episodes as subcategories of major depressive disorder. By contrast DSM-III-R specifies criteria for major depressive disorder without subcategories (although DSM-IV now also differentiates between different levels of severity of depression).<sup>18</sup> A study using ICD-10 and DSM-III-R criteria in the same interview identified three times as many patients with depression when using ICD criteria than when using DSM criteria.<sup>19,20</sup>

The main diagnostic survey instruments are the Geriatric Mental State Examination (GMS - a survey instrument modified for use with the elderly)<sup>21</sup> and the Schedule of Clinical Assessment in Neuropsychiatry (SCAN).<sup>22</sup> Both allow the diagnosis of depression and also of any other mental disorder.

Short questionnaires can be used for the rapid identification of patients likely to be depressed. In this study the 15 item Geriatric Depression Scale (GDS) was used for this

purpose.<sup>23</sup> Depending on the chosen cut off score it can identify around 80-90% of severely depressed individuals correctly. However, it also identifies many more people with lesser degrees of depressed mood at the same time. SCAN was used to confirm or refute the diagnosis of depression among those identified as probably depressed by the GDS.

In contrast primary care physicians rely on their experience rather than formal criteria to diagnose depression.<sup>24</sup> Unsurprisingly, more than half of severely depressed primary care attenders remain undiagnosed by general practitioners and this seems unrelated to the degree of impaired functioning due to the depression.<sup>25</sup> This was further substantiated by an experimental study. The consultations of 53 primary care physicians with two simulated patients were recorded on video. The “patients” depressive symptoms fulfilled criteria for severe depression but their presenting complaints were of physical symptoms. Only 45% of primary care physicians diagnosed depression. The reasons they gave for considering depression as a likely diagnosis ranged from the presence of social stress in the patient’s life, the patient’s appearance, the presence of neurovegetative symptoms (e.g. tiredness, loss of interest) and more specific diagnostic criteria as used in psychiatry. There were no significant differences between the criteria of primary care physicians who diagnosed only one or both patients as depressed. None of the physicians used the full list of DSM criteria to make the diagnosis.<sup>26</sup>

## ***2.4 Prevalence of Late Life Depression***

The prevalence of depression is usually determined as period prevalence for the month preceding the interview. A recent systematic review of international studies of the prevalence of depression in older people (over 55) provided average rates of 1.8% for major depression and an average prevalence of minor depression of 9.8%.<sup>7</sup> These results were weighted for sample size but not for age, sex or method of diagnosis.

Table 2-2 lists European studies of the prevalence of depression among people over the age of 65 years. Prevalence rates of major depression were 1-5% (Range 0.7 to 12.7%), confirming that the international data are not too dissimilar. These values are not adjusted for sample size, age and sex, non-response rates, survey design or survey instrument.

**Table 2 - 2    Population prevalence of major depression and depressive symptoms in  
People aged >65 in Europe**

<b>Country Urban (U) /Rural (R) i.e. small towns of 25,000 or fewer people</b>	<b>Population</b>	<b>Method of Diagnosis</b>	<b>Sample size, Age range (if other than over 65 years), Response rate in %</b>	<b>Prevalence in % of major and (minor) depression for men and women (unless stated otherwise)</b>	<b>Time period (months)</b>
<b>Ireland (U)<sup>27</sup></b>	Registered population from non-random sample general practices, excluding residential care	GMS-AGECAT	1232 84%	0.7	1
<b>UK (U)<sup>28</sup></b>	Registered population of random sample of general practices	GMS-AGECAT	1070 72%	2.9 (8.3)	1
<b>UK (U)<sup>29</sup></b>	Random sample from electoral register	CARE schedule	890 86%	3.2, 1.9 (men) 5.1, 5.4 (women)	1
<b>UK (U)<sup>30</sup></b>	Random sample of a registered population of a random sample of general practitioners	CARE schedule –GMS-AGECAT applied by psychiatrists	396 81%	3.3 (16.2)	1
<b>Germany (U)<sup>31</sup> *</b>	Random sample of registered population (excluding 10% whose names were withheld for "security reasons")	GMS-AGECAT	347 89%	12.7 (17.5)	1
<b>Finland (R)<sup>32</sup></b>	Total population of small town, excluding moderate and severe dementia	DSM III criteria applied by general practitioners	1022 88%	2.2 (13.9) minor depression includes dysthymia and atypical depression, cyclothymic disorder was another 0.5%	Not stated

\*Did include nursing home residents

<b>Country</b> <b>Urban (U)</b> <b>/Rural (R)</b> <b>i.e. small</b> <b>towns of</b> <b>25,000 or</b> <b>fewer people</b>	<b>Population</b>	<b>Method of</b> <b>Diagnosis</b>	<b>Sample</b> <b>size,</b> <b>Age range</b> <b>(if other</b> <b>than over</b> <b>65 years),</b> <b>Response</b> <b>rate in %</b>	<b>Prevalence in</b> <b>% of major</b> <b>and (minor)</b> <b>depression for</b> <b>men and</b> <b>women</b> <b>(unless stated</b> <b>otherwise)</b>	<b>Time</b> <b>period</b> <b>(months)</b>
<b>Finland (U)</b> <sup>33</sup>	Random sample of residents	DSM III criteria applied by general practitioner	651 ages 75, 80, 85 82%	Major depression only 5.7%	Not stated
<b>UK (U)</b> <sup>34</sup>	Random sample of registered population of a non-random sample of general practitioners	GMS-AGECAT applied by nurse interviewers	6035 87%	2.9 (7.1)	1
<b>Spain (U)</b> <sup>35</sup>	Random sample from municipal census list	a) GMS AGECAAT applied by lay interviewers b) Clinical interview of screen positives (2 month time lag) by psychiatrist using DSM III criteria	788 69.5% at screening  324 92% at diagnostic stage	1.0 (3.8) minor depression includes adjustment disorder and dysthymia	1
<b>Sweden (U)</b> <sup>36</sup>	Residents of one urban district who had participated in an earlier study (original participation 86%)	Physicians using DSM IV criteria	1101 over 75 Response rate not possible to calculate from data provided	3.9 (non demented)  11.7 (demented)	Not stated
<b>Sweden (U)</b> <sup>37</sup>	Residents of a district	Physicians using DSM IV and ICD-10 criteria	329 over 90 85%	5 (DSM IV) ICD-10: 4.9 mild 3.0 moderate 1.2 severe	Not stated



<b>Country Urban (U) /Rural (R) i.e. small towns of 25,000 or fewer people</b>	<b>Population</b>	<b>Method of Diagnosis</b>	<b>Sample size, Age range (if other than over 65 years), Response rate in %</b>	<b>Prevalence in % of major and (minor) depression for men and women (unless stated otherwise)</b>	<b>Time period (months)</b>
<b>Netherlands (U/R)</b> <sup>38</sup>	Stratified weighted random sample of the population of three districts previously approached for another study and recontacted	CES-D for screening  DIS for diagnosis both applied by trained interviewers	3107 55-85 years 51% of original sample at screening  86% of those above cut point for diagnosis	2 (12.9)	1
<b>UK (U)</b> <sup>39</sup>	Survivors of previously studied group after 2.5 years, excluding those who had died, those with dementia and those who had left the area.	Depression Symptom Score  CAMDEX interview by clinician (also applied DSM III-R criteria)	1173 at screening  461 at diagnostic interview stage  over 77 67%	CAMDEX 3.9 (not specified)  DSM III R 3.0 (7.4)	Not stated

## **2.5 Incidence of Late Life depression**

Over 3 - 4 years, 2% - 4% of older people are likely to become newly depressed and this excludes those who became depressed and recovered in the interim. General practitioners start around 1.3% of the population on antidepressants each year. The studies providing these data are summarised in the following paragraphs.

A community cohort of older people in Liverpool<sup>28</sup> was re-interviewed after 3 years. 4.1% of those who had not previously been depressed had by then become so. This excluded

those who had been depressed or demented on both occasions, those who became depressed but recovered in the meantime and those who refused to be interviewed or died. Annual incidence may therefore be higher than the three-year incidence of 4.1%.<sup>40</sup>

A sample of 1045 community dwelling people over 70 in Eastern Australia was investigated for depression in 1990-1 and re-interviewed 3.6 years later. 969 people were free of depression at the first interview (92.8%) and 31 were depressed by ICD10 criteria (3%). At the second interview 648 patients could be re-interviewed (the remainder had died or did not want to take part) and of those, 2.1% had become newly depressed. 17 of those who had been depressed were available for interview and 4 (13% of the original 31 patients) were still depressed.<sup>20</sup> This ignored losses to follow up (10.4% refused or could not be contacted, 21.7% had died) and those who may have been depressed and recovered between interviews. The incidence is again likely to be an underestimate. The figure for persistent depression on the other hand may be an underestimate because patients with depression at the outset were more likely to have died prior to reinterview.

A Dutch study looked at incidence in a slightly different way by using antidepressant prescribing as an indicator. It described the incidence of antidepressant prescribing in a community sample of people over the age of 55 (N=7812)<sup>41</sup> and only patients who received antidepressants from the pharmacist after the beginning of the 3-year study were included in the calculation. It did not take account of the estimated 30% of antidepressants prescribed for reasons other than depression (other authors quoted by the same study).

The cumulative incidence figures for 1, 2 and 3 years respectively were 1.3, 2.7 and 4.0% and it is interesting to note the similarity between the results of this study and the cumulative incidence recorded for the epidemiological studies quoted above.

Prescribing does not necessarily relate to the epidemiology of depression. In the UK, the prescribing of antidepressants increased by 10% in just 12 months from 1997 to 1998.<sup>42</sup> Between 1990 and 1995 US research showed a 73.4% increase in the number of visits to all forms of ambulatory care resulting in the prescription of an antidepressant. However, the number of visits resulting in a diagnosis of depression only increased by 23% in the same period.<sup>43</sup>

## **2.6 Factors associated with the Onset of Depression in Old Age**

**Table 2 - 3 Factors associated with depression or depressive symptoms of older people**

<b>Location of Study, Year, Reference</b>	<b>Factors</b>
Liverpool, 1992 <sup>40</sup>	Smoking
	Dissatisfaction with life
	Loneliness
	Death of a close relative or friend in the previous 6 months
Australia, 1997 <sup>20</sup>	Past history of depression
	Current physical symptoms
	Other medical conditions
	Higher systolic blood pressure
	Higher levels of inactivity
	Lack of social support

The Australian study cited in table 2-3, also investigated factors specifically associated with cases of depression at follow up interview. The depression score at the first interview was the best predictor of the depression score at the second interview. Only a larger number of physical symptoms and of medical conditions at the first interview also increased the likelihood of depression at second interview.

## **2.7 Natural History of Depression in Older People**

Major depression is a chronic relapsing condition in older people. A meta-analysis of studies involving community residents or primary care populations was published recently.<sup>44</sup> By the end of 24 months a third had recovered, a third was still depressed and one fifth to had died, other outcomes (e.g. dementia, partial recovery) accounting for the remainder.

The meta-analysis included four studies of primary care patients and eight of community residents. Results were combined for similar outcomes when possible (not all studies contributed to all calculations) and the table summarising its results is reproduced below.

**Table 2 - 4    Table reproduced from a meta-analysis of studies of prognosis of depression**

<b>Prognostic Category</b>	<b>Number of studies included in the statistical model</b>	<b>Percent of subjects in category</b>		
		<b>Range</b>	<b>Combined</b>	<b>95% CI</b>
Well	12	6-46	33.1	27.8-38.2
Depressed	12	17-47	32.7	28.1-37.3
Dead	9	8-38	20.6	12.2-29.0

The authors compare these results with their own meta-analysis of outcomes in depressed patients who have been referred to secondary psychiatric care as in- or outpatients.<sup>45</sup> These patients had an average recovery rate of 60% over 13-52 weeks of follow-up. The authors hypothesise that increasing detection and delivery of effective treatment might increase the proportion of recovered patients in primary care.

Baldwin and Simpson summarised the factors associated with poorer outcomes of depression.<sup>46</sup> Previous stroke, co-existing dementia, severe physical illness and inter-current new illness make death more likely and reduce the number who recover among older patients with depression. Similarly slower recovery of depression itself, greater

severity at the outset, longer duration and three or more previous episodes all worsen outcome.

Better treatment improves the symptoms of depression but there is no evidence to suggest that it reduces health service use and mortality either from concurrent physical illness or suicide. The lone exception is the study of an educational intervention promoting effective treatment for depression among family doctors on the island of Gotland (Sweden). Suicide rates, inpatient treatment and absence from work due to sickness fell for 3 years after the intervention only to return to previous levels thereafter. This study considered the total population and did not provide an analysis of older patients separately. The intervention was deemed to be cost-effective but the effect was lost after 3 years of follow up.<sup>47</sup>

## ***2.8 Depression in Rural and Urban Areas***

Few studies have compared depressive symptoms in urban and rural communities using the same diagnostic criteria. Two US American studies are quoted in one survey of depressive symptoms in a rural area.<sup>48</sup> Both studies used the Center for Epidemiological Studies Depression Scale (CES-D), albeit with different cut-off points, and both studies showed higher rates of depressive symptoms among rural elderly. By contrast an Italian study using SCAN (i.e. a semi-structured psychiatric interview) found a 3 fold higher prevalence of depression in urban areas.<sup>49</sup>

Given the contradictory evidence, it does not seem to be possible to conclude that urban or rural settings (usually defined by some aspect of population density) as such create “depressing” conditions for older people.

## ***2.9 Minor and Major Depression***

The study underlying this thesis focussed on major depressive disorder as defined by ICD-10 and obtained through the present state examination contained within the Schedule for Clinical Assessment in Neuropsychiatry. This is further explained in section 3.10. The

reasons lie in the absence of evidence among older people that depressed mood below that level responds significantly to active treatment and to the conflicting evidence of studies among younger adults. Methodologically it is not possible to distinguish without serial examination between less severely depressed individuals progressing to severe depression and those remaining only mildly depressed or those in the process of improving. Relevant studies are summarised below.

A problematic area for psychiatrists and epidemiologists alike is the interpretation of symptoms of depression below the level of major depressive disorder. Depressed mood of such lesser severity has been given various names such as minor depression, subsyndromal symptomatic depression, subclinical depression et cetera.<sup>50</sup>

The natural history of major depressive disorder observed in a cohort of psychiatric in- and outpatients was that of a chronic condition of fluctuating severity. Some patients with “minor depression” may go on to develop severe depression, whilst others will be in the process of recovery.<sup>51</sup> In any cross sectional study such patients would be indistinguishable from those who move in and out of a less severely depressed state, or those whose mood was a short-term reaction to adverse life events or physical illness.

It is worth noting that the trials of treatment for late life depression do not contribute information on the responsiveness to treatment of lesser degrees of depression. Studies of adults under 65 years cited by Katon<sup>52</sup> however, showed that mild “major” depression responded equally well to supportive visits or placebo as it did to imipramine, cognitive-behavioural or interpersonal therapy.<sup>53</sup> Primary care patients (under 65) with Hamilton Rating Scale for Depression (Ham-D)<sup>54</sup> scores of less than 13 also did as well on placebo or supportive visits as they did on amitryptiline (a tricyclic antidepressant).<sup>55</sup>

## **2.10 Adherence to Treatment for Late Life Depression**

A minimum of 25% severely depressed patients will fail to continue taking their antidepressant medication during the first 8 weeks of treatment. A minimum of 35% will have ceased to take their medication by 12 weeks and by 6 months this is likely to have risen to 70% or more in the absence of extra efforts to increase compliance. Not all the evidence presented in this section relates to older people. However, older people take more medicines and have higher levels of cognitive impairment so that compliance is likely to be even further reduced. The proportion of depressed primary care attenders refusing drug treatment is likely to be at least 10%, but may be considerably higher in depressed patients detected by screening the elderly population for depression.

For the purpose of this section, adherence and compliance to treatment are used interchangeably. It needs to be noted that non-adherence is not necessarily a negative event. It reduces drug side effects and avoids ill effects for some patients whose doctor has prescribed excessive or ineffective treatment. It reduces costs to patients and others in the short term (e.g. prescription charges, cost of travel to clinics or absence from work for medical care).

Factors that increase patient compliance with drug therapy are: Participation in trials to test compliance, treatment satisfaction, increased levels of supervision, the patient's view of the disease as a treatable condition, the patient's compliance strategy and family influences. Factors that decrease compliance are: Longer duration of treatment, increasing complexity of the regimen, side effects, social isolation, anxiety and drug or alcohol abuse.<sup>56</sup> In older people other factors become increasingly relevant. Older depressed people specifically have on average more co-morbidity<sup>57</sup>, whilst older people in general take 3-4 times more prescribed medication than younger people.<sup>42</sup> Increased sensitivity to toxic effects and an increased likelihood of interactions between drugs result. Unintentional non-compliance due to increasing forgetfulness is also a problem mainly for older patients.<sup>58</sup> The latter becoming an increasingly significant problem as the prevalence of dementia increases with age. In a meta-analysis of European studies of dementia prevalence 5.7% suffered from dementia among those aged 75-79 years, 13% among those aged 80-84 years and 21.6% among those aged 85-90 years.<sup>59</sup>

The databases (and years) searched were Medline and Embase (1980-1999). The appendix contains the search strategies employed by database. On our behalf and employing the same search strategies, the Drug Information Department of the Leicester Royal Infirmary searched Pharmline (a UK database produced by the UK Drug Information Group) for the years 1978-1999 and IDIS (an American database produced by the University of Iowa College of Pharmacy) for the years 1966- 1999.

The searches returned very few publications relevant to older people and at the same time specific to treatment for depression, therefore studies relating to adults under the age of 65 are included. The results are summarised in tabular form below.



**Table 2 - 5 Compliance with treatment for depression: Taking less than prescribed – Summary of Studies**

<b>Population Setting (e.g. General Population, Primary Care Attenders)</b>  <b>Country</b>	<b>Taking less than prescribed (Percent)</b>	<b>Type of Evidence (Observational, Trial, Meta-analysis, Systematic Review)</b>  <b>Sample Size</b>
Older people, UK <sup>60</sup>	36%	Population survey (N=25 people on antidepressants)
Prescribing information from 100 UK general practices (all adults) <sup>61</sup>	15-25% had a gap of >15 days between prescriptions	Observational Study (N=10,581) Likelihood of gaps varied with type of antidepressant Tricyclics > SSRIs

**Table 2 - 6 Compliance with treatment for depression: Stopping treatment – Summary of Studies**

Population Setting (e.g. General Population, Primary Care Attenders)  Country	Proportion stopping treatment %	Type of Evidence (Observational, Trial, Meta-analysis, Systematic Review)  Sample Size
Older people with depression among Primary Care Attenders , USA <sup>62</sup>	67% Intervention arm 81% Control arm at 6 months	Randomised Controlled Trial  Intervention: Screening of attenders and patient specific treatment recommendations to physicians for depressed Control: Usual Care (N=175)
Medicaid Database, USA <sup>63</sup> (Not typical of US population as 93% female, 47% African American)	70.3% at 2.5 months	Observational Study (N=4052)
Adult Primary Care Attenders started on antidepressants by GP, UK <sup>64</sup>	At 3 months (1.5 months) Leaflet 58% (38%) Advice 35% (21%) Both 60% (28%) Control 64% (40%)	Randomised Controlled Trial of different strategies to increase compliance Leaflet (N=53), Advice about treatment (N=52), Both (N=53) Control (N=55)

**Table 2 - 7 Compliance with treatment for depression: Refusing treatment**

<b>Population Setting</b> (e.g. General Population, Primary Care Attenders) <b>Country</b>	<b>Treatment Refusal</b>	<b>Type of Evidence</b> (Observational, Trial, Meta-analysis, Systematic Review) <b>Sample Size</b>
Depressed patients >65 identified in community survey, UK <sup>65</sup>	89%	Offered medication for open label study and had already agreed to take part in the study (N=54)
Depressed patients >65 identified in community survey, not on drug treatment for any reason at 3 months <sup>66</sup>	34%	Intervention Group treated and followed up by Community Mental Health Team (N=47)
Depressed patients >65 identified by survey of home care recipients, not on drug treatment for any reason at six months <sup>67</sup>	31%	Intervention Group treated and followed up by Community Mental Health Team (N=33)

**Table 2 - 8 Compliance with treatment for depression: Dropping out due to side-effects of a specific drug\***

<b>Drug</b> (Number dropping out/ Sample size)	<b>Drop out rate %</b>
<b>Selective Serotonin Reuptake Inhibitors (SSRIs)</b>	
Sertraline (145/355)	41%
Fluoxetine (460/1477)	31%
Fluvoxamine (272/914)	30%
Paroxetine (433/1528)	28%
<b>Tricyclic/ heterocyclic antidepressants</b>	
Imipramine (588/1384)	42%
Doxepin (101/276)	37%
Amitryptiline (308/970)	32%
Mianserin (53/205)	26%
Desipramine (24/100)	24%
Clomipramine (150/621)	24%
Dothiepin (40/236)	17%

\*Summary of a Meta-analysis including all types of patients (11 out of 94 studies were specific to elderly patients, duration of follow up not stated)<sup>68</sup>

The above table presents only the cumulative drop out rates for the most recent meta-analysis. It concluded that the drop out rate for SSRIs is significantly lower than for tricyclic antidepressants. However, newer heterocyclic compounds (e.g. Mianserin) have a similar drop out rate to SSRIs. The unfavourable comparison with tricyclic antidepressants had already been stated in an earlier meta-analysis.<sup>69</sup> It is worth reiterating that most drug trials are of short duration (i.e. 8 weeks), deal usually with a highly selected physically fit population and expect a greater commitment from patients than is expected of patients in a non-research setting. Their results are therefore not directly transferable to primary care.

Treatment outcome is not only reliant on patient adherence. If the dose of a dose of a particular drug is too low then it is unlikely to work as intended. However, doses below a level of proven efficacy may be prescribed for a variety of reasons. The doctor may intend to increase the dose at a later date, may prescribe for another reason (e.g. night sedation with sedative tricyclic antidepressant instead of a benzodiazepine) or the patient may decline a further dose increase because of side effects. Even after acknowledging those possibilities it seems that SSRIs are more usually given in sufficient doses than are other antidepressants<sup>61</sup> possibly because SSRI starting doses are also effective treatment doses. By contrast the British National Formulary advises commencing other antidepressants at a lower dose than the eventual treatment dose.<sup>70</sup>

Another review of antidepressant compliance presented results without sample sizes but did add some interesting information. In one study refusal of drug only treatment was 17% and 33% declined the offer of psychotherapy alone. Only 4% declined the offer of both. Subsequently 50% dropped out in the drugs only arm of the trial, 20% from the psychotherapy alone arm and 29% from the combination treatment arm. 61% dropped out of the control group. The review cites a further study of 73 family practice patients being followed up by a psychiatrist where 92% were prescribed antidepressants. 16% of the patients discontinued after one week, 41% after two weeks and 68% by the end of one month. Finally, 86 psychiatric outpatients were given long term treatment of either imipramine or trazodone. By the end of one year 64% in the trazodone group and 76% in the imipramine group had stopped their treatment.<sup>56</sup>

## **2.11 Treatment for Depression in Older People in Primary Care**

Treatment for depression in primary care can be divided into drug treatment, psychological treatment and combinations of the two. Treatment for late life depression is no different. There is, however, a greater shortage of information, as this systematic review of such treatment shows. There is an even greater shortage of good quality treatment trials undertaken with primary care patients. This is despite the fact that the majority of depressed older people are treated in primary care and only around 10% are referred for treatment by psychiatric services.<sup>71,72</sup> A recent review of the effectiveness of treatment for depression<sup>73</sup> included studies of psychiatric outpatients, the latter differing from depressed primary care attenders by being more severely depressed.<sup>74,75</sup>

The greater the benefit of treatment for depression the more worthwhile it would be to identify the depressed among those who do not present themselves to a doctor or those who present with other complaints. Case finding in primary care only makes sense if those identified as severely affected can be offered effective treatment.

Consensus statements on the treatment of late life depression have understandably relied heavily upon the results of studies from trials of psychiatric in- and outpatients.<sup>14,50</sup> This section therefore aims to fill a definite gap in existing reviews of late life depression by focussing on studies of treatment efficacy and effectiveness in primary care.

### **2.11.1 Methods**

#### **2.11.1.1 Sources and Type of Studies and Treatments included**

The present author searched the electronic databases Medline, Embase, Cinahl, the Cochrane Library, Psyclit, BIDS – Social Science Citation Index and BIDS-Science Citation Index and the references of relevant studies, as well as those of other reviews of antidepressant treatment. Controlled clinical trials (CCT), randomised controlled trials (RCT), “Controlled Before and After Studies” (CBA) and “Interrupted Time Series” studies (ITS) were included if they were published between 1980 and June 1999 and the language of publication was English, French or German. Trials of Cognitive and/or Behavioural Therapy (CBT)<sup>76</sup>, Interpersonal Psychotherapy (IPT)<sup>77,78</sup>, “Counselling”, social support and drug treatment were covered by the review.

In addition, subjects had to be recruited from a sample of the general population or from primary care attenders. Studies were included if all subjects were over the age of 60 years. However, studies that were not elderly specific but included some subjects over the age of 60 were sought and analysed separately. Initial selection on all the above criteria was made by one of the authors.

#### 2.11.1.2 Methodological Quality Criteria for Inclusion

All included studies had to comply with the quality criteria for intervention studies published by the Cochrane Effective Practice and Organisation of Care Group.<sup>79</sup>

The criteria pertinent to the retrieved studies were:

1. Relevant and interpretable data,
2. Concealed allocation of subjects,
3. Follow-up of at least 80-100% of randomised patients,
4. A baseline measurement,
5. A reliable primary outcome measure,
6. Protection against contamination and
7. Blinded assessment of primary outcomes or use of an objective outcome measure.

Two reviewers, trained by the present author in the use of the quality criteria, read each study independently (and blind to the other's appraisal). They summarised the presented data and categorised the compliance of studies with the quality criteria (done, not clear, not done or do not know). They then compared their findings and discussed differences. Agreement on the accuracy of the factual information, the quality and the decision to include or exclude a study were made by consensus between the two reviewers. In general studies were excluded if one of the quality criteria was classified as 'not done'. However, the actual method of randomisation was often not stated and the review therefore included studies that stated randomisation without providing further detail.

#### 2.11.1.3 Results

Seven studies of patients over the age of 60 years met all the selection criteria and these were all randomised-controlled trials. Only two of them also met all methodological

quality criteria and were therefore included in the review. Both investigated the effectiveness of psychiatric team care for patients with depressive symptoms, or depression found among a population sample screened for depressive symptoms. Information about included and excluded studies is presented in tables 2-9 and 2-10 respectively.

**Table 2 - 9 Included studies meeting all selection and quality criteria of patients over the age of 60 years and studies which included some patients over 60 years of age**

	<b>First Author, Country, Year, Reference</b>	<b>Intervention , Control Treatment,</b>	<b>Duration of Intervention, Duration of Follow-up</b>	<b>Population, Exclusion criteria (if different from summary in text)</b>	<b>Sample Size (Intervention and Controls)</b>	<b>Outcome<sup>a</sup> Comments</b>
<b>Studies of patients aged 60 years and over exclusively</b>	Waterreus, UK, 1994 <sup>66</sup>	Nurse outreach, psychological and drug treatment as appropriate, "Usual Care" by GP	12 weeks	Participants in a community survey (average age 76). Depressed mood assessed by Short Care screening instrument. All were included in the trial. Only 56% of screen positives were depressed according to GMS-AGECAT structured interview.  No exclusion criteria stated.	96	43% of patients in the intervention group much improved on SHORT CARE score. 27% in the Control Group. Twice as many patients in intervention group received antidepressants.
	Banerjee, UK, 1996 <sup>67</sup>	Care package psychogeriatric team, Usual Care by GP,	24 weeks	All recipients of home care in an area (average age 80.4) who scored >8 on self-care questionnaire and were depressed to at least level 3 of neurotic depression by GMS - AGE CAT Excluded if in psychiatric care.	69	58% much improved in Intervention Group. 25% in Control Group. Antidepressant use 4 times higher in intervention group.

<sup>a</sup>proportion improved represents either those with a 50% drop in scores on a depression screening tool or a move from case to non-case



	<b>First Author, Country, Year, Reference</b>	<b>Intervention , Control Treatment,</b>	<b>Duration of Intervention, Duration of Follow-up</b>	<b>Population, Exclusion criteria (if different from summary in text)</b>	<b>Sample Size (Intervention and Controls)</b>	<b>Outcome<sup>a</sup> Comments</b>
<b>Studies which included some patients aged 60 years and over</b>	Ekselius, Sweden, 1997 <sup>80</sup>	Citalopram (34 mg) Sertraline (83.5 mg)	24 weeks	Primary Care Attenders (age range 21-70). Depression diagnosed by GP, MADRS score >21	400	81% much improved in Intervention Group, 75% in Control Group, The only study where intention to treat analysis and treatment success for those who completed treatment were done and reported, Clinical improvement was 10% higher for completers in both intervention and control group
	Malt, Norway, 1999 <sup>81</sup>	Sertraline (144.6 mg) Mianserin (78 mg) Placebo	24 weeks	Primary Care Attenders (age range 18-79) Depression diagnosed by GP, MADRS score >20 In addition to the common exclusions also excluded those whose MADRS score decreased by 25% prior to randomisation	372	61% much improved in Intervention Group. 54% Mianserin, 47% Placebo

<sup>a</sup>proportion improved represents either those with a 50% drop in scores on a depression screening tool or a move from case to non-case

	<b>First Author, Country, Year, Reference</b>	<b>Intervention , Control Treatment,</b>	<b>Duration of Intervention, Duration of Follow-up</b>	<b>Population, Exclusion criteria (if different from summary in text)</b>	<b>Sample Size (Intervention and Controls)</b>	<b>Outcome<sup>a</sup> Comments</b>
<b>Studies which included some patients aged 60 years and over</b>	Patris, France, 1996 <sup>82</sup>	Citalopram (20 mg) Fluoxetine (20 mg)	8 weeks	Primary Care Attenders (age range 18-79). Depression diagnosed by GP, MADRS score >22 (age range 21-73). In addition to the common exclusions also excluded those, whose MADRS score decreased by >20% during placebo treatment prior to randomisation.	357	78% much improved in Intervention Group, 76% in Control Group,

<sup>a</sup>proportion improved represents either those with a 50% drop in scores on a depression screening tool or a move from case to non-case

**Table 2 - 10 Excluded studies meeting all selection but not all quality criteria of patients over the age of 60 years and those including some patients over the age of 60 years with reason for exclusion**

	<b>Author, Country, Year, Reference</b>	<b>Intervention, Control Treatment,</b>	<b>Duration of Intervention, Duration of Follow-up</b>	<b>Population</b>	<b>Reason for Exclusion</b>
<b>Studies of patients aged 60 years and over exclusively</b>	Hutchinson, UK, 1991 <sup>83</sup>	<b>Paroxetine (20mg), Amitryptiline (100mg),</b>	6 weeks	Primary Care Attenders (average age 72), judged as depressed by GP and scoring above a specified level on HAM-D	<80% follow-up of subjects
	Schweizer, USA, 1998 <sup>84</sup>	Buspirone (36 mg), Imipramine (80 mg), Placebo	8 weeks	Primary Care Attenders and other volunteers (age range 65-89). Depressed by semi-structured interview	<80% follow-up of subjects
	Valle-Jones, UK, 1983 <sup>85</sup>	Flupenthixol (0.75 mg) Amitryptiline (37.5 mg)	4 weeks	Primary Care Attenders aged over 60 Diagnosis by GP	Clinical information not relevant, control drug given in subtherapeutic dose
	Brodie, UK, 1975 <sup>86</sup>	Fluphenazine/Nortr yptiline (1.5/30 mg max. dose) Promazine (150 mg max. dose)	4 weeks	Primary Care Attenders (average age 72) Not stated how and by whom depression defined	Trial not designed to study efficacy, one of the intervention drugs not now recommended for depression. Control drug not used for depression at all

	<b>Author, Country, Year, Reference</b>	<b>Intervention, Control Treatment,</b>	<b>Duration of Intervention, Duration of Follow-up</b>	<b>Population</b>	<b>Reason for Exclusion</b>
<b>Studies of patients aged 60 years and over exclusively</b>	Høstmaeling en, Norway, 1989 <sup>87</sup>	Flupenthixol (0.8 mg) Amitryptiline S/R 40 mg	4 weeks	Primary Care Attenders (age range 65-88). Not stated how and by whom depression defined	Trial not designed to study efficacy, relevant clinical information could not be derived from data provided
<b>Studies which included some patients aged 60 years and over</b>	Laakmann, Germany, 1996 <sup>88</sup>	Lorazepam (4.93 mg) Alprazolam (2.08 mg) Amitryptiline (102 mg) Placebo	6 weeks (but continued longer for some)	Attenders of Community based general physicians, psychiatrists, neurologists, general practitioners (age range 19-75)	< 80% of patients in final analysis, excluded those who responded to placebo retrospectively, not clear at which point in the analysis exclusion took place, not stated who first identified patients for inclusion into trial and how
	Laws, UK, 1989 <sup>89</sup>	Fluvoxamine (140 mg) Lorazepam (2.96 mg)	6 weeks	Primary Care Attenders (age range 18-82)	Clinical Global Impression Scale (physician opinion) used to report patient improvement, not reported patient symptom score change – not clinically relevant

	<b>Author, Country, Year, Reference</b>	<b>Intervention, Control Treatment,</b>	<b>Duration of Intervention, Duration of Follow-up</b>	<b>Population</b>	<b>Reason for Exclusion</b>
<b>Studies which included some patients aged 60 years and over</b>	Dorn, Germany, 1980 <sup>90</sup>	Lofepramine (105mg) Amitryptiline (75mg)	6 weeks	Primary Care Attenders (age range 36-89). Not stated who and how depression defined	Not defined who identified patients for inclusion and how severity of depression assessed, used unreferenced outcome measure
	Sussex Clinical Trials Group, UK, 1985 <sup>91</sup>	Fluphenazine/Nortri ptyline (1.5/30 mg) Fluphenazine (1.5 mg) Nortriptyline (30 mg) Placebo	4 weeks	Primary Care Attenders (age range 18-79). Depression diagnosed by GP.	Did not provide clinically relevant information
	Moon, UK, 1990 <sup>92</sup>	Trazodone SR (150 mg) Trazodone (150 mg)	6 weeks	Primary Care Attenders (age range 18-72), Depression diagnosed by GP and HAM-D >17	<80% of patients followed up, did not provide clinically relevant information

There were no studies of psychological treatment or any high quality studies of drug treatment among the studies restricted to older people. Studies of drug treatment were short (4-8 weeks) and excluded many patients with other illnesses thus making any assessment of how treatment would perform under health service conditions (effectiveness) rather than ideal circumstances (efficacy) virtually impossible.

Exclusions commonly used in studies of antidepressants in older people are summarised in Table 2 – 11 to show the limited generalisability of drug trial results.

**Table 2 - 11 Common Exclusion Criteria for Trials of Antidepressant Drugs in Older People (based on the reviewed trials)**

<b>Physical Illness</b>	Parkinson's disease; prostatism; recent myocardial infarct; impaired renal or liver function; cancer; epilepsy; unspecified brain disorder; glaucoma
<b>Mental Illness</b>	Depression requiring admission; depression requiring ECT; patient suicidal; manic depressive disorder; other mental illness; alcohol or drug misuse (either current or in previous year)
<b>Drug Treatment</b>	Current treatment with other psycho-active drug; treatment with tranquillisers or antidepressants currently or in the recent past

Given the extent of the evidence, only limited conclusions are possible. A flexible approach to the treatment of depression in older people, led by a research community psychiatric team, can lead to considerable improvement in 40-50% of those treated. Routine treatment in primary care only achieves around 25-30% improvement. The difference is probably largely due to the greater number of patients on antidepressant drug treatment in the intervention groups.

A total of eight studies that were not primarily of older people, but did include patients over the age of 60 years met all selection criteria. All were randomised-controlled trials of antidepressant drugs and three of them also met all methodological quality criteria and were therefore included in the review. None of the eight studies investigated the effectiveness of psychotherapy.

The studies are also shown not because they allow specific conclusions to be drawn about the overall effectiveness of antidepressant treatment in older people, but because they provide a wider impression of the treatments used with older people, even when they were not the focus of the study. Only one excluded study analysed results for subjects over 65 separately so that a meta-analysis of the results was therefore impossible. Effect sizes were not analysed in more detail because of this lack of separate analysis for older people and the lack of comparability of patient groups between the two trials of older people alone.

In contrast to trials of psychiatric team care the drug trials of antidepressant drugs, having less representative participants and younger patients, achieved higher rates of improvement (54-81%). The most likely explanation for this is the exclusion of patients with significant co-morbidity. It is also worth noting that 47% of patients treated with placebo improved over six months in the study of Malt et al<sup>81</sup>, probably reflecting the spontaneous improvement of some patients over the relatively long observation period as well as the placebo effect.

## ***2.12 Case finding and Screening for Late Life Depression in Primary Care***

The UK National Screening Committee defines screening as “a health service in which members of a defined population, who do not necessarily perceive they are at risk of, or are already affected by a disease or its complications, are asked a question or offered a test, to identify those individuals who are more likely to be helped than harmed by further tests or treatment to reduce the risk of a disease or its complications.”<sup>93</sup>

Screening programmes include people who have no symptoms of disease but for whom the diagnosis of an asymptomatic stage has potential benefits. Depression does not have a recognised asymptomatic stage and clinical interviews and short questionnaires always try to elicit current symptoms of depression. Patients will be aware of distressing symptoms but may not have considered them as “depression”. The process of identifying depressed individuals is therefore not screening but quite literally the finding of existing cases of a disease. Consequently, the term “case finding” is preferable to “screening” to describe systematic approaches to the diagnosis of depression. This usage is in keeping with the definition of case finding used elsewhere.<sup>94,95</sup> The use of case finding in preference to

screening throughout this thesis has the added advantage of avoiding confusion with national screening programmes, as the establishment of any such programme for late life depression is not under consideration.

Unfortunately, the terms “case finding” and “screening” are used synonymously by some authors<sup>15,96</sup> and both the American and UK consensus statements on the identification and management of depression refer to screening.<sup>13,14</sup>

### **2.13 Summary of the Background**

Below the main findings from the literature cited in this section are summarised.

Severe depression in late life is a chronic relapsing condition. Its treatment can be made more effective by case finding and dedicated effort by psychiatric research teams. However, differences in the approach to the diagnosis of depression between primary care doctors and psychiatrists make it difficult to replicate the improved treatment outcomes in primary care.

Compliance with drug treatment for depression by older people is poor with at least one third likely to abandon treatment prematurely. There is a need for non-drug alternatives. Psychotherapy is known to be efficacious in secondary care but this has not been investigated in primary care.

There are considerable workload implications to active case finding of depression in primary care. Consensus panels in the USA and the UK have not recommended general population screening and there is no evidence to decide whether case finding for depression among subgroups in primary care is worthwhile. This is the focus of the study presented in the following chapters.



## **Chapter 3: Population Survey and Patient Record Audit**

### **3.1 Aim**

The aim of this study was to explore the value of targeting specific groups among the study population for active case finding of major depression. These groups were defined by information held on computerised age/sex and prescribing records and by self-report of survey respondents.

### **3.2 Objectives**

The objectives of this study were to:

1. Determine the prevalence of major depression in the study population aged 65-74
2. Determine the number of patients with major depression among all study participants
3. Determine the number of patients with major depression among people living alone
4. Determine the number of patients with major depression among people who attended their general practitioner at least once in the preceding three months
5. Determine the number of patients with major depression among those on antidepressant drug therapy
6. Determine the number of patients with major depression among those on anxiolytic or hypnotic drug therapy
7. Consider the likely outcomes of these case finding strategies given the information about natural history with and without active intervention to improve uptake and duration of treatment
8. Consider the practical implications of targeting these groups (as described in points 2 – 6) to identify patients with major depression in the study population

### **3.3 *Setting, Population and Methods***

This chapter provides information on the setting, population and methods of the research underlying this thesis. It also covers the development of the patient questionnaire and general practice record audit form used to collect the data. It describes the clinical interview undertaken to diagnose depression and the short questionnaire applied to identify a wider group of people with depressed mood. Finally it describes how patients' interests were protected, the process of data management and the statistical analysis.

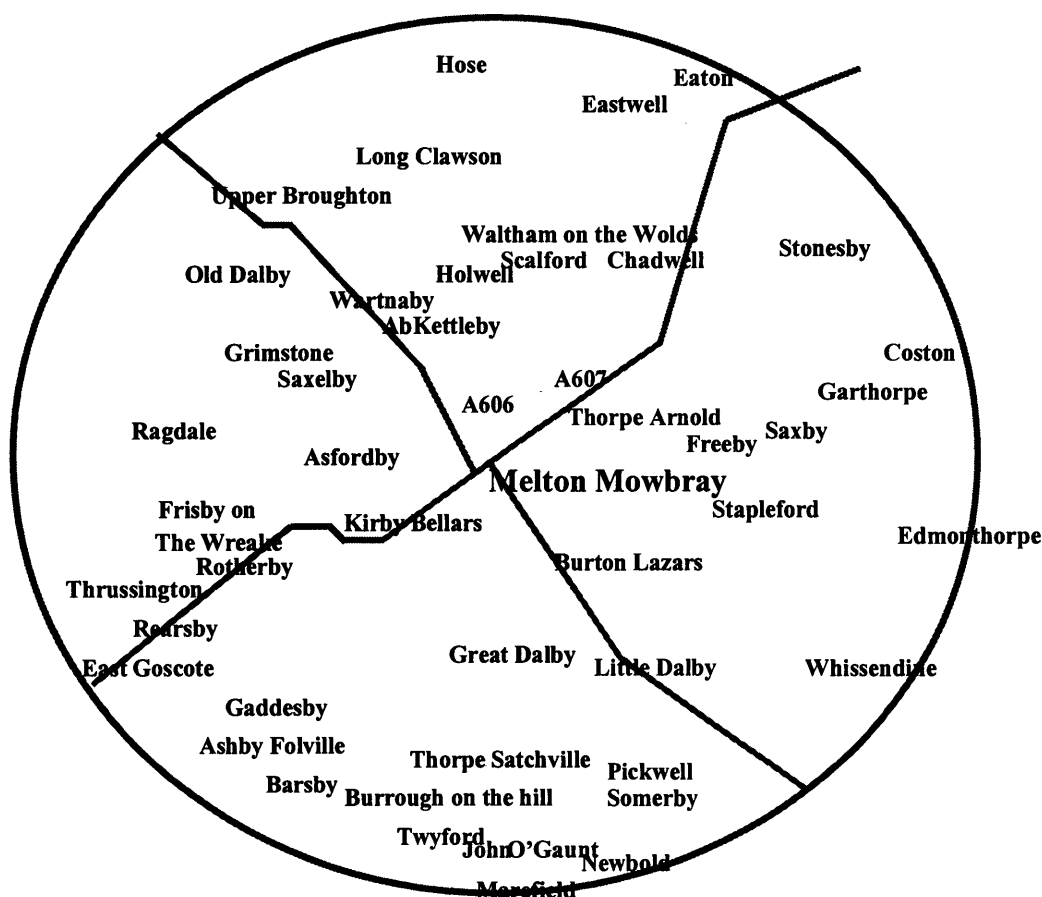
### **3.4 *Setting***

#### **3.4.1 Melton Mowbray**

Melton Mowbray is a market town in the county of Leicestershire in England and is an administrative centre for the surrounding countryside. Latham House Medical Practice (LHMP) is a large general practice serving all the residents of Melton Mowbray and around 100 hamlets and villages.

According to the Townsend deprivation score<sup>97</sup> (based on the 1991 national census and applied to the distribution of patients as at October 1997) the registered practice population was less deprived than Leicestershire as a whole. The Townsend Score for the practice population was -1.95 (with Leicestershire being set at zero).

**Figure 3 - 1 The Catchment Area of the Study Practice in Leicestershire**



### 3.4.2 General Practice Characteristics and Staffing

Latham House Medical practice is the only practice in the vicinity, serving a population of 33,530 (as of September 1998) and it is currently the second largest single general practice in England. The GPs have a personal list system and patients only attend their “own” GP, except outside normal working hours, if the GP is absent for other reasons or a disproportionately large number of patients are attending one GP. The number of patients registered per GP principal is 2096, this being higher than the Leicestershire average of 1907 and the national average of 1885.<sup>98</sup> Whole time working for general practitioners in the UK is defined as more than 26 hours per week in face to face patient contact.<sup>99</sup>

**Table 3 - 1     Practice Characteristics and Staff Numbers**

<b>Practice Characteristics</b>	<b>N</b>
<b>Number of General Practitioners</b>	16
<b>Whole time equivalent (WTE) General Practitioners</b>	14.5
<b>Listsize per principal</b>	2096
<b>Practice Nurses (WTE)</b>	10.5
<b>Counsellors (WTE)</b>	1.9
<b>Community Psychiatric Nurse (adult service)</b>	9 hours/ week

The practice nurses run mostly practice-based clinics for chronic diseases and screening. Four nurses act as triage nurses for part of their time each day (40 hours total per week) seeing patients with minor illnesses as the first contact. Another nurse works exclusively as a phlebotomist.

The two counsellors see patients after referral from a general practitioner and four student counsellors were attached to the practice for training and supervision by the counsellors at the time of the study. Between them they saw a negligible number of older people. In the 12 months prior to June 1999 the counsellors saw 265 clients of all ages, the students saw another 360 clients (first attendances only). Only 4 (0.6%) were over the age of 65 (Source: Fundholding Office, Latham House Medical Practice and counsellors' appointment diaries).

The community psychiatric nurse offered a service to patients under the age of 65 after referral from a general practitioner. He offered follow-up for some patients over the age of 65 who had been referred to him previously. However, only 3 (5%) of his 56 patients in the 12 months prior to June 1999 were over 65 years of age (Fundholding Office, Latham House Medical Practice).

#### 3.4.3 Data recording and information management within the practice

The practice uses EMIS computer software for the management of electronic patient data and the computerised appointment booking system offered by the software. Paper records continue to be used to file letters and laboratory test results. One doctor did not use the computer record to enter information about consultations but had a record of an appointment on the electronic record for every entry in the paper record. Practice nurse appointments were made in the same way as for doctors and they too entered information about consultations onto the computer. This was not so for counsellors or the practice attached community psychiatric nurse who kept their own paper records. When doctors visited patients at home they either recorded information on the paper record, or on the computer at the practice later. The practice did not record contacts of patients with other agencies (e.g. community mental health team) except as referrals.

#### 3.4.4 Emergency Treatment, Out of Hours Treatment and Community Hospital Care

The practice's GPs and locum doctors cover on-call duties for nights and weekends. An accident and emergency unit for minor injuries, based at the community hospital in Melton Mowbray, is run by 3.25 WTE nurses employed by the practice (WTE for paramedical staff is defined as 37 hours per week) and the general practitioners who provide medical cover. The practice can admit patients with uncomplicated illness who need hospital care to the local community hospital and if required, patients are also transferred back to that hospital for ongoing care after discharge from the district general hospitals (between 19 and 23 km away).

#### 3.4.5 Community Mental Health Team

The community mental health team (CMHT) for patients older than 65 years is based in Melton Mowbray and treats patients with severe mental illness. Access is by referral from the practice only. Psychiatric inpatient facilities and psychological treatment services are available in Leicester 16 kilometres away but outpatient psychological treatment was never utilised for older patients (as far as the CMHT members could remember) because of long waiting times (11-18 months). The mental health team could refer to a day care centre with facilities for 12 clients on 4 days per week.

**Table 3 - 2    Staffing, population coverage and approximate caseload of the  
Community Mental Health Team based in Melton Mowbray**

<b>Size of the Population covered (&gt;65s only)</b>	6,900
<b>Proportion of that population registered with Latham House Medical Practice</b>	Approx.70%
<b>Consultant Psychiatrist (WTE=Whole Time Equivalent)</b>	0.5
<b>Community Psychiatric Nurses (WTE)</b>	3
<b>Occupational Therapist (WTE)</b>	0.6
<b>Caseload (estimated patients in current contact for all team members at beginning of study)</b>	Approx. 90
<b>Estimated proportion of clients with dementia</b>	60%
<b>Estimated proportion with other mental illness (including depression)</b>	40%

#### 3.4.6 Workload of the Community Mental Health Team (CMHT)

Community psychiatric nurses had 1044 contacts with Latham House patients which equated to around 3 patient contacts per working day. Added to this would be their work with patients from the other 30% of their catchment population. Driving in the rural area takes up more time than in urban areas, as appointments cannot be grouped easily by geographical site. Meetings and teaching commitments make up another part of CMHT workload. There may be some under-recording of contacts, but it was not possible to estimate the scale of this. Around 25% of all face to face patient contacts by community psychiatric nurses were with the 65-74 year age group. The other 75% of contacts were with clients over the age of 74.

This assessment was based on routinely compiled service information, obtained from Leicestershire Health Authority, based entirely on contact and bed occupancy information. This is the least detailed level of information available. However, information on diagnosis and relative workload attached to specific mental illnesses was unreliable because diagnoses were not recorded for around 30% of patients. Even after adjustments for

suspected “ghost patients” (patients counted who were in fact no longer inpatients) and after completing information on absent diagnoses from other admissions for the same patient, missing data still made up 24% of the total for 1997. The Community Trust is currently trying to address this problem.

**Table 3 - 3    Contacts with all members of the Community Mental Health Team and inpatient bed days for 65-74 year old patients and those over 75 in 1996/7 for Latham House Medical Practice (% in brackets)**

	<b>65-74 years</b>	<b>≥75 years</b>	<b>Total</b>
<b>Population size</b>	2713 (54)	2273 (46)	4986 (100)
<b>First contacts (%)</b>	14 (24)	45 (76)	59 (100)
<b>Follow up contacts (%)</b>	250 (25)	735 (75)	985 (100)
<b>Total contacts (%)</b>	264 (25)	780 (75)	1044 (100)
<b>Inpatient bed days (%)</b>	396 (22)	1415 (78)	1811 (100)

Source: Electronic information supplied by the Leicestershire Community Mental Health Trust. Population figures from FHSA age-sex register as at March 1998.

It was not possible to compare bed and CMHT use by Latham House Medical Practice with Leicestershire as a whole. The figures for CMHT use by the practice held by the health authority did not agree with the practice’s own records. Leicestershire Health Authority was informed and planned to discuss this matter further with the information department of the Leicestershire and Rutland Healthcare NHS Trust who provide the information to the authority.

### 3.4.7 Community Nursing Services

The Leicestershire and Rutland Health Care Trust provides the Community Nursing Service for the practice population. There were 3.5 G Grade, 5 E Grade and 2.5 B Grade whole time equivalent nurses, the grades reflecting levels of seniority and pay with G being the highest and B the lowest. One physiotherapist was also available to the whole practice population.

Specialist nurses (such as a tissue viability nurse, an infection control nurse, a sexual health nurse, an incontinence nurse and an AIDS specialist nurse) were available for consultation if needed.

Referrals to the Community Nursing Service were normally by letter. However, general practitioners did not always do this in which case the nurses logged the referrals without letter. Consequently the community nurses felt that the record of referrals was highly reliable.

#### 3.4.8 Workload of the Community Nursing Service

Approximately 19% of community nurses' contacts are with the 65-74 year age group and contact numbers were three times greater for the over 75s compared with 65-74 year olds. Latham House Medical Practice had 1.6 times the level of community nursing support for its population relative to the Leicestershire average.

**Table 3 - 4 Community Nursing Team contacts with Latham House Medical Practice patients between 1/4/98 and 30/9/98 N (%)**

Age Group	≤ 64 years	65-74 years	≥75 years
<b>Total contacts (%)</b>	1589 (24)	1263 (19)	3790 (57)

Source: Fosse Health Trust - Total Care Community System 22/01/99

The information is based on all the contacts the Community Nursing Team had with different age groups of Latham House Medical Practice patients during a six-month period. It does not tell us the nature or length of contacts or allow conclusions to be drawn on the most appropriate skill mix for the nursing team. The figures do not include contacts with patients who were staying with friends or relatives outside the team's catchment area or patients from other practices temporarily living in the catchment area.

**Table 3 - 5 Community Nurses working for Latham House Medical Practice compared with other practices in Leicestershire (Whole Time Equivalent (WTE) per 100,000 population) by age group**

Practice	WTE per 100,000 population
Latham House Medical Practice	55.1
Other Leicestershire Practices	34.2
<b>Total</b>	<b>34.9</b>

Source: WTE information supplied by Trust Finance Department. Population figures from FHSA Age-Sex register as at March 1998 obtained from Leicestershire Health Authority Information Department



The community trust (Fosse Health Trust) supplied 18.4 WTE community nursing staff to the practice's catchment area constituting a considerably higher than average supply of community nursing time relative to all other practices in Leicestershire.

### **3.5 Population**

All 65-74 year old patients registered with Latham House Medical Practice formed the study population for both the population survey and the patient record audit and in September 1998 they numbered 2718 people. Of a total of 33,530 patients registered with the practice 1266 (3.8%) were men and 1452 (4.3%) were women aged 65 to 74. In England, men in the same age group constituted 3.9% of the population and women 4.6%. The age/sex distribution of the patients of Latham House Medical Practice is therefore similar to the national picture (source: Population Estimates, National Centre for Health Outcomes Development, 1998). Men and women aged over 75 constituted 2.4% and 4.4% of the registered practice population (the figures for England were 2.6% and 4.8% respectively) (Source: Population Estimate from National Centre for Health Outcomes Development, 1998). Our study population includes 54% of the population over the age of 65. A very low proportion of Melton Mowbray's population (<1 %) belonged to an ethnic minority community.

### **3.6 The Survey**

The patient survey instrument was a structured interview administered by trained interviewers in subjects' homes, taking approximately 30-45 minutes to complete. The items covered by the survey are summarised in table 3-6 below and a copy of the survey questionnaire is contained in the appendix. Validated case finding instruments for depression and dementia were included in the survey and publications supporting the validity of those measures are referenced in table 3-6 as are questions used previously in other surveys and studies. The questions on mobility and other activities of daily living were the same as those asked by the General Household Survey (GHS). However, the GHS used the ability to go upstairs or walk around the house without problems as a screen for

significant self-care problems. This initial screen was omitted by asking all respondents questions about their ability to care for themselves. Therefore the data on mobility and physical self-care are not directly comparable between the GHS and our survey.

**Table 3 - 6    Contents of survey**

<b>Contents of Survey</b>	<b>Screening Tool incorporated</b>	<b>Questions used previously in other surveys</b>
Personal information (age, sex) Activities of daily living Hearing Eyesight Use of medical and social care Use of transport Use of dentist and chiropodist		General Household survey 1994 <sup>100</sup>
Respondent's provision of care for someone else		General Household Survey 1990 <sup>101</sup>
A screening instrument for moderate to severe dementia	12 item Information/ Orientation subscale of the Clifton Assessment Procedure for the Elderly (CAPE I/O) <sup>102-106</sup>	
A screening instrument for depression	15-item version of the Geriatric Depression Scale (GDS) <sup>23,107-115</sup>	
Net income Questions on informal help in crises Other questions (e.g. type of housing, proxy interview)		Questions from 1988 survey conducted by this department in Melton with individuals aged over 75, monetary values updated to the present day <sup>116</sup>
Questions not previously used asking about respondents view of social care services		

The survey was piloted with people aged 64 and 75 in the same population. The data collection form for the record audit (described in detail in section 3.12) was piloted with the general practice records of the same individuals. The actual survey was conducted between October 13, 1998 and the October 31, 1999.

### ***3.7 Time Period covered by Survey Questions***

The time period covered in the survey was the day of the interview for carer status, depressive symptoms and cognitive impairment. Questions about medical care use were asked for the last three calendar months and the last complete calendar month up to the date of interview. Questions regarding hospital admissions, accident and emergency attendances and days spent ill in bed at home were asked for the preceding year.

### ***3.8 Selection and Recruitment of Subjects for the Survey***

The names and addresses of all 65 - 74 year old patients registered with the practice were obtained from the computerised practice register which is updated weekly for deaths, changes of address or migration. For practical reasons the practice area has been divided into 12 areas for sampling.

A list of the 65 to 74 year old patients was downloaded for each area and checked by the general practitioners for exclusion or deferral of approach (for reasons such as terminal illness and impending death or absence from home). Just prior to mailing the list was checked again for deaths that had occurred since sampling. Patients were each sent a letter inviting them to take part in the study and enclosed with this were a leaflet with information about the study and a supporting letter from one of the general practitioners. Copies of these documents are included in the appendix.

Subjects could refuse participation by returning the letter in a pre-paid envelope or by telephoning the project office. If they did not refuse they were contacted by telephone or, failing that, visited by an interviewer. The interviewer explained the nature and purpose of the study to each respondent and obtained written consent for the interview. At the same

time patients were asked to consent to our access to their medical and social service records.

### **3.9 Exclusion Criteria - Survey**

Residents of nursing homes or patients whose general practitioner requested their exclusion because of the patient's impending death were excluded from the survey. Patients who had been bereaved prior to contact were re-contacted after 8 weeks. This may have slightly reduced the numbers of depressed individuals in our study.

Those people who had moved out of the area or into a nursing home and patients who had died before the interviewers could contact them were also excluded from the analysis. Since all eligible individuals were identified in successive small areas (12 in total) rather than all at once, some people moved to other areas between sampling and the first attempt to contact them. If they had moved to an area yet to be sampled they were identified at a later stage but if they had moved to an area that had already been sampled then the study did not capture them. The chance of moving into an unsampled area was the same as that of moving to a previously sampled one and since only two people moved into a previously un-sampled area, a similar number probably would have moved the other way.

The proportion of nursing home residents was low, at the start of the study only 12 patients (0.4%) between the ages of 65 and 74 were known to be living in a nursing home. Another six either moved into a nursing home during the course of the study, or were identified correctly as nursing home residents during the survey and excluded. The total therefore amounted to 18 (0.7%).

### **3.10 Second Stage of the Survey - Psychiatric Interview using SCAN**

If a respondent scored four or more points (maximum 15) on the Geriatric Depression Scale, the survey interviewer asked the subject to take part in a clinical interview. The aim of this interview was to confirm whether the respondent was suffering from major depression. If patients agreed the medical interviewer contacted them and explained the

purpose of the diagnostic interview again. If individuals were still willing to be interviewed the examination went ahead and took place within a week of the survey date (with very few exceptions).

The computerised Schedule for Clinical Assessment in Neuropsychiatry (SCAN) formed the basis for the diagnostic interview.<sup>22,117</sup> SCAN provides the trained interviewer with clear definitions of psychological phenomena and standard scales for rating their severity and duration. It was developed in a number of international centres for the World Health Organisation (WHO) and the interview incorporates the 10th edition of the Present State Examination. This is considered to be a diagnostic gold standard. Even though SCAN has not been formally validated in the elderly, it has a tradition of use in studies of depression in the elderly, notably Murphy (1982)<sup>118</sup>, Ben Arie (1987)<sup>119</sup>, Carpiniello (1989)<sup>49</sup> and Lindsay et al (1989).<sup>29</sup>

SCAN was used in order to ensure systematic and standardised recording of the symptoms of depression for the 4 weeks preceding the interview and it also allowed the diagnosis of psychiatric co-morbidity. The interviewer entered scores for severity and duration onto a laptop computer during the interview and a computer program (CATEGO 5) interpreted those scores, applied diagnostic algorithms to the number of symptoms present and provided ICD-10 (International Classification of Diseases version 10) diagnoses.

The criteria for the diagnosis of a major depressive episode in ICD 10<sup>1</sup> and its subcategories of mild, moderate and severe are as shown in the box below:

- |  |
|--|
| <p>Category A symptoms:<br/>At least two weeks of:</p> <ol style="list-style-type: none"><li>1. Depressed mood most of day, most days</li><li>2. Loss of interest</li><li>3. Decreased energy</li></ol> <p>Category B symptoms<br/>At least two weeks of:</p> <ol style="list-style-type: none"><li>1. Loss of self esteem</li><li>2. Inappropriate guilt</li><li>3. Ideas of self harm</li><li>4. Inability to concentrate</li><li>5. Agitation or retardation</li><li>6. Disturbed sleep</li><li>7. Change in appetite</li></ol> |
|--|

A mild major depressive episode requires at least two out of three category A symptoms and additional symptoms from B to give a minimum of four symptoms with continuing ability to function.

A moderate major depressive episode requires at least two out of three category A symptoms and additional category B symptoms to give a minimum of six symptoms with difficulty in functioning.

A severe major depressive episode requires all three category A symptoms and additional category B symptoms to give a minimum of eight symptoms. The severely affected individual must be unlikely to be able to function.

The present author, a specialist registrar in public health medicine with 16 months' training in psychiatry and a further 11 years of general clinical and general practice experience was the clinical interviewer. He underwent training in the use of SCAN by the WHO designated centre at the Department of Psychiatry at the University of Leicester for one week. The Present State Examination took between 45 minutes and 75 minutes to apply in the vast majority of cases.

### **3.11 *Exclusion Criteria - SCAN Interview***

Non-participants in the survey and participants who did not wish to be interviewed further were excluded from SCAN interviews. Those patients with a CAPE score of  $\leq 8$  (indicating moderate to severe cognitive impairment) were also excluded, as good recall of the preceding 4-6 weeks was essential to the validity of the interview.

### **3.12 *General Practice Record Audit***

Respondents' and non-respondents' medical records were audited by a nurse experienced in general practice record audit using a data collection form developed and piloted by the present author. A copy of the form is contained in the appendix.

The purpose of the audit was firstly to relate health service use and drug prescribing to current depressive symptoms (as diagnosed by the Geriatric Depression Scale) or actual depressive illness (diagnosed by SCAN). Secondly the audit results allowed comparison between respondents and non-respondents to the survey on the basis of as much relevant information as possible. This made it easier to detect response bias to the survey due to depression or cognitive impairment.

A summary of the items covered by the audit is contained in table 3-7. In general all the information covered by the audit was also covered by the survey but referral and prescribing details were collected by the audit alone. Whenever survey questions covered specific time periods the corresponding information in the audit was obtained for the same period in the case of non-respondents to the survey, and for the matching dates in the case of respondents.

**Table 3 - 7    Contents of the Audit of General Practice Records**

Personal information (age, sex) General practice – doctor and nurse consultations (excluding attendance for venepuncture and telephone contact)
Record of dementia or Alzheimer’s disease or cognitive impairment in preceding year
Record of psychological distress in preceding calendar month (transcription of wording used in medical record and categorised afterwards)
Referrals, admissions to hospital or nursing home, attendance at accident and emergency departments
Prescribing in general (for once only and repeated prescriptions), antidepressant, tranquilliser, hypnotic, neuroleptic and lithium prescribing (with dose and duration)

Prochlorperazine (a neuroleptic drug) was excluded from the audit, as it is mostly used as a sedative in dizziness and vertigo. The audit nurse identified four patients who were treated for anxiety with this drug.

### **3.13 Exclusion Criteria – Record Audit**

Patients who had moved away, died or moved into a nursing home, and survey participants who declined access to their medical records were excluded from the audit.

### **3.14 Quality Assurance and Safeguarding of Patients' Interests**

The Leicestershire District Ethics Committee approved the design of the study (approval reference number: 5416).

The present author trained all interviewers for 2 days with video recall of their mock interviews. The audit nurse was trained in using the data extraction form, the practice filing system for patient records and the practice computer system. In order to avoid poor interviewing practice and missing data, checks were built into the office procedures. The data entry clerk made a note when data were missing and questionnaires were returned to the interviewers for completion. The project secretary telephoned one interviewee per interviewer per week to obtain feedback about the interview and the project manager accompanied some of the interviews. The interviewers also tape recorded one interview on alternate weeks and the project manager reviewed the tapes in order to confirm that questions were asked as they were written in the questionnaire.

The data entry clerk entered all data twice into independent databases. The present author and the computer officer investigated all discrepancies between databases and corrected identifiable errors. All data from interviews and general practice audit were checked for completeness and duplicate entries. At the end of this process the databases were merged.

The quality assurance for the clinical interview consisted of eight interviews spread over the course of the data collection that were co-rated by another experienced interviewer. Differences in scoring were minor and never resulted in a change of diagnosis.

Interviewers advised subjects with perceived social or medical problems to contact social services or their general practitioner, the local Social Services Department and the practice having previously agreed this process. If patients were apparently suffering significant



depressive symptoms or cognitive impairment, a letter was sent to their general practitioner and action was left to the general practitioner. Only once was it necessary to telephone the practice because an interviewee was thought to be suicidal.

### **3.15 Data Handling, Entry and Statistical Analysis**

Questionnaires were locked in filing cabinets. Microsoft Access (version 2) was used for data entry and SPSS (version 9) for statistical analysis. All statistical tests were two-sided. Chi squared ( $\chi^2$ ) or Fisher's exact test (where expected numbers were 5 or less in at least one cell of the underlying cross tabulation) were used for comparison of proportions between groups. Medians were compared using the Mann Whitney U-test when the data were not normally distributed. P values have been given to three decimal places. The description of a result as "statistically significant" in the text refers to a p-value of less than 0.05.

Confidence intervals were calculated for our estimates of depression prevalence. For the calculation of the confidence interval around the prevalence of dementia, the present author used the formula for a single proportion confidence interval as described by Altman.

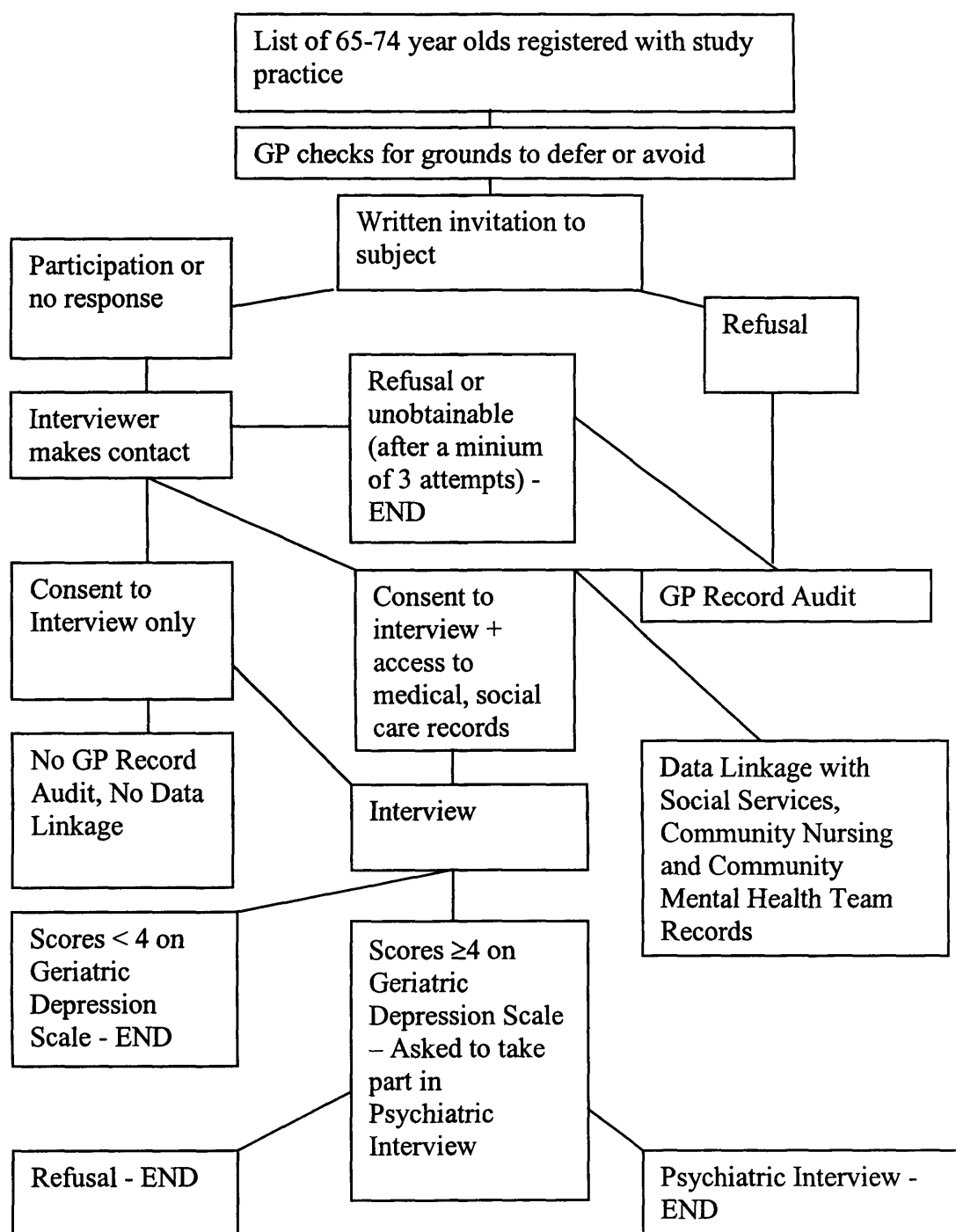
<sup>120</sup> In the case of depression the calculation was complicated by the nature of the two stage survey and the potential for bias through nonresponse. To calculate prevalence for depression the present author used the method applying sampling weights.<sup>121</sup> This assumes that individuals (or a sample of them), who are not suspected of depression on the basis of the first stage questionnaire, are also interviewed to enable a more precise estimate of total population prevalence. Since those who did not score above the defined cut off point were not interviewed, the number of individuals in that category was set at zero. This does not invalidate the method.

The results of previous research in the same locality in people aged over 75 was used to estimate the proportion missed as a consequence of using a score of 4 on the geriatric depression scale as a cut off point.

### **3.16 Summary of Setting, Population and Methods**

The study took place in an affluent rural market town and its surrounding villages. Since the registered population of only one very large general practice was involved, it was possible to conduct a two-stage population survey and a patient record audit at the same time. This offered the unusual opportunity to investigate whether easily definable subgroups of the population are more likely to be depressed and if they could be targeted with active case finding. It also increased the certainty of the resulting prevalence estimates for depression because the study gave a large amount of detailed knowledge about the non-responders in the practice population. Figure 3-2 summarises the study process.

**Figure 3 - 2 The Study Process in Overview**



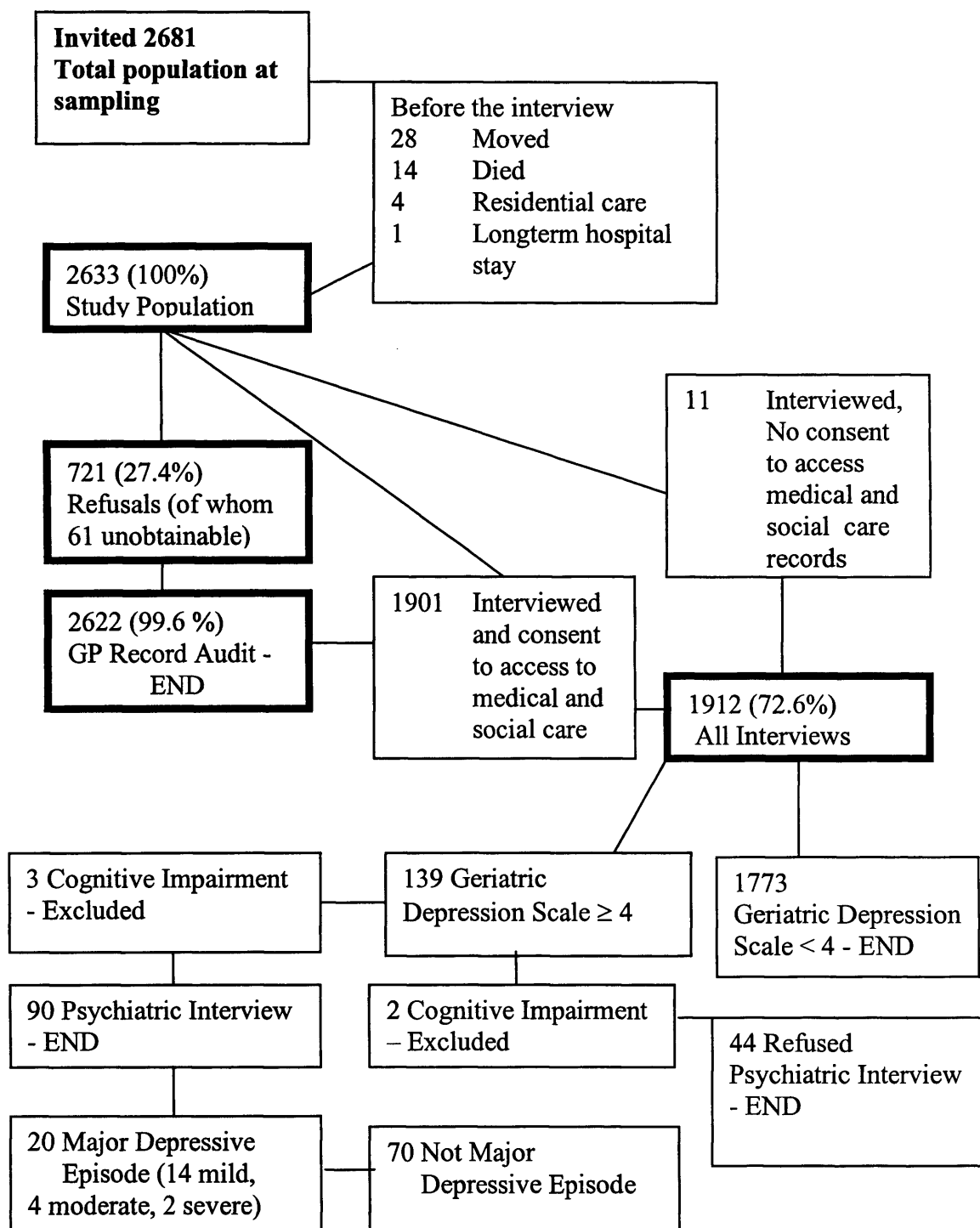
## **Chapter 4: Results**

This chapter describes the study population, its health profile and use of psychoactive medication. The information taken from general practice records is used to compare responders and non-responders to the survey. The flow of the study with figures is shown in figure 4-1.

The observed prevalence of major depression is presented and followed by estimated prevalence for the whole population. The observed prevalence of moderate to severe cognitive impairment is also shown. The psychiatric co-morbidity (other than dementia) of individuals with major depression is shown separately. Thereafter the prevalence of major depression among patients who live alone, attenders of the general practice in the last three months and patients on antidepressants and tranquillisers is described.

At the end of the chapter the information from treatment studies has been used to calculate the expected proportion of patients improved after six months, if the results of those treatment studies applied to cases in the subgroups. The advantages and disadvantages of case finding in each subgroup are also outlined.

**Figure 4 - 1 Flowchart of survey participation**



#### 4.1 Responders and Non-responders to the Population Survey

Participants in the survey are compared to non-participants using information obtained from the general practice record audit shown in table 4-1. Individuals who were interviewed but refused access to their medical records were excluded from the analysis (N=11).

**Table 4 - 1 Comparison of responders and non-responders to the survey using data from the general practice record audit**

		<b>Responders (N=1901)</b>	<b>Non-responders (N=721)</b>	<b>p-value</b>
<b>Age</b>	<b>Median (IQR)</b>	70 (67 to 72)	69 (67 to 72)	0.701 <sup>c</sup>
<b>Sex</b>	<b>Female % (N)</b>	53.6 (1018)	51.6 (372)	0.381 <sup>a</sup>
	<b>Male % (N)</b>	46.4 (883)	48.4 (349)	
	<b>On antidepressants % (N)</b>	4.2 (80)	3.1 (22)	0.177 <sup>b</sup>
	<b>On tranquillisers % (N)</b>	5.0 (95)	6.0 (43)	0.328 <sup>a</sup>
	<b>On neuroleptics % (N)</b>	0.9 (17)	2.2 (16)	0.007 <sup>a</sup>
	<b>Probable cognitive impairment recorded by GP % (N)</b>	1.2 (23)	1.7 (12)	0.366 <sup>a</sup>
	<b>Visited GP at surgery in last 3 complete calendar months % (N)</b>	52.6 (999)	42.4 (306)	<0.001 <sup>a</sup>
	<b>Received home visit from GP in last 3 complete calendar months % (N)</b>	5.1 (97)	4.9 (35)	0.793 <sup>a</sup>
	<b>Referred to hospital consultant in last 3 complete calendar months % (N)</b>	15.6 (297)	9.3 (67)	<0.001 <sup>a</sup>
	<b>Referred to Practice Counsellor in last 3 complete calendar months % (N)</b>	0.2 (4)	0.1 (1)	1.00 <sup>b</sup>
	<b>Referred to Community Mental Health Team in last 3 complete calendar months % (N)</b>	0.5 (9)	0.6 (4)	0.761 <sup>a</sup>
	<b>Admitted to hospital in last year % (N)</b>	13.5 (256)	10.5 (76)	0.044 <sup>a</sup>

<sup>a</sup>  $\chi^2$  test, <sup>b</sup> Fisher's exact test, <sup>c</sup> Mann Whitney U test

There was no significant difference in the proportions referred to the Community Mental Health team, or the proportion prescribed antidepressants, among responders and non-responders. Therefore, it is reasonable to assume that the prevalence of depression is similar in both groups. However, it should be noted that a significantly higher proportion of non-responders were on neuroleptics ( $\chi^2_1=7.38$ ,  $p=0.007$ ). Neuroleptic drugs are used mainly for severe mental illness like schizophrenia or mania; consequently patients with those conditions may be underrepresented among participants. This is unlikely to affect our results as neither patients with severe depression nor patients with dementia in our sample had received neuroleptic drugs.

Responders were more likely to have attended the GP, been referred to a hospital consultant or admitted to hospital than non-responders. This may mean that responders were more likely to have general physical ill health compared with non-responders. Alternatively responders might be more willing to seek help than nonresponders.

There was no significant difference in cognitive impairment recorded by the general practitioner between responders and non-responders, and so our estimate of the prevalence of dementia in the population is likely to be unbiased.

#### ***4.2 Profile of Health, Disability and Service Use***

More than 75% of survey participants had GDS scores of two or less and CAPE scores of 11 or more respectively, showing that this population aged 65-74 had low rates of depression and cognitive impairment (table 4-2).

**Table 4 - 2    Profile of survey participants (N=1912): Age, sex and mental health**

<b>Personal details</b>	Age	Median (IQR*)	70 (67 to 72)
	Sex	Male % (N) Female % (N)	46.4 (887) 53.6 (1025)
<b>Mental Health</b>	GDS score (probable depressed mood score $\geq 4$ )	Median (IQR*)	1 (0 to 2)
	CAPE score (moderate to severe cognitive impairment score $\leq 8$ )	Median (IQR*)	12 (11 to 12)

\*IQR= Interquartile Range

Table 4-3 shows in detail the use of social care among the survey respondents. Only 4.8% (N=92) of the sample recalled having used a lunch club, a day centre or meals on wheels or having received a visit from a voluntary helper or a social worker in the last complete calendar month. Four times more people employed a private domestic help than received home care and there was little overlap between those receiving home care and those employing a private domestic help with only six out of 106 people having both. Home care staff do not undertake cleaning tasks and, since the provision of home care is means tested, its receipt may incur charges. Consequently help that is not provided through social services may be cheaper and more convenient to the user. Leicestershire County Council has eligibility criteria for community care. These state that any assistance will be towards a basic level of living and independence only. It is restricted to those who can not perform one or more tasks of daily living and who do not have any informal source of support.<sup>122</sup>



**Table 4 - 3    Profile of survey participants (N=1912): Self-reported social service use**

<b>Service used in last complete calendar month (unless stated otherwise)</b>	<b>% (N)</b>
<b>Home care % (N)</b>	1.3 (24)
<b>Private domestic help % (N)</b>	5.5 (106)
<b>Meals on wheels % (N)</b>	0.6 (11)
<b>Lunch club % (N)</b>	1.9 (36)
<b>Day centre % (N)</b>	1.4 (26)
<b>Voluntary helper % (N)</b>	0.7 (14)
<b>Seen social worker (last complete calendar months) % (N)</b>	0.7 (14)

The findings presented in table 4-3 differ from the results of the 1994 General Household Survey when in the same age group (N=2182) and for the same time period, 7.7% (168) of respondents had used home care and 6.3% (137) had employed a private help. This may mean that either services are more restricted in Melton Mowbray relative to the national situation five years ago or that the need for help was lower. In the national sample the use of meals on wheels (2.7%, N=59), voluntary helpers (0.8%, N=17), day centres (2.8%, N=61), lunch clubs (3.2%, N=70) and social workers (1.2%, N=26) were all higher than in Melton Mowbray.<sup>123</sup>

The greater use of social workers and of private domestic help would suggest more social problems or at least increased demand for social care being present in the national sample. Social workers in particular tend to carry out needs assessments and advice prior to any service delivery and their services do not carry a charge to the individual. The relatively low Townsend deprivation score for the study area would also support this assumption.

Only 8 of the 29 people who had received home care in the preceding month also had this recorded by social services. Only one person had attended a lunch club according to social

services records but had seemingly not recalled that attendance. In addition, none of the 36 people using a lunch club were on record with the social services department for doing so.

The provision of services through voluntary organisations and commercial agencies may explain some of this mismatch. People may have attended lunch clubs that they paid for themselves and therefore were not recorded by social services. Whatever the explanation, it is clear that social services records in this area are not useful for estimating actual use of the most commonly provided types of social care.

Health service use by the survey participants is shown in table 4-4. The practice nurse was the most frequent source of contact for patients in this setting. However, this may not be the same for other practices, since Latham House Medical Practice had more nurses per head of the population than other Leicestershire practices and also had a nurse practitioner who saw patients with minor illness as a first point of contact.

**Table 4 - 4    Profile of survey participants (N=1912): Self-reported health service use**

<b>Service Used (in last 3 complete calendar months unless stated otherwise)</b>	<b>% (N)</b>
<b>General Practitioner (GP) at surgery % (N)</b>	28.9 (553)
<b>Home visit from GP % (N)</b>	4.6 (87)
<b>Practice nurse at surgery % (N)</b>	36.8 (704)
<b>Hospital doctor % (N)</b>	22.6 (433)
<b>Accident &amp; Emergency Department (last 12 months) % (N)</b>	5.4 (103)
<b>Admitted to hospital (inpatient) (last 12 months) % (N)</b>	11.4 (218)
<b>District nurse visited (last complete calendar month) % (N)</b>	1.5 (28)
<b>Community psychiatric nurse visited (last complete calendar month) % (N)</b>	0.4 (8)
<b>Dentist % (N)</b>	28.9 (553)
<b>Chiropodist % (N)</b>	16.9 (323)

The information for community psychiatric nurse contact was confirmed for 5 (62%) of the 8 patients involved, by information from the community mental health team. There was no record for the remaining 3 patients during the time period in question.

The 1996 General Household Survey reported similar information for the 65-74 year old age group in a national sample of the population.<sup>124</sup> 4% (86) of respondents had attended casualty at least once. This may reflect the difference in availability, as Melton Mowbray has a casualty department dealing with minor injuries while most patients in urban areas have to attend casualty departments in district general hospitals further away from home. This may lower the threshold for attendance with minor injury and thus increase utilisation rates in our sample. However, admissions to hospital as inpatients also reported by the 1996 GHS were also lower in the national sample at 9.2% (195) compared with 11% (218) of the study population. It is difficult to say whether this was a real difference or due to a partial misunderstanding of the question about admissions (observed by the interviewers).

Interviewers had noted that some respondents were unsure whether or not admissions as a day case were counted as inpatient stays.

Few of those in the 65-74 year old age group were unable to undertake basic activities of daily living (table 4-5). This is likely to underestimate the population prevalence of serious disability, as the 18 nursing home residents were excluded from the survey and their level of serious disability would be higher than average.

**Table 4 - 5    Profile of survey participants (N=1912): Self-reported activities of daily living**

<b>Has Ability to</b>	<b>Level of Independence</b>	<b>% (N)</b>
<b>Get up and down stairs</b>	Unaided	97.5 (1864)
	With help	1.3 (24)
	Not at all	1.2 (23)
<b>Get around house</b>	Unaided	99.3 (1898)
	With help	0.5 (9)
	Not at all	0.2 (3)
<b>Get to the toilet</b>	Unaided	99.2 (1896)
	With help	0.6 (11)
	Not at all	0.2 (3)
<b>Get in/out of bed</b>	Unaided	98.8 (1890)
	With help	0.9 (17)
	Not at all	0.2 (3)
<b>Dress/undress</b>	Unaided	98.1 (1876)
	With help	1.8 (35)
	Not at all	0.1 (1)
<b>Feed self</b>	Unaided	99.8 (1908)
	With help	0.2 (4)
<b>Bath/shower/wash all over</b>	Unaided	96.5 (1845)
	With help	3.4 (65)
	Not at all	(2)

The 1994 General Household Survey provides comparable information for 65-74 year old respondents from a national sample about the ability to manage stairs.<sup>123</sup> 91.3% (1982) of the GHS respondents (also excluding nursing home residents) were able to go up and down stairs on their own compared with 97.5% of our sample suggesting that the level of disability in Melton Mowbray was lower.

### **4.3 Drug treatment and Use of Psychoactive Drugs in the Study Population**

The prescribing of psychoactive medication to the study population is shown in table 4-6. Approximately 13% of patients who had at least one prescription in the preceding calendar month received a psychoactive drug. This is an underestimate because one neuroleptic drug (Prochlorperazine) commonly prescribed for vertigo but rarely for mental illness was excluded. Some patients were on more than one psychoactive drug and consequently the sum of all patients on one type of psychoactive drug is greater than the number in receipt of psychoactive drugs as a whole.

**Table 4 - 6 Patients on any prescribed drug treatment (excluding immunisations) and psychoactive drugs in the preceding complete calendar month (N=2622)**

<b>Received a prescription % (N)</b>	68.6 (1800)
<b>Received repeat prescription % (N)</b>	65.8 (1725)
<b>Received prescription during consultation % (N)</b>	14.5 (379)
<b>Tranquilliser, Antidepressant, Neuroleptic or Lithium prescribed % (N)</b>	8.9 (234)
<b>Tranquillisers, Hypnotics % (N)</b>	5.3 (138)
<b>Antidepressants % (N)</b>	3.9 (102)
<b>Neuroleptics % (N)</b>	1.3 (33)
<b>Lithium % (N)</b>	0.2 (5)

Most of the tranquillisers prescribed are used to induce sleep (hypnotics) (table 4-7). This applies to Temazepam, Nitrazepam, Lorazepam, Zopiclone and Zolpidem. Only Diazepam, Chlordiazepoxide and Oxazepam are used for the daytime treatment of anxiety. Five patients were given a tranquilliser and a hypnotic concurrently (not shown in the table) but this did not change the ranking by frequency of the drugs used.

**Table 4 - 7    Tranquillisers and Hypnotics, Generic Name and Proportion of Prescriptions (N=138)**

<b>Temazepam % (N)</b>	37.0 (51)
<b>Diazepam % (N)</b>	21.7 (30)
<b>Nitrazepam % (N)</b>	19.6 (27)
<b>Chlordiazepoxide % (N)</b>	11.6 (16)
<b>Lorazepam % (N)</b>	4.3 (6)
<b>Zopiclone % (N)</b>	3.6 (5)
<b>Oxazepam % (N)</b>	1.4 (2)
<b>Zolpidem % (N)</b>	0.7 (1)

The most commonly prescribed antidepressants were the tricyclic drugs Amitryptiline and Dothiepin accounting for 53% of all antidepressant prescribing between them (table 4-8). The most commonly prescribed serotonin reuptake inhibitor (SSRI) was Fluoxetine accounting for 12% of antidepressant prescribing. One patient was on more than one antidepressant according to the prescribing record but in fact a new antidepressant had been started and the previous one had not been removed from the record.

**Table 4 - 8     Antidepressants prescribed, generic name and proportion of prescriptions (N=102)**

<b>Amitryptiline % (N)</b>	39.2 (40)
<b>Dothiepin % (N)</b>	13.7 (14)
<b>Fluoxetine % (N)</b>	11.8 (12)
<b>Lofepramine % (N)</b>	8.8 (9)
<b>Clomipramine % (N)</b>	7.8 (8)
<b>Paroxetine % (N)</b>	4.9 (5)
<b>Sertraline % (N)</b>	2.9 (3)
<b>Citalopram % (N)</b>	2.9 (3)
<b>Venlafaxine % (N)</b>	2.9 (3)
<b>Fluvoxamine % (N)</b>	1.0 (1)
<b>Imipramine % (N)</b>	2.0 (2)
<b>Mianserin % (N)</b>	1.0 (1)
<b>Moclobemide % (N)</b>	1.0 (1)

There were six patients with major depression on drug treatment at the time of the diagnosis. Five of them were being treated with SSRIs (Citalopram, Venlafaxine, Sertraline and Paroxetine), only one had been prescribed Clomipramine (a drug related to the tricyclic antidepressants). All had been prescribed treatment with the same drug for between 2 and 26 months. Three out of six were on doses of the drug at the lower limit of the range recommended by the British National Formulary (appropriate for the elderly where stated)<sup>125</sup> and one was on a dose below the recommended treatment range. This information would suggest that doses could have been increased had the persistence or recurrence of the depressive state been noted and acted upon. It is not possible to determine from these data whether or not the patients actually took their medication.

The prescribing of neuroleptic drugs is described in table 4-9. These drugs are usually given to patients to control symptoms of serious mental illness and they are rarely given to

patients with depression or dementia. The only neuroleptic drug that has a use for short-term treatment for depression is Flupenthixol. In this study population neither patients with depression nor dementia had been prescribed neuroleptic drugs.

**Table 4 - 9    Neuroleptics prescribed, generic name and proportion of prescriptions (N=32) (excludes Prochlorperazine)**

<b>Trifluoperazine % (N)</b>	24.2 (8)
<b>Flupenthixol % (N)</b>	21.2 (7)
<b>Thioridazine % (N)</b>	21.2 (7)
<b>Chlorpromazine % (N)</b>	9.1 (3)
<b>Olanzapine % (N)</b>	9.1 (3)
<b>Haloperidol % (N)</b>	6.1 (2)
<b>Quetiapine % (N)</b>	3.0 (1)
<b>Risperidone % (N)</b>	3.0 (1)

#### **4.4 Prevalence of Dementia**

Table 4-1 showed that there was no significant difference between survey participants and non-participants in the number of cases of dementia or Alzheimer's disease diagnosed by the GP. One can therefore assume that the prevalence of moderate to severe cognitive impairment in survey participants will adequately reflect prevalence in non-participants.

The CAPE Information/Orientation subscale used in the survey equates well with the existence of moderate to severe dementia. Scores of  $\leq 8$  have been shown to have a sensitivity of 87% for moderate to severe dementia in those aged over 75 in Melton Mowbray when compared with CAMDEX (Cambridge Mental Disorders of the Elderly).<sup>104</sup> Based on this information the prevalence observed in this study may be therefore approximately 13% lower than that measured by a gold standard (i.e. CAMDEX).



#### 4.5 Prevalence of Depression

CAPE scores do not support a clinical diagnosis but merely demonstrate the degree of cognitive impairment. It is thus a proxy measure for all forms of significant cognitive impairment. One would expect the majority to be due to Alzheimer's disease and vascular dementia and the minority due to other dementing disorders.

**Figure 4 - 2 Distribution of scores of the Clifton Assessment Schedule (Information/Orientation Sub-scale) among the participants of the survey**

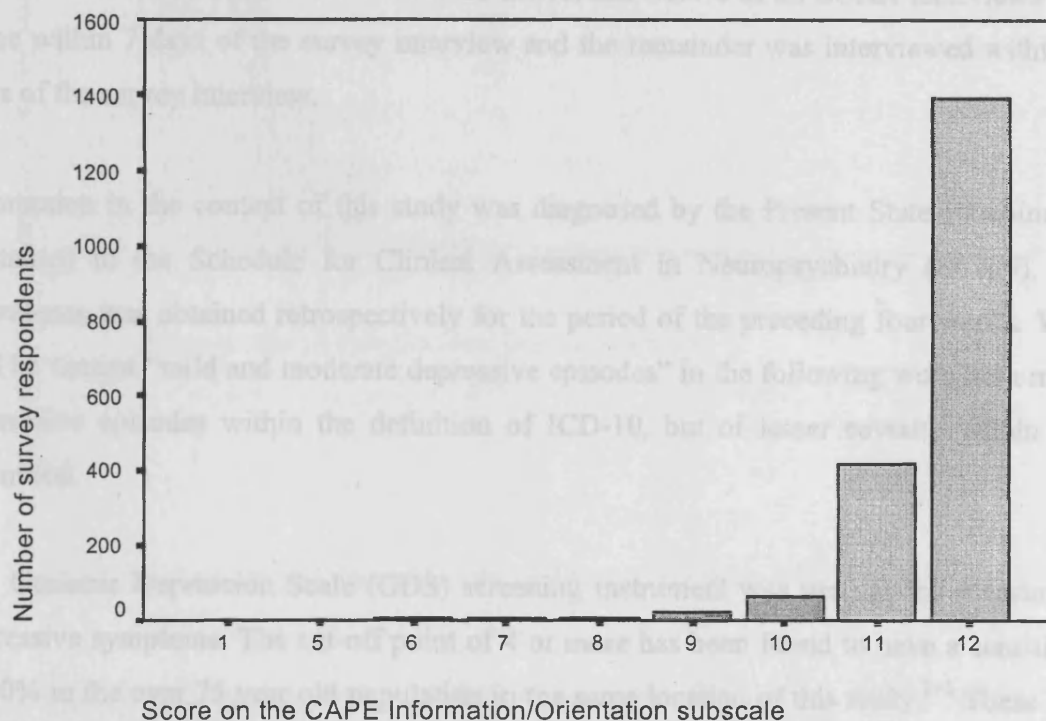


Figure 4-2 shows that the vast majority of respondents had CAPE scores above 8. No respondent scored less than 4 and those on 8 and below totalled 15 or 0.9%. Since there were 15 out of 1911 people (one was excluded as the CAPE score was missing) the prevalence of moderate to severe cognitive impairment was 0.78% (CI 0.39% to 1.18%). This underestimates total prevalence, as the survey excluded 18 patients in residential care. In addition, it does not take account of the inevitable misdiagnosis of cognitively impaired individuals as “normal” and of some “normal” individuals as cognitively impaired, due to the sensitivity and specificity of the screening test being less than 100%.

#### **4.5 Prevalence of Depression**

The calculation of the prevalence of depression in the study population was complicated by the two-stage design of the survey. The use of the GDS meant that the first stage would miss some cases of depression. Incomplete participation in the second stage of the diagnostic interview meant that participants and non-participants might have differed in the number of depressed individuals among them. Both effects turn may have necessitated adjustments to the “observed” prevalence. The time delay between screening and clinical interview was unlikely to have influenced the results. 91.4% of all SCAN interviews took place within 7 days of the survey interview and the remainder was interviewed within 14 days of the survey interview.

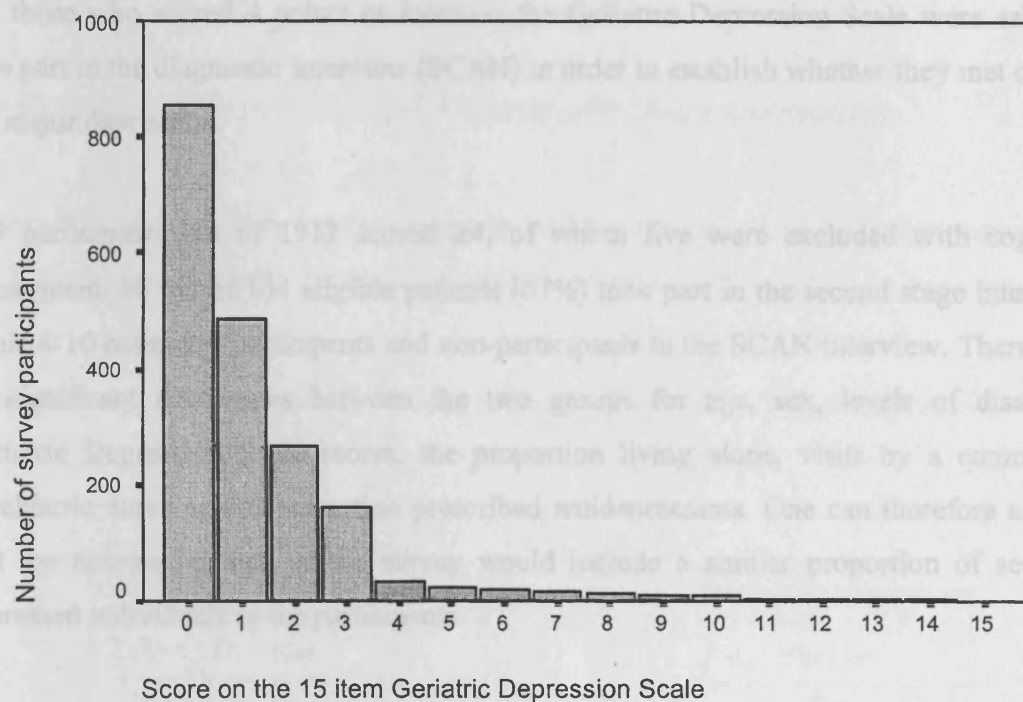
Depression in the context of this study was diagnosed by the Present State Examination contained in the Schedule for Clinical Assessment in Neuropsychiatry (SCAN). The prevalence was obtained retrospectively for the period of the preceding four weeks. What will be termed “mild and moderate depressive episodes” in the following were both major depressive episodes within the definition of ICD-10, but of lesser severity within that definition.

The Geriatric Depression Scale (GDS) screening instrument was used as the measure of depressive symptoms. The cut-off point of 4 or more has been found to have a sensitivity of 80% in the over 75 year old population in the same location of this study.<sup>115</sup> These data seemed a reasonable estimate of the sensitivity of the test and therefore the estimated total prevalence of major depressive episode may be 20% higher than the observed prevalence (see section 4.7).

#### **4.6 Distribution of Depressive Symptoms among Survey Participants**

A total of 139 people or 7.3% (CI 6.1% to 8.4%) of the study population had GDS scores of  $\geq 4$ . This is the measure of the one-day prevalence of depressive symptoms in this study.

**Figure 4 - 3 Distribution of Geriatric Depression Scale scores in the survey population (N=1912)**



**Table 4 - 10 Comparison of participants and non-participants in SCAN interview, using survey and general practice record audit data**

	Participants (N=90)	Non- participants (N=44)	p-values
Age, Median (Q1-Q3)	70 (57 to 82)	69 (57 to 72)	0.973 <sup>a</sup>
Psychiatric prevalence month, % (N)	22 (2)	43 (2)	0.397 <sup>a</sup>
On antidepressants in last month, % (N)	17.8 (16)	15.9 (7)	0.785 <sup>a</sup>

<sup>a</sup>  $\chi^2$  test, <sup>b</sup> Fisher's exact test, <sup>c</sup> Mann Whitney U test

#### 4.8 Responders and Non-Responders to Present State Examination (SCAN)

All those who scored 4 points or more on the Geriatric Depression Scale were asked to take part in the diagnostic interview (SCAN) in order to establish whether they met criteria for major depression.

139 participants out of 1912 scored  $\geq 4$ , of whom five were excluded with cognitive impairment. 90 out of 134 eligible patients (67%) took part in the second stage interview. Table 4-10 compares participants and non-participants in the SCAN interview. There were no significant differences between the two groups for age, sex, levels of disability, Geriatric Depression Scale scores, the proportion living alone, visits by a community psychiatric nurse or the proportion prescribed antidepressants. One can therefore assume that the non-participants of the survey would include a similar proportion of severely depressed individuals as the participants.

**Table 4 - 10 Comparison of participants and non-participants in SCAN interview, using survey and general practice record audit data**

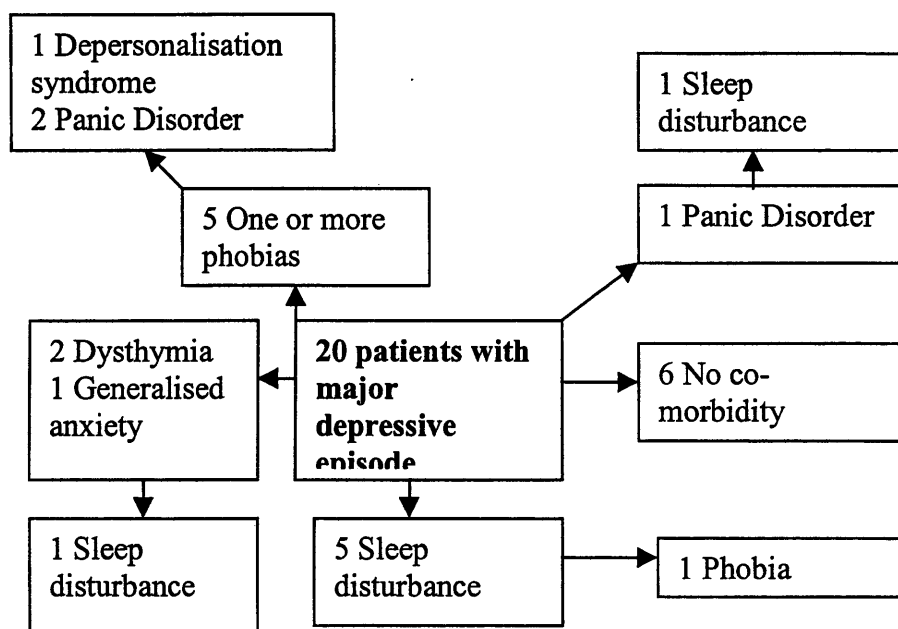
	Participants (N=90)	Non- participants (N=44)	p-values
<b>Age Median (IQR)</b>	70 (67 to 72)	69 (67 to 72)	0.775 <sup>c</sup>
<b>Sex Male % (N)</b>	42.2 (38)	34.1 (15)	0.366 <sup>a</sup>
<b>Female % (N)</b>	57.8 (52)	65.9 (29)	
<b>Geriatric Depression Scale score Median (IQR)</b>	6.0 (5 to 9)	5.5 (4 to 7.75)	0.139 <sup>c</sup>
<b>Able to go upstairs unaided, % (N)</b>	81.1 (73)	86.4 (38)	0.482 <sup>a</sup>
<b>Living alone, % (N)</b>	36.7 (33)	40.9 (18)	0.683 <sup>a</sup>
<b>Community Psychiatric Nurse visited in preceding month, % (N)</b>	2.2 (2)	4.5 (2)	0.597 <sup>a</sup>
<b>On antidepressants in last month, % (N)</b>	17.8 (16)	15.9 (7)	0.788 <sup>a</sup>

<sup>a</sup>  $\chi^2$  test, <sup>b</sup> Fisher's exact test, <sup>c</sup> Mann Whitney U test

#### 4.9 Psychiatric Co-morbidity of Patients with Major Depression

Depression is more often than not accompanied by other psychological disturbance. The following figure shows the pattern of psychiatric co-morbidity found.

**Figure 4 - 4 Psychiatric co-morbidity of the patients with a major depressive episode**



The majority of depressed patients had one or two other problems and sleep disturbance was by far the most common problem. Dysthymia as a diagnosis in its own right does not require the same severity of symptoms as a major depressive episode but must have lasted for at least two years.

Table 4-11 compares the individuals who had been found to be suffering from major depression through the SCAN interview with all other survey participants.

**Table 4 - 11 Comparison of those with major depression from SCAN with the rest of the study population using survey information**

Items from Survey	Major Depression (N=20)	All other survey participants with interview (N=1891)	p-value
<b>Age Median (IQR)</b>	68 (67 to 70)	70 (67 to 72)	0.090 <sup>c</sup>
<b>Sex Male % (N)</b>	35.0 (7)	46.6(876)	0.302 <sup>a</sup>
<b>Female % (N)</b>	65.0 (13)	53.4 (1005)	
<b>Living alone, % (N)</b>	45.0 ( 9)	23.3 (438)	0.032 <sup>b</sup>
<b>Is the person a carer % (N)</b>	25 (5)	13.2 (248)	0.171 <sup>b</sup>
<b>Able to go upstairs unaided % (N)</b>	95.0 (19)	97.6 (1834)	0.396 <sup>b</sup>
<b>Had visit from Community Psychiatric Nurse in last month % (N)</b>	5.0 (1)	0.4 (7)	0.081 <sup>b</sup>
<b>Had visit from District Nurse in last month % (N)</b>	0.0 (0)	1.5 (28)	1.0 <sup>b</sup>
<b>Saw nurse in surgery in last 3 months % (N)</b>	50.0 (10)	36.7 (690)	0.219 <sup>a</sup>
<b>Saw a doctor at the hospital in last 3 months % (N)</b>	40.0 (8)	22.5 (424)	0.101 <sup>b</sup>
<b>Attended an Accident and Emergency Department in the last 12 months % (N)</b>	5.0 (1)	5.4 (101)	1.0 <sup>b</sup>
<b>Hospital inpatient in last 12 months % (N)</b>	20.0 (4)	11.3 (212)	0.273 <sup>b</sup>
<b>Had home care last month, % (N)</b>	5 (1)	1.2 (23)	0.224 <sup>b</sup>

<sup>a</sup>  $\chi^2$  test, <sup>b</sup> Fisher's exact test, <sup>c</sup> Mann Whitney U test

Depression is associated with increased use of health services.<sup>4-6</sup> Depression has also been found to be associated with levels of disability that interfere with social roles.<sup>126</sup> Carers are reportedly more likely to suffer from depression<sup>127</sup> but for this population neither of these statements hold true if statistical significance alone is taken into consideration. However,

because the number of depressed individuals is so small that only very large differences would reach statistical significance in the comparison this may be misleading. Nearly double the proportion of depressed individuals lived alone, was carers, had seen a hospital doctor or had been a hospital inpatient, compared with the other survey participants. This is arguably even more important as all cognitively impaired patients are contained amongst the group of “all other” survey participants.

Table 4-12 compares the same groups as the previous table, this time by using the information contained in the general practice records.

**Table 4 - 12 Comparison of those with major depression from SCAN with the rest of the survey respondents using general practice record audit information**

Items from GP audit	Major Depression (N=20)	All other survey participants with GP record information (N=1881)	Results of two sided tests of significance (p values)
Seen by GP in last 3 months, % (N)	65.0 (13)	52.4 (986)	0.263 <sup>a</sup>
Referred to Counsellor in last 3 months, % (N)	5.0 (1)	0.2 (3)	0.041 <sup>b</sup>
Referred to Community Mental Health team in last 3 months, % (N)	0.0 (0)	0.2 (4)	1.00 <sup>b</sup>
On antidepressants in last month, % (N)	30.0 ( 6)	3.9 (74)	p<0.001 <sup>b</sup>
On tranquillisers in last month, % (N)	20.0 (4)	4.8 (91)	p=0.015 <sup>b</sup>
GP recorded psychological distress, % (N)	25.0 (5) <sup>*</sup>	2.7 (39) <sup>**</sup>	p<0.001 <sup>b</sup>

<sup>b</sup> Fisher's exact test

<sup>\*</sup> 3 depression, 1 anxiety, 1 other

<sup>\*\*</sup> 16 depression, 8 anxiety, 15 other

It is apparent that patients with major depression were significantly more likely to have a record of psychological distress in their notes and to have already been prescribed antidepressants or tranquillisers. In total 9 (45%) of the 20 patients were found to be suffering from major depression, to the extent that 6 were on antidepressants, 2 were on

tranquillisers and 2 were on both drugs. Another had a diagnosis of depression entered into her record without being prescribed treatment.

The question addressed in the next section is, what proportion of severely depressed individuals could be identified if these subgroups were screened by the Geriatric Depression Scale and the SCAN interview?

#### **4.10 Case finding Strategies for Depression**

One of the objectives of the study was to determine the proportion of depressed patients among all primary care attenders, those living alone, those prescribed antidepressants and those prescribed anxiolytic drugs.

General practice attenders are the most easily targeted group and do not require extra work inviting them to participate in case finding. Patients living alone may be identifiable on a practice register as the sole individual living at a particular address. This is only possible for practices with no alternative primary care provision nearby (such as Latham House Medical Practice), where other members of the same household may have registered. In this case a practice register is unlikely to identify isolated individuals reliably and it would probably be necessary to record specifically whether or not a patient lived alone. By contrast practices using a computerised prescribing and repeat prescribing system can easily identify antidepressant prescribing.

The subgroups of survey participants were only analysed if GP record information was also available. The number of observed cases of severe depression among SCAN participants and the estimated number among non-participants of SCAN in each subgroup were added to produce the total number of depressed individuals in each subgroup. The estimated number of depressed cases among non-participants was calculated by using the proportion of observed cases of depression among SCAN participants in each subgroup and applying it to non-participants.



Table 4-13 shows the group size, the adjusted total of people with major depression contained in that population and the number of people needing to be investigated by GDS and SCAN to find one case of major depression, the latter being the reciprocal of the depression rate. That rate itself is equal to the number of expected cases in a subgroup divided by the total number of people in that subgroup (e.g. patients on antidepressants).

**Table 4 - 13 Numbers needed to find one case of severe depression by using GDS and SCAN in subgroups of the population**

<b>Subgroup for Case-finding</b>	<b>Number with information from survey and GP data*</b>	<b>Estimated number with major depression in group (adjusted for non-participants in SCAN) (% of all depressed in whole sample)</b>	<b>Number needed to be screened to find one case (95% confidence interval)</b>
<b>Whole Sample*</b>	1886	29.8 (100)	63 (48 to 93)
<b>Living alone</b>	444	13.9 (46.6)	32 (22 to 58)
<b>On antidepressants in last month</b>	77	8.6 (28.9)	9 (6 to 19)
<b>On tranquillisers or hypnotics in last month</b> (excluding those also prescribed antidepressants)	76	4.9 (16.4)	16 (9 to 63)
<b>GP attenders in previous 3 months</b>	990	20.4 (68.5)	49 (35 to 79)

\*Excluding 15 individuals with moderate to severe cognitive impairment

The most promising subgroups offering the highest return for the least work are patients on antidepressants and those on tranquillisers or hypnotics. If all practice attenders were screened over a three-month period annually, the workload required for finding one case would still be reduced by about one fifth compared with annual general population screening. Strategies targeted at subgroups will, however, only detect a proportion of the severely depressed at any one time.

#### **4.11 Modelling the outcomes of case finding**

Active case finding aims to increase the number of patients who are correctly recognised as suffering from major depression over and above the number already recognised. It should

increase the numbers being treated and improve population outcomes. It is difficult to appreciate the absolute magnitude of any effect unless at least the likelihood of treatment success and the effects of the natural history of depression are considered. This section provides simplified models to compare outcomes using information from the most representative treatment trials.

Outcomes are described for case finding among the following target groups:

1. No case finding (i.e. usual GP care)
2. Case finding in the general population
3. Case finding among those who are living alone
4. Case finding among those who have been prescribed antidepressants in the preceding month
5. Case finding among those who have been prescribed tranquillisers or hypnotics in the preceding month (excluding those also prescribed antidepressants)
6. Case finding among those on antidepressants, tranquillisers or hypnotics
7. Case finding among GP attenders in the preceding 3 months

#### 4.11.1 Assumptions underlying the Model

The numerical assumptions underlying the calculations are summarised in table 4-14. They are based on the literature already cited in the background section and the review of treatment of late life depression in primary care. Relevant information is summarised in the table for convenience and described in more detail in the following paragraphs.

**Table 4 - 14 Population outcomes of late life depression**

<b>Observed population outcomes</b>	<b>Proportion</b>
<b>Assumptions used in the model</b>	<b>(figures used for model in bold)</b>
Population improvement with “usual GP care” <sup>66,67</sup>	<b>25% (older home care recipients after 6 months)</b> 27% (all depressed older people after 3 months)
Assumed level of improvement in patients who are not diagnosed as part of a specific case finding strategy	<b>25%</b>
Population improvement after intervention of dedicated Community Mental Health Team <sup>66,67</sup>	43% (all older people after 3 months) <b>58% (older home care recipients after 6 months)</b>
Assumed proportion of patients identified by the GP due to active case finding who have improved after six months	<b>41.5% (midpoint between 25% and 58%)</b>
Comparison: Natural history of major depression over 2 years <sup>44</sup>	33% not depressed 33% still (or again) depressed 21% dead

The model takes as its starting point 100 patients suffering from a major depressive episode, as defined for this study. This is convenient as the absolute numbers resulting from the model can be read as percentages.

In reality, an individual study practice GP with a list size of about 2000 would only see approximately 21 adult patients (including those over 65) each year, for whom he would newly prescribe antidepressant drugs. This figure is based on the observed incidence of such prescribing of 1.3% per annum.<sup>41</sup> The number of patients with major depressive episode contained in that group is likely to be smaller.

Patients with depression identified by case finding will not represent the total burden of disease in the population because of incomplete coverage. The “total sample” therefore will need to be thought of as a large proportion of the population rather than the true total.

The model only extends to six months from starting treatment whereas the information available on the natural history of late life depression extends beyond that time period. The information on treatment success and compliance in primary care is, however, limited to six months.

The model assumes that each patient has the same chance of improvement as with usual GP care, i.e. 25% at six months. 25% of older patients with depression in receipt of home care had improved with usual GP care after 6 months.<sup>67</sup> A slightly higher proportion, 27%, of all older patients with depression improved under GP care in a community sample over three months.<sup>66</sup> These figures describe the “natural history” in an elderly population with access to health care as that provided by the NHS.

The figures for improvement represent a “black box”. Within primary care treatment the decisive factor making a difference to outcome appears to be the proportion of patients prescribed effective treatment for a sufficiently long period. Dedicated research teams can approximately double the number of patients receiving antidepressant therapy compared with primary care.<sup>66,67</sup>

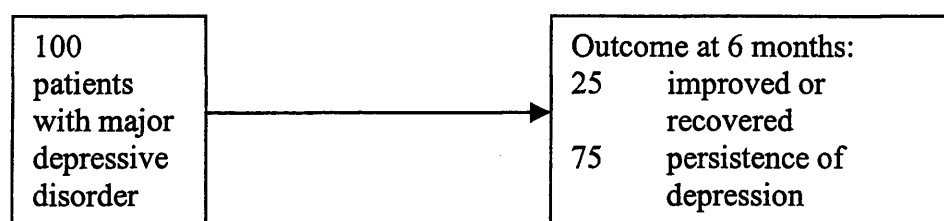
Overall treatment success for the purpose of the model is assumed to be 41.5%. This is halfway between the 25% who improve with usual GP care and the 58% who improve under optimal community psychiatric team care.<sup>67</sup> Strictly this only applies to patients identified by GMS-Agecat criteria for depression after six months of follow up. The model makes the optimistic assumption that diagnosing late life depression in primary care will significantly improve the numbers of patients who recover in the short term. This has yet to be demonstrated under service conditions for both primary care doctors and community mental health teams.

Each figure compares the expected proportion of patients who have improved with treatment after case finding with the proportion who have persistent or relapsing symptoms of depression by six months. The proportion of those who might die in a six-month period is not accounted for in the model.

#### 4.11.2 Models of the Outcome of Major Depressive Episode in Community Samples of people in the UK

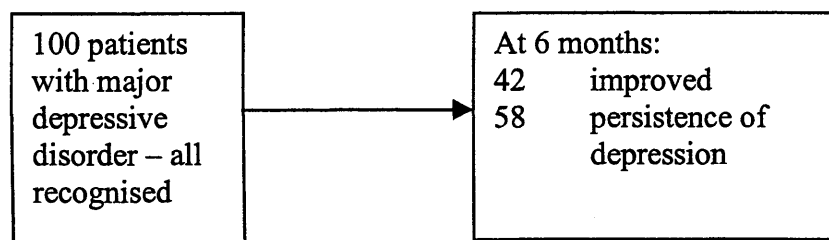
The models are static; i.e. they do not include the effect of time. The differences between models are summarised at the end of this section.

**Figure 4 - 5 Baseline Model – Usual General Practice Care**



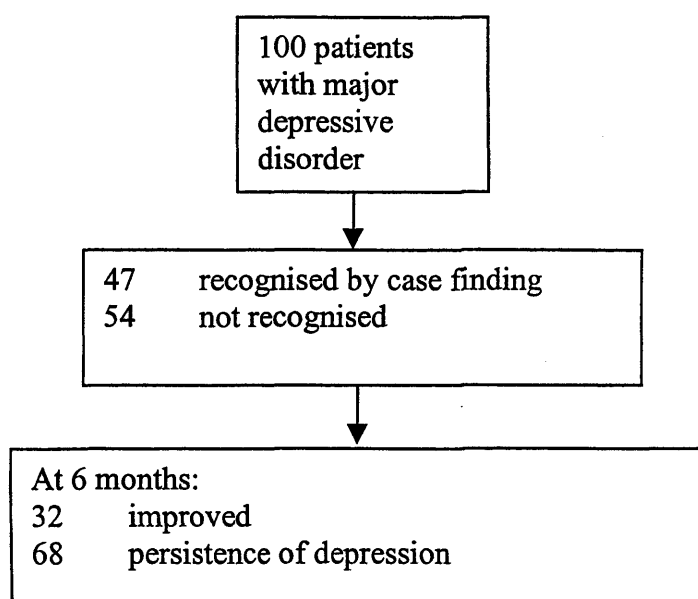
The above model assumes no additional intervention, but includes successfully treated patients who were correctly identified by their general practitioner. As the results are based on UK studies there may be differences in such rates compared with countries having different barriers to treatment for patients.

**Figure 4 - 6 Model of Case finding in the General Population**



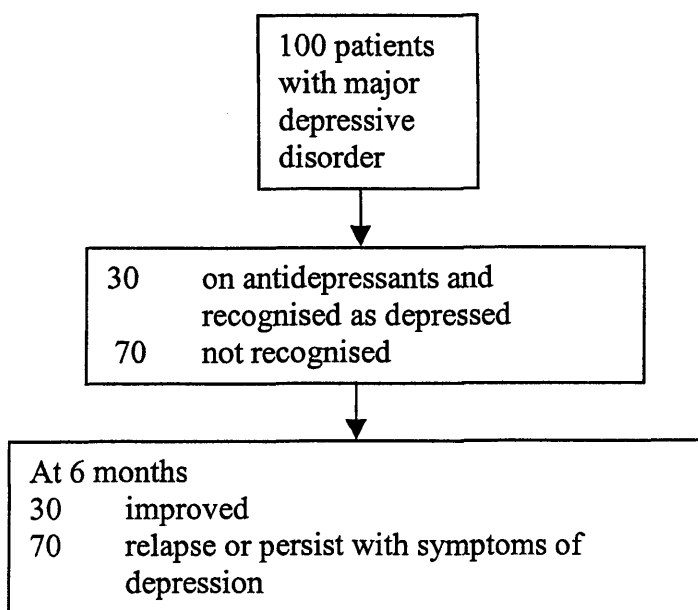
Screening the general population requires interviewing the greatest number of people possible, regardless of their attendance at a general practice. It is inevitably the most expensive and time-consuming model of case finding but it is, as one might expect, also the strategy that will detect the largest proportion of cases. The number of patients involved in this study was 1886 for the whole practice, or 130 per whole time general practitioner.

**Figure 4 - 7 Model of Case finding among People living alone**



Case finding among people who live alone involved less than a quarter of the study population (N=444), amounting to 31 patients per whole time general practitioner. However, to reduce the effort required to identify them, their patient records would have to be marked or they would need to be invited for screening by letter or telephone call. On practice computer systems they can be identified as the sole individual registered at a particular address. However, in areas where members of a household can register easily with different practices it would be much more difficult to identify those living alone reliably. This is the case in most urban areas.

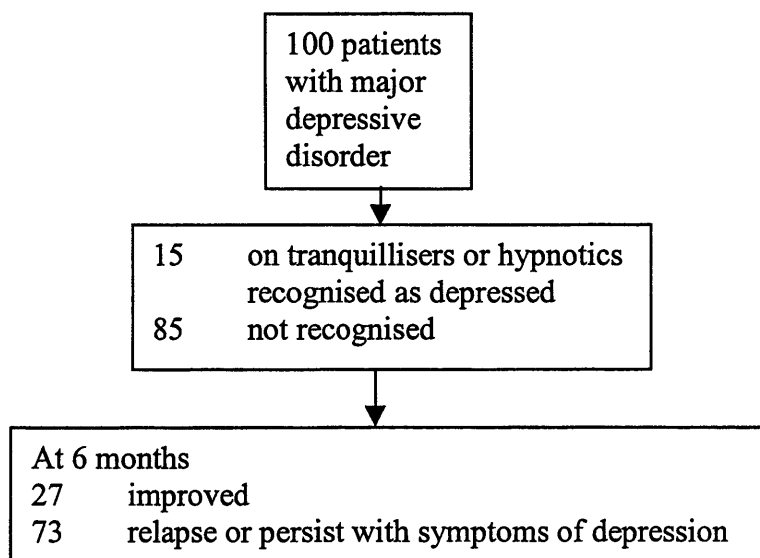
**Figure 4 - 8 Model of Case finding among patients on antidepressants**



Investigating patients who are already on drug treatment would appear to be the most cost-effective strategy. It involves by far the smallest number of patients who would need to be recalled or reviewed by the GP. In this study 77 patients were in this group, or 5 per whole time general practitioner.

This strategy still requires GPs to identify those with severe depression reliably, given their very different approach to diagnosis from psychiatrists or psychiatric epidemiologists. Measures such as the Ham-D, suitable for assessing change in depressive symptoms take 30-45 minutes to complete. This is well in excess of the average duration of appointments with general practitioners in the UK.<sup>128</sup> It also requires a more persuasive approach to drug treatment but more importantly it will require the availability of psychotherapy to the one third of patients who are either unsuitable for or unwilling to take drug treatment. A possible way forward is to train practice nurses in the application of diagnostic interview schedules. This is addressed further in the discussion.

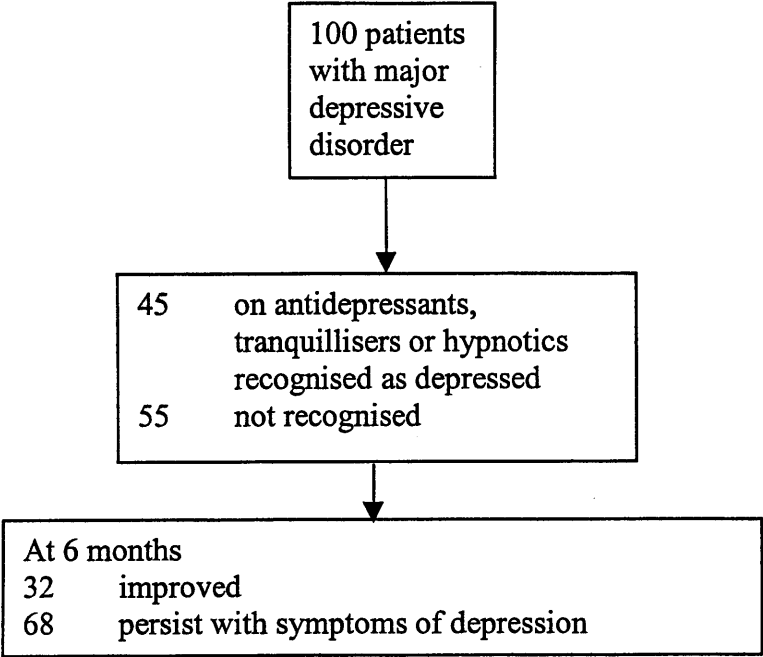
**Figure 4 - 9 Model of Case finding among patients on tranquillisers or hypnotics (excluding those also on antidepressants)**



Investigating patients on tranquillisers or hypnotics for depression is similar in some respects to case finding among those on antidepressants. In isolation it is very unlikely to

improve outcomes much beyond no case finding at all. It does, however, become the most successful and potentially most cost-effective case finding strategy once it is combined with the review of patients on antidepressants. 76 patients were in this group, equal to 5 per whole time general practitioner.

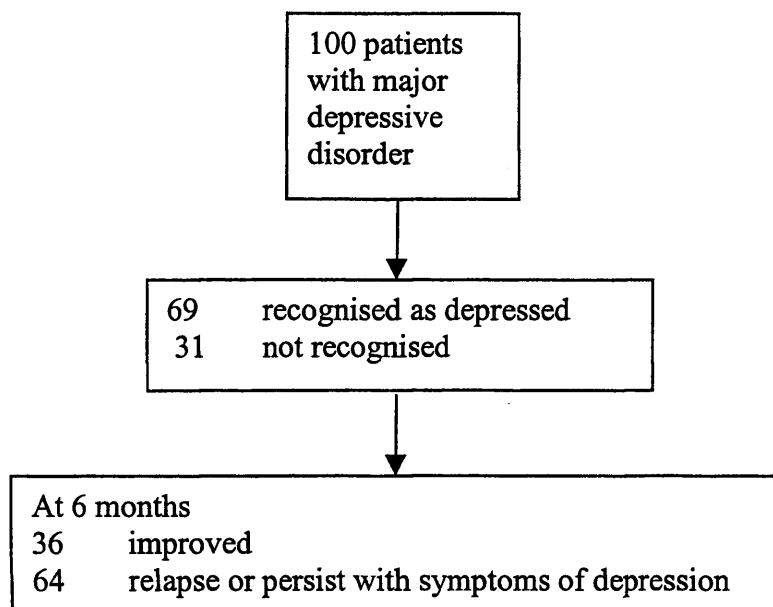
**Figure 4 - 10 Model of Case finding among patients on antidepressants or tranquillisers or hypnotics**



Combining the two separate groups of patients on antidepressants, tranquillisers or hypnotics achieves the best results relative to the size of the target group. The number of patients in this group was 153 (11 per whole time GP) and potentially this would be small enough to apply diagnostic interviews directly, rather than use a two-stage screening process.



**Figure 4 - 11 Models of Case finding among GP attenders (in a 3-month period)**



Case finding among primary care attenders is the strategy with the second highest yield and involves the second largest number of people (N=990 or 68 per whole time GP). Case finding by GDS could be arranged when patients attend and those with scores above a predetermined cut off could be selectively interviewed. The problem is the size of the group and the time required to carry out in depth diagnostic interviews with those appearing depressed by the GDS score alone. Compared with the antidepressant and tranquilliser group only a 13% greater number of individuals are much better at the end of 6 months.

**Figure 4 - 12 Comparing Models and Outcomes of Case finding for Late Life Depression**

<b>Group for Case finding</b>	<b>Size of Group (N)</b>	<b>Proportion of depressed improved at 6 months</b>	<b>Comments</b>
Usual GP care	2633	25%	Baseline
All responders to survey	1886	42%	Responders to a survey might be considered a proxy for responders to active case finding. They would require invitations to attend, generating extra workload
General practice attenders	990	36%	Would require relatively less in additional workload than case finding by "survey"
People living alone	444	32%	Would require extra effort in routine identification and invitation to attend
Patients on antidepressants, tranquillisers or hypnotics	153	32%	Generates the least extra workload as it only requires clinical review from time to time. The group is likely to make clinical sense to health care professionals. It does require the existence of alternatives to drug treatment as this group will inevitably contain more not responding to drug treatment

#### **4.12 Summary of the Results**

The estimated prevalence of major depressive episode among the non-institutionalised population was 1.57%. Moderate to severe cognitive impairment had a prevalence of 0.78%.

Of the subgroups considered for active case finding of depression, patients already on antidepressant treatment, tranquillisers or hypnotics were those with the highest number of severely depressed individuals. They also constituted the smallest target group for case finding and are probably the group clinicians may consider sensible to monitor.

Active case finding for all other groups is likely to be unattractive. Case finding among the general population or practice attenders would generate a large workload and patients living alone would be difficult to identify without prior recording of the necessary information. Benefits of treatment are highly dependent on adequately sensitive and specific methods of diagnosis. Currently available diagnostic tools are time consuming and therefore unlikely to become widely used.

## Chapter 5: Discussion

The discussion focuses on the important elements of the study, i.e. its implications, its methods and the generalisability of its results to other age groups and settings in the UK.

### ***5.1 Implications of the Active Case Finding of Depression in Primary Care in the UK***

This study is concerned with primary care in the UK, because of the particular position of primary care in this country. General practitioners are paid for each person registered with them<sup>129-131</sup> and such registration continues regardless of the health of the individual. This registered population allows general practitioners to look actively for illness amenable to treatment if they wish, even in those individuals who do not readily attend. As the majority of patients with depression of any severity present to general practitioners<sup>71</sup>, they are in a good position to identify and treat most cases of major depression presenting to them.

The main problem with all potential case finding strategies in a primary care setting is the absence of evidence that, without additional resources (namely trained staff), general practitioners would successfully be able to separate the mildly depressed from the severely depressed and consistently promote effective treatment for the latter. The cost effectiveness of the routine use of active case finding has also not been established. Until costs and benefits of case finding in the whole population or even primary care attenders are clearer it seems unlikely that general practitioners and health service planners will invest in better diagnosis and follow up care for depression in primary care.

However, general practitioners review patients on antidepressants and tranquillisers as part of good clinical care. Establishing case finding among this group is important as patients may not have responded to treatment, may be depressed as well as suffering from anxiety and may require higher doses of antidepressants, antidepressants instead of anxiolytics or psychotherapy. It may well be possible to establish case finding with the support of community mental health teams or trained practice nurses for that group.

Ideally, given the wide confidence intervals for the number needed to be investigated to find one case of major depression, the findings presented in this thesis should be replicated

in other studies. However, in the short term, attempting to implement our recommendation for the smallest group would merely lead to good practice rather than a vast increase in the use of health service resources.

Four times as many 65-74 year old patients in this study received antidepressants than were severely depressed. This may mean that all those on treatment with no symptoms of major depression have been treated effectively. Alternatively, it may represent treatment for patients with lesser symptoms of depression for whom evidence of benefit is scant. This question should be investigated for patients over the age of 65, as avoidance of unnecessary treatment would be a worthwhile goal in its own right.

## ***5.2 Reliability, Completeness, Generalisability of the Literature Review***

The completeness of the information derived from the literature review is limited by the choice of sources. The review came in two parts: A general review of the literature and a systematic review of studies of treatment for late life depression in primary care. The general review would be more likely to be biased as only one reviewer was involved. Unlike the systematic review, its reliability can not be easily ascertained, as inclusion and quality criteria were not defined for all aspects of the general review of the literature. Ideally each aspect of the literature review would have been systematic; however, the time constraints of the research did not permit the same detailed approach to all the literature cited.

By contrast, the systematic review was more likely to be complete and contain relevant studies, not least because most stages involved other experienced researchers. It is worth noting that the systematic review was not restricted to severe depression only. However, all treatment studies used a cut-off point on a depression scale (such as MADRS or HamD) in order to exclude less severely depressed patients. Therefore, research evidence on less depressed older people in primary care did not come to light in this review.

The reliability of the systematic review was assured by using clearly stated search strategies. Reliability was weakened because only the present author selected studies from the thousands of references retrieved by the search strategies contained in the appendix and the reference list of selected studies. The search strategies were not applied to the retrieval

of relevant studies from books or departmental reports. The latter two approaches, however, did not contribute studies to the systematic review.

A systematic review with its clear statement of methods is only as complete as its sources. Electronic databases such as Medline or Embase are incomplete<sup>132</sup> because they contain studies from selected journals only. This leaves those journals not listed by the electronic databases, conference reports, books, unpublished studies and reports for funding bodies and internal reports of research institutes, the references of referenced studies and unpublished work by published authors.

The systematic review on treatment of late life depression in primary care only included unpublished studies, reports to funding bodies or conference reports if they were referenced in published material. Authors of retrieved studies were not contacted in order to identify unpublished material.

The choice of language of publications included in the systematic review also reduced its completeness. Including languages other than English did not actually increase the number of good quality studies in this case, but did increase the number of relevant trials.

Studies of treatment are more likely to be published if they can demonstrate a positive effect of an intervention.<sup>133,134</sup> This may be due to the choice of referees and editors but may also be due to the commercial considerations of sponsoring companies.<sup>135</sup> It is possible to identify such bias and its effect in analyses that include many studies through plotting their results.<sup>136</sup> Such a method was not applicable in this study as the review identified only very few relevant studies of sufficient quality.

The generalisability of the results of a systematic literature review depends on the inclusion criteria of individuals entered into studies and the study methods in general. Epidemiological research has used different diagnostic questionnaires to identify the severely depressed compared with research into the effectiveness of treatment for depression. Epidemiological studies of late life depression have used GMS or SCAN and treatment trials have used Ham-D or MADRS. The present author could not identify studies that published the results of at least two instruments (e.g. GMS and Ham-D) even though at least one study used both.<sup>75</sup> This raises the question whether or not patients with major depression identified by SCAN or GMS would be similar to the patients who responded in treatment studies that used Ham-D scores to identify outcomes.

### **5.3 Validity, Reliability and Generalisability of the Survey**

The survey questionnaire in all its parts had face validity. All the parts of the survey used for this thesis had been used previously in surveys or research projects.

However, the questions from the General Household Survey have not been validated against other methods (e.g. external information, respondent diaries). The most likely bias to affect the answers to factual questions is recall bias by individuals who are asked to remember some detail of their lives, e.g. their contact frequency with various services. This may reduce the validity of the information if subgroups, which differ in their ability to remember information, are compared. It does not, however, invalidate the use of the information to compare similar populations in the UK.

Some residents may have been missed during the survey since the registered population of the practice in the relevant age group was 2718, while the total population sampled was 2681. The maximum number of people missed was therefore 37, although the actual figure is likely to be smaller because of the time it took to invite everyone to take part in the study. By then some would have moved away or died and left the practice register.

Those who have newly taken up residence in the area and who had not yet registered with the practice will also have been missed. The size of that group is unknown but it is likely to be small because of the large proportion of the 65-74 year old population who attended their doctor within the three months period in this study. One would expect most new residents in that age group to register with the practice soon after arrival.

Given the efforts to assure adherence by the interviewers to the text of the questionnaire the present author believes that the reliability of the information collected by them in this study was comparable with other studies in this field. One could have established formally whether there were significant differences between interviewers by comparing information collected before the main study commenced.

A pilot study of sufficient size was not feasible within the time and financial constraints of the project. This leaves a degree of uncertainty for the external observer in deciding how reliable the findings of the survey are. However, this situation is the norm when different surveys are compared.

There is no particular reason to believe that our results would not be transferable to an urban environment. The evidence presented in the section 2.8 suggests that there is no consistent link between an urban or a rural environment as such and the prevalence of late life depression.

#### ***5.4 Validity, Reliability and Generalisability of the Psychiatric Interview***

SCAN was chosen as the semi-structured interview schedule for the clinical interviews over alternative instruments specifically developed for older people such as GMS-AGECAT<sup>21</sup> or CAMDEX<sup>137</sup> for three reasons. Firstly, it had been used in the same location for a study of people aged 75 years and over. It had been developed and used for the adult population in general. It had also been used in older people. This meant results across age groups could be compared directly. Secondly, the researcher, who had conducted the earlier study of the older age group, was available to rate some interviews together with me as part of quality assurance within the study. Thirdly, the Department of Psychiatry at Leicester University runs a SCAN training centre. Consequently, training, advice and supervision were available locally. The main disadvantage of using SCAN was that it limited comparisons with studies using GMS-AGECAT or CAMDEX. As many studies of the mental health of older people in the UK had been using those instruments, this is a serious limitation.

The reliability of SCAN in any particular study depends on the interviewer's judgement of the severity and duration of symptoms. This was not established in a formal inter-rater reliability study but the present author sought advice on this subject at the beginning of the study. However, the sample size required to be able to identify significant differences between two interviewers would have required the routine use of two interviewers. This would have increased cost without producing great benefits for the results. The use of a



much smaller number of co-rated interviews assured that there were no important differences in rating between the main interviewer and another experienced interviewer.

The observed prevalence of depression described in this thesis required adjustment for the use of a two-stage survey on the one hand and non-participation in the survey on the other. None of the population surveys cited described comparable attempts to identify bias from non-participation. However, doing it in this survey did not alter our estimate of prevalence.

Ideally, a random sample of patients scoring less than 4 points on the GDS 15 should have received the psychiatric interview in order to determine the false negative rate of the screening instrument in the population under study. This was not done due to staff and resource limitations. An earlier study, that used the same methodology in the same locality, but in people over 75 years old, showed that the GDS 15 misses around 20% of cases if the chosen cut off point is  $\geq 4$ . Major depression was, however, more common at 6% in the older age group.<sup>115</sup> This would raise the one-month prevalence to 1.9% (from 1.58%). It must be pointed out that results of such a validation exercise may differ in the younger age group and that I can therefore be less certain of the actual proportion of patients falsely identified as not depressed than I might otherwise be.

0.7% of the study population lived in nursing homes and higher levels of depressive symptoms have generally been observed in nursing home residents compared with the general population. Whilst this is true, absolute prevalence levels vary enormously, from 9% - 75% depending on the population of nursing home residents studied and the diagnostic criteria used. Patients with dementia were usually excluded from those in whom a diagnosis of depression was made<sup>138</sup> and since nursing home residents were excluded from this study the prevalence estimate adjusted for the sensitivity of the screening instrument would still underestimate total prevalence of major depression.

The estimate of the prevalence of major depression in this study population is likely to be a lowest estimate for all the aforementioned reasons.

The question of whether similar methods of identifying depressed individuals could be used in different settings and different age groups with similar results will be discussed in section 5.7.

### **5.5 Validity, Reliability and Generalisability of the Record Audit**

The general practice record audit was vulnerable to the inherent weaknesses of information contained in patient records although their content had been checked for face validity by researchers, general practitioners and the deputy practice manager. It had been piloted successfully and safeguards were in place to ensure that the audit nurse completed all parts of the data collection form. However, the data thus collected came from a single general practice and the type and quality of patient, service use and prescribing data entered into electronic and paper records were specific to that practice.

Arguably, this particular practice may differ from other practices and this is certainly true for antidepressant prescribing. The range of antidepressants prescribed by the practice differs from practices in Leicestershire as a whole. Indeed, according to the electronic prescribing database of the prescription pricing authority (ePACT data for January to June 1999) the four most commonly prescribed antidepressants for the practice were in order of frequency Amitriptyline, Fluoxetine, Paroxetine and Lofepramine. For the whole of Leicestershire they were Fluoxetine, Amitriptyline, Paroxetine and Dothiepin.

However, while the mental health care available to this population from their general practitioners may have been of good quality when compared with other general practices, it is not exceptional in any way. Therefore the conclusions of the study can probably be extended to most other primary care settings within the UK.

Only one among the 16 general practitioners declared an interest in the care of depression. He did not undertake the care of the patients of other doctors for depression, as each GP usually only looked after the patients on his own list.

The total proportion of patients receiving antidepressants (3.9%) is within the range of prescribing prevalence (2.2 – 4.1%) found in other studies.<sup>41</sup> The practice had counsellors and an attached community psychiatric nurse but neither saw a significant number of patients over the age of 65.

20 (0.8%) of patients' paper based general practice records could not be traced. These contained information on referrals, outpatient appointments, accident and emergency attendances and admissions. The computer record available for all others provided the number of general practice consultations in the surgery, home visits and prescribing information. Home visits to patients may not always have been entered on the computer record and attenders arriving at the end of a surgery and "slotted in" may not have had a record of their consultation. As a result of such missing information total numbers of consultations, referrals, outpatient appointments, accident and emergency attendances and admissions represent slight underestimates.

Prescribing information was based on prescriptions issued during consultations and prescriptions entered on the repeat prescribing record. Prescribing during visits to the patient's home by the GP may also go unrecorded as they are hand written and would require later computer entry, which may not always have been done. Otherwise the information on prescriptions issued during a consultation is likely to be accurate. However, repeat prescribing information may not always be removed from the record as soon it is discontinued and may therefore contain items that are no longer used by the patient. The prescribing record does not tell us whether the patient either obtained or took the medication so that at best it is a record of general practice prescribing but not one of patient compliance. Since repeat prescriptions constitute the bulk of prescribing this study is likely to overestimate patients' intake of prescribed drugs.<sup>139</sup>

Information from letters not filed in records or removed from records would not have been available for audit. The present author tried to minimise this problem by restricting data extraction to the preceding 12 months. However, this may have meant that discharge letters for very recent admissions and clinic letters for recent appointments may not have arrived or been filed in the records that were audited within one or two weeks from the survey date.

Unreliability of the information could have been due to the audit process itself. Extracting the information involved reviewing the same pages of the records repeatedly, which was meant to aid completeness. However, the process itself was tiring and thus lapses of concentration may have led the audit nurse to miss some information. This was not a major problem as only one error was encountered when 20 records were audited at the end of the study.

Surveys in different parts of the UK suggest that completeness and reliability of data collection on computer and paper held records by individual general practices and by general practitioners within practices vary considerably. Differences in the completeness of recording also exist between different types of information. For example investigations are less reliably recorded than diagnoses.<sup>140,141</sup>

In another study, the level of recording of chronic conditions such as diabetes and glaucoma on computer was high, but life style factors such as smoking or exercise were recorded much less reliably on the practice computer system.<sup>142</sup> A study carried out in Scotland considered a limited group of patients in a random sample of practices to determine completeness and accuracy of computer held diagnoses and procedures. This was compared with the results of a patient questionnaire and in total, the computerised records were 75% complete and highly accurate.<sup>143</sup>

Loss of completeness occurs when information is entered into patient records. It has been shown that compared with video recordings of consultations, general practitioners recorded 68% of medication and therapy, 64% of laboratory examinations but only 29% of the history and 22% of the guidance and advice content of consultations.<sup>144</sup> Whilst this was a Dutch study, there seems to be no reason to believe that this figure should be any higher in the UK. One might expect that in the long-term, records for chronic conditions in particular become more complete. The higher levels of completeness noted by the Scottish study cited in the previous paragraph may reflect that.<sup>143</sup>

The variations described above limit comparisons between the practice-recorded data presented here and that from other general practice based studies. The lack of completeness would suggest caution when making assumptions about morbidity data derived from primary care records. Despite these limitations, it seems unlikely that differential recording between general practitioners within the practice would introduce bias into a comparison between responders and non-responders to the survey, or between responders and non-responders to the psychiatric interview.

## ***5.6 Generalisability of the choice of subgroups for case finding of depression***

It follows from the previous section that the size of the subgroups defined by the prescribing of antidepressants and tranquillisers will vary between practices. However, the group in receipt of antidepressants is likely to increase, while those on tranquillisers and hypnotics will either rise slightly or stay the same. Tranquilliser prescribing rose by about 1% from 1997 to 1998 while antidepressant prescribing increased by 10% in the same period.<sup>42</sup> For the year before the rise in tranquilliser prescribing was also 1% and antidepressant prescribing rose by 12%.<sup>145</sup> These figures relate to total prescribing and not prescribing for older people alone.

## ***5.7 Generalisability of Strategies for Finding Cases of Late Life Depression in Primary Care***

The underlying methods of determining prevalence of major depression in this study are valid. However, it is doubtful that the same methods would find their way into primary care practice. The most cost-effective way to increase diagnostic accuracy in primary care has yet to be found.

Dissemination of guidelines on the diagnosis and treatment of depression alone does not appear to increase the likelihood of diagnosis or improved outcomes.<sup>146,147</sup> Inserting questionnaires for depressive symptoms into primary care records of older people does not increase the diagnosis of depression or referrals to secondary care.<sup>96</sup>

Resource intensive methods appear to be more effective. Active case finding with a questionnaire, routine psychiatric follow up in primary care, educational videos for adult patients and case discussions for the physicians seemed to improve outcomes in a US study.<sup>148</sup> This approach would inevitably be costly and probably require a larger number of psychiatrists than currently employed by the NHS if it was to be introduced routinely. The UK trials identifying depressed older people in the community and supervising treatment and follow up differed in that they did not involve primary care doctors. However, they

were similar by providing a population focussed diagnosis and psychiatric follow up. Waterreus, UK, 1994<sup>66,67</sup>

In a single Swedish study education for general practitioners (given in two-day seminars) was associated with a fall in admissions, suicides and frequency of sick leave for depression and reduced prescribing of tranquillisers in a single Swedish study. The effects wore off after three years<sup>149-151</sup> and the outcome measures were not specifically analysed for older people.

There is more evidence that providing additional psychiatric input into case finding and treatment of depression in primary care (in the context of research studies) will improve at least short- term outcomes. The studies that used such an approach inevitably used case finding to focus the psychiatric input.

In one UK study practice nurses were trained in the use of a diagnostic questionnaire.<sup>152</sup> The study compared the use of practice nurses to diagnose major depression with usual care. Within the same study nurse diagnosis and follow up were compared with usual care. Due to the smaller sample size required the study randomised by individual general practitioner. As a result it did not guard against overspill of the intervention into the routine practice of other patients enrolled in the control group of the trial. Intervention and control groups did extremely well by achieving 70% improvement. This is better than the population intervention studies cited above<sup>66,67</sup> but participants were preselected by being attenders, aged 18 to 74 and willing to take part in the trial. All factors would suggest improved outcomes. A similar study would need to be conducted for late life depression to determine whether equivalent results could be achieved with older patients. Meanwhile, it would appear that active case finding undertaken by practice nurses has the potential to improve outcomes, compared with untrained general practitioners enthusiastic enough to take part in a trial.

Case finding of depression among people over the age of 75 may not be as easy as that among those aged less than 75. The rising prevalence of visual and hearing impairment and dementia with advancing age militates against the routine use of case finding instruments.<sup>153</sup> At the very least, a variety of methods suitable for use with patients with such co-morbidity would be required.

Extending case finding to younger age groups may require other case finding questionnaires (GDS was specifically developed for use with older people) but there are a number of diagnostic interview schedules validated for use with adults of all ages, of which SCAN is one example. Case finding among adults under 65 may identify larger numbers of depressed individuals.<sup>154</sup> As this group take fewer other medications and will have less co-morbidity, antidepressant drug treatment should theoretically be more likely to produce beneficial outcomes.

The study area has very small numbers of longstanding older residents from ethnic minorities, the ethnic minority being mainly Polish, so the results are therefore only truly comparable to areas with a similar population mix. Case finding of depression among more recent immigrant populations, whose perception of depression may differ from the majority population, will encounter a range of problems. Poor command of English, changing use of language and different concepts of mental illness are some of the more obvious amongst, for example, Asian immigrants.<sup>155</sup> Case finding among such a population group would require translators and psychiatric interviewers familiar with the culture and language of the ethnic minority residents, in order to produce valid and reliable results.

## **Chapter 6: Conclusions and Recommendations for Future Research**

### ***6.1 Conclusions and Recommendations based on Review of the Literature***

- Specific psychological therapies should be available to older people with severe depression confirmed by psychiatric assessment. The outcome of open access referral of depressed older people from primary care to a psychotherapist should be investigated separately. Availability of psychotherapy without a lengthy wait for older people should be increased.
- The systematic review of treatment showed the need for more studies of the effectiveness of treatments of known efficacy using a variety of treatment options (including psychotherapy) for late life depression in primary care. The aim should be an increase in recovery from depression after 6 months.
- Case finding should be further investigated for its effectiveness in identifying older patients with lesser depressive symptoms. The primary outcome should be avoidance of inappropriate treatment.
- Follow up by community mental health teams within research settings can improve outcomes from 30% to 50% for unselected groups of patients with major depression. However, there is no evidence that this also applies to other community mental health teams. Observational research into the outcomes produced by “normal” community mental health teams should be undertaken.
- Compliance with antidepressant treatment by patients is low. Methods for increasing compliance in primary care need to be investigated. Any such method needs to be easy to apply and lead to significant improvements in outcomes as well as clinical wellbeing.



## **6.2 Conclusions and Recommendations based on the Results of this Study**

- Patients on antidepressants, tranquillisers and hypnotics should be reassessed systematically for the persistence of their symptoms. If treatment failure is due to the unwillingness or inability of the patient to use drug treatment referral to psychotherapy should be made available.
- A diagnostic interview schedule for depression should be developed for use in primary care allowing a valid diagnosis of major depressive episode. It would need to be valid, reliable, sensitive to change and applicable in the shortest possible time. Such an instrument would make case finding of depression more feasible and eliminate the increased workload associated with a screening instrument such as the GDS-15.
- An analysis of the costs involved of using case finding of major depression in primary care should be undertaken. This would include the search for the least time consuming diagnostic interview suitable to differentiate between the most common types of mental illness. Such an interview schedule should also be responsive to change and be capable assess treatment response.

## **Appendix 1      Letters sent to the study population**

### **Model letter for patients without a telephone**

Dear

I am carrying out research on health, mental wellbeing and the need for social and medical care of behalf of Professor Clarke at the University of Leicester and the doctors at Latham House Medical Practice. I would be very grateful if you would allow one of our interviewers to ask you questions about your health and any help you get (or do not get but feel you need).

The results will help us to tell your doctors, the local social services and community mental health team how they can best help those in greatest need. I hope you will be able to help. If you have any questions you can contact me by telephoning the number at the top of the letter and leaving a message. I will then get back to you as soon as possible to answer your questions you may have.

A sheet with extra information comes with this letter.

Thank you for your consideration and help.

If you DO NOT WISH TO TAKE PART for any reason please let us know.

Put this letter back into the stamped addressed envelope and return it to us.

You can ring the number at the top of this letter to tell us that you do not wish to take part.

You can ask others to tell us on your behalf.

If we do not hear from you within the next ten days one of our interviewers will come to check whether you want to help us.

If you do not want to take part you can tell the interviewer at that time.

All our interviewers will carry a card to identify themselves as employees of Leicester University.

Yours sincerely

Dr U Freudenstein

## **Model letter for patients with a telephone**

Dear

I am carrying out research on health, mental wellbeing and the need for social and medical care of behalf of Professor Clarke at the University of Leicester and the doctors at Latham House Medical Practice. I would be very grateful if you would allow one of our interviewers to ask you questions about your health and any help you get (or do not get but feel you need).

The results will help us to tell your doctors, the local social services and community mental health team how they can best help those in greatest need. I hope you will be able to help. If you have any questions you can contact me by telephoning the number at the top of the letter and leaving a message. I will then get back to you as soon as possible to answer your questions you may have.

A sheet with extra information comes with this letter.

Thank you for your consideration and help.

If you DO NOT WANT TO TAKE PART for any reason please tell us by phoning the number at the top of the letter.

You can ask others to tell us on your behalf.

If we do not hear from you within the next ten days one of our interviewers will telephone you in order to check whether you are willing to help us.

If you do not want to take part you can tell the interviewer over the telephone at that time.

All our interviewers will carry a card to identify themselves as employees of Leicester University.

Yours sincerely

Dr U Freudenstein

## **Appendix 2      Letter of invitation to the SCAN interview**

Dear

The University is currently working with the doctors at Latham House Medical Practice to check how many patients between the ages of 65 and 74 year suffer from low mood and depression. You already answered some questions at the time of our interviewer's visit. Your answers mean that you may feel low at present. As the doctor on the research team I would like to talk to you for a second time and give you any advice that may be useful.

If you agree to another visit, we will arrange a time convenient to you for me to call. The interview will be strictly confidential and take about one hour. For further information, please contact the University's Melton Office on Melton 567157. We will be happy to answer any questions you may have.

The University and Latham House Medical Practice would like to thank you for your help in this research.

Yours sincerely

Dr Ulrich Freudenstein

## Appendix 3      Patient information leaflet

**The University of Leicester and Latham House Medical Practice**

**Working together to understand and promote healthy ageing**

DEPARTMENT OF EPIDEMIOLOGY & PUBLIC HEALTH

St Mary's Hospital

Thorpe Road

Melton Mowbray

Leicestershire LE13 1SJ

# **Confidential Survey of Health and Social Care of Older People in Melton Mowbray**

## **- Information -**

The University of Leicester and Latham House Medical Practice are doing a confidential survey of the health of older people in Melton Mowbray.

The results will help the doctors at the practice, the Social Services department and others to make sure that their work meets your needs.

We would like you to answer the questions of one of our interviewers. She would offer to visit you at home. This would take around one hour of your time.

The questions we ask are about your health, your mental wellbeing and whether you look after someone else. We would like you to tell us about care services and whether these meet your needs. We would also like to know whether you can cope financially and whether you need help from anyone else.

With your permission we would look at your doctor's and social services records. We can then complete the information you have given us. All the information from you, your doctor and social services will be kept completely confidential.

Signature of the Investigator.....Date.....  
(Name in BLOCK LETTERS).....

## Appendix 4      The patient consent form

**The University of Leicester and Latham House Medical Practice**

**Working together to understand and promote healthy ageing**

DEPARTMENT OF EPIDEMIOLOGY & PUBLIC HEALTH

St Mary's Hospital

Thorpe Road

Melton Mowbray

Leicestershire LE13 1SJ

### **Confidential Survey of Health and Social Care of Older People in Melton Mowbray**

#### **- Patient Consent Form -**

**I agree to take part in the above study as described in the Information Sheet.**

**I understand that I may withdraw from the study at any time without justifying my decision and without affecting my normal care and medical management.**

**I understand that members of the research team may wish to view relevant sections of my medical records but that all the information will be treated as confidential.**

**I understand that medical research is covered for mishaps in the same way as for patients undergoing treatment in the NHS, ie compensation is only available if negligence occurs.**

**I have read the information leaflet on the above study and have had the opportunity to discuss the details with .....and ask any questions. The nature and the purpose of the questions asked has been explained to me and I understand what will be required if I take part in the study.**

**Signature of patient.....Date.....**

**(Name in BLOCK LETTERS).....**

**I confirm I have explained the nature of the study as detailed in the information sheet, in terms which in my judgement are suited to the understanding of the patient.**

**Signature of the Investigator.....Date.....**

**(Name in BLOCK LETTERS).....**

## Appendix 5      The survey data collection form

### INTRODUCTION

My name is ..... I am working with the doctors at Latham House and the Faculty of Medicine at Leicester University. We, that is the doctors and ourselves want to check that people like yourself are able to manage and that your health is all right. Did you get the letter explaining this? (Good)

It will take about an hour, or maybe less ..... is it convenient now?

**IF NOT MAKE AN APPOINTMENT WHICH IS MUTUALLY CONVENIENT:**

Date ..... Time .....

\* \* \* \* \*

I'd like to start by checking on one or two details .....

Date of the interview							<b>Datint</b>
-----------------------	--	--	--	--	--	--	---------------

Study number							<b>Snum</b>
--------------	--	--	--	--	--	--	-------------

Age/sex number							<b>ASnum</b>
----------------	--	--	--	--	--	--	--------------

Interviewer Code		<b>Intcod</b>
Name of Interviewer		
Start of interview (enter time)		

7	Is there someone who is your next of kin who we could contact if there were any important messages we would want to give you (unlikely) but cannot get in touch with you? Would you mind telling us their name? (Write down surname and title e.g. Mrs Jones)		<b>NofKin</b>
7a	What is their relationship with you? (Write down "niece" or "neighbour" etc.)		<b>Relship</b>
7b	Are they on the phone? Would you mind giving us their telephone number? (Write down code and telephone number)		<b>Reltel</b>

		Yes	No	
9	Please tell me whether the other person(s) who lives here is aged between 65 and 74 years.	1	2	<b>AgeOth</b>

10	Some people have extra family responsibilities because they look after someone who is sick, handicapped or elderly.  May I check, is there anyone living with you who is sick, handicapped or elderly whom you look after or give special help to (- for example, a sick or handicapped (or elderly) relative/husband/wife/child/friend, etc)?	Yes	1		<b>Carer</b>
		No	2	→ 19	
		Other	3	→ 19	
	If other please specify				

11	Do you look after or help one sick, handicapped or elderly person living with you, or is it more than one?	Enter number:		<b>MorIn</b>
----	--	---------------	--	--------------

12	And how about people not living with you, do you provide some regular service or help for any sick handicapped or elderly relative, friend or neighbour not living with you?	Yes	1		<b>CareOut</b>
		No	2	→ 21	

13	Do you look after or help one sick, handicapped or elderly person living elsewhere, or is it more than one?	Enter number:		<b>Mor Out</b>
----	---	---------------	--	----------------



<b>14</b>	<b>Interviewer CODE first that applies</b>		
	Looking after sick, handicapped or elderly person living with informant (code 1 at question 16)	1	<b>CarCode</b>
	Looking after sick, handicapped or elderly person NOT living with informant (code 1 at question 18)	2	
	Not looking after anyone (code 2 or 3 at Q 16 and code 2 at Q 18)	3	

<b>15</b>	Code relationship to informant for dependants living with informant – then dependants living elsewhere Ask questions 22-27 for 1st dependant then repeat for 2nd dependant.	<b>WhoCar1</b>	<b>WhoCar 2</b>
	Who is it you look after or help? SHOW CARD A	1 <sup>st</sup> Dependant	2 <sup>nd</sup> Dependa nt
	Spouse	1	1
	Own/adopted/step child	2	2
	Foster child	3	3
	Parent	4	4
	Parent in law	5	5
	Other relative	6	6
	Friend or neighbour	7	7
	Client of voluntary organisation (If informant is voluntary worker)	8	8
	Other (Specify)	9	9

<b>15a</b>	Write down what other person you look after:		<b>Dep Oth</b>
------------	--	--	--------------------

		<b>AgeDet1</b>	<b>AgeDet2</b>
		1 <sup>st</sup> Dependant	2 <sup>nd</sup> Dependant
<b>15b</b>	What is the dependants age now ?(write number of years into the boxes)		

		SexDet1	SexDet2
15c	Sex of dependant Male	1	1
	Female	2	2
15d	May I check, does..... (DEPENDANT) usually live in a hospital, old peoples home, a nursing home or a home for the physically or mentally handicapped?	LiveDet1	LiveDet2
	Yes	1	1
	No	2	2

		Dofor1	Dofor2
15e	What kinds of things do you usually do for .....(DEPENDANT) SHOW CARD B	1 <sup>st</sup> Dependant	2 <sup>nd</sup> Dependa nt
	Help with personal care (e.g. with dressing, bathing, washing, shaving, cutting nails, feeding, using the toilet)	1	1
	Physical Help (e.g. walking, getting up and down stairs, getting into and out of bed)	2	2
	Helping with paperwork or financial matters (e.g. writing letters, sending bills, banking)#	3	3
	Other practical help (e.g. preparing meals, doing his/her shopping, laundry, housework, gardening, decorating, household repairs, taking to doctor's or hospital)	4	4
	Keeping him/her company (e.g. visiting, sitting with, reading to , talking to, playing cards or games)	5	5
	Taking out (e.g. taking out for a walk or a drive, taking to see friends or relatives)	6	6
	Giving medicines (e.g. making sure he/she takes pills, giving injections, changing dressings)	7	7
	Keeping an eye on him/her to see he/she is alright	8	8
	Other help (specify)	9	9

*I would now like to ask you a few questions to test your memory. Some of them are very simple but it would help us if you answered all the questions.*

			Correct	Incorrect	
16	Who is the Prime Minister?		0	1	<b>CAPE7</b>
17	Who is the President of the United States of America?		0	1	<b>CAPE8</b>
18	What are the colours of the British Flag/Union Jack?		0	1	<b>CAPE9</b>
19	What is the date today?	Day	0	1	<b>CAPE10</b>
20		Month	0	1	<b>CAPE11</b>
21		Year	0	1	<b>CAPE12</b>
22	<p><b>INTERVIEWER: Add up the CAPE score by adding all “1” scores (= “incorrect” answers) from question 1-12. Enter the number of incorrect answers in the box on the right.</b></p> <p><b>If respondent did not wish to answer some of the questions continue the interview as normal.</b></p> <p><b>If the respondent gave answers and the score is 7 or more DO NOT ask GDS questions and try and check the answers to other questions with any carer or relative who might be present.</b></p>		<b>Total CAPE score</b>		<b>CSCORE</b>

**I am now going to ask you some questions about your health and what you can do?**

***Circle response***

<b>23</b>	Does your sight ever cause you difficulties (even when you're wearing your glasses or contact lenses?)		
	Yes	1	
	No	2	<b>SeeDiff</b>
	NA	8	

<b>24</b>	Do you ever have any difficulties with your hearing?		
	Yes	1	
	No	2	→ 25 <b>HearDiff</b>
	NA	8	→ 25

<b>24</b> <b>a</b>	<b><i>If code 1 at HearDiff</i></b>		
	(Can I just check) do you ever wear a hearing aid?		
	Yes	1	
	No	2	<b>HearAid</b>
	NA	8	

**Circle option for each question**

<b>25</b>	Do you usually manage to get up and down stairs or steps ...		
	<b>CARD C</b>		
	On your own	1	
	Only with help from someone else	2	→ 25b
	Or not at all?	3	→ 26 <b>Stairs</b>
	NA	8	→ 30

<b>25</b> <b>a</b>	<b><i>If code 1 at Stairs</i></b>		
	To do this on your own, do you find it ...		
	<b>CARD D</b>		
	very easy	1	→ 26
	fairly easy	2	→ 26
	fairly difficult	3	→ 26 <b>StrsEasy</b>
	or very difficult	4	→ 26
	NA	8	→ 30

25 b	<i>If code 2 at Stairs</i>		
	Who usually helps you? <b>CARD E</b>		
	Spouse/partner	1	
	Other member of household	2	
	Relative outside household	3	<b>StrsHp</b>
	Other	9	
	NA	8	

26	<i>If code 2 or 3 at Stairs or code 4 at StrsEasy</i>		
	<i>Ask or record</i>		
	May I just check, do you have to use stairs to get from the rooms you use during the daytime to ...		
26 a	... the toilet?		
	Yes	1	
	No	2	<b>StairLoo</b>
	NA	3	
26 b	... your bedroom?		
	Yes	1	
	No	2	<b>StairBed</b>
	NA	3	

27	<i>If code 2 or 3 at Stairs or code 3 or 4 at StrsEasy</i>		
	Do you usually manage to get around the house (except for any stairs) ... <b>CARD C</b>		
	on your own	1	
	only with help from someone else	2	→ 28 <b>House</b>
	or not at all	3	→ 28
	NA	8	→ 28

27 a	<i>If code 1 at House</i>		
	To do this on your own, do you find it ... <b>CARD D</b>		
	very easy	1	
	fairly easy	2	
	fairly difficult	3	<b>HousEasy</b>
	or very difficult	4	
	NA	8	

<b>28</b>	Do you usually manage to get to the toilet ... <b>CARD C</b>		
	on your own	1	
	only with help from someone else	2	→ 29 <b>Toilet</b>
	or not at all	3	→ 29
	NA	8	→ 29

<b>28</b> <b>a</b>	<b>If code 1 at Toilet</b>		
	To do this on your own, do you find it <b>CARD D</b>		
	very easy	1	
	fairly easy	2	
	fairly difficult	3	<b>ToilEasy</b>
	or very difficult	4	
	NA	8	

<b>29</b>	Do you usually manage to get in and out of bed ... <b>CARD C</b>		
	on your own	1	
	only with help from someone else	2	→ 30 <b>Bed</b>
	or not at all	3	→ 30
	NA	8	→ 30

<b>29</b> <b>a</b>	<b>If code 1 at Bed</b>		
	To get in and out of bed on your own - Is it usually... <b>CARD D</b>		
	very easy	1	
	fairly easy	2	
	fairly difficult	3	<b>BedEasy</b>
	or very difficult	4	
	NA	8	

<b>30</b>	Do you usually manage to dress and undress yourself ... <b>CARD C</b>		
	on your own	1	
	only with help from someone else	2	→ 31 <b>Dress</b>
	or not at all	3	→ 31
	NA	8	→ 31

<b>30a</b>	<i>If code 1 at Dress</i>		
	Dressing and undressing yourself on your own - do you find it ... <b>CARD D</b>		
	very easy	1	
	fairly easy	2	
	fairly difficult	3	<b>DresEasy</b>
	or very difficult	4	
	NA	8	

<b>31</b>	Do you usually manage to feed yourself ... <b>CARD C</b>		
	on your own	1	
	only with help from someone else	2	→ 32
	or not at all	3	→ 32 <b>Feed</b>
	NA	8	→ 32

<b>31a</b>	<i>If code 1 at Feed</i>		
	Feeding yourself on your own – do you find it ... <b>CARD D</b>		
	very easy	1	
	fairly easy	2	
	fairly difficult	3	<b>FeedEasy</b>
	or very difficult	4	
	NA	8	

<b>32</b>	<i>If code 2 at House, Toilet, Bed, Dress, Feed Else</i>		
	You've told me that you usually need help from someone else to [ .....]. Who usually helps you to do these things? <b>CARD E</b>		
	Spouse/partner	1	
	Other member of household	2	
	Relative outside household	3	<b>TaskHp</b>
	Other	9	
	NA	8	

<b>33</b>	Do you usually manage to cut your toenails yourself, or does someone else do it for you?		
	Self	1	
	Someone else	2	→ 33b <b>Toenails</b>
	NA	8	→ 34



<b>33a</b>	<i>If code 1 at ToeNails</i>		
	Cutting your toenails yourself - do you find it ... <b>CARD D</b>		
	very easy	1	→ 34
	fairly easy	2	→ 34
	fairly difficult	3	→ 34 <b>TnailEas</b>
	or very difficult	4	→ 34
	NA	8	→ 34

<b>33b</b>	<i>If code 2 at ToeNails</i>		
	... Who usually does it for you? <b>CARD G</b>		
	Spouse/partner	1	
	Other member of household	2	
	Relative outside household	3	<b>TnailHp</b>
	Chiropodist	7	
	NA	8	

<b>34</b>	Do you usually manage to bath, shower or wash all over? <b>CARD C</b>		
	on your own	1	
	only with help from someone else	2	→ 34b <b>Bath</b>
	or not at all?	3	→ 35
	NA	8	→ 35

<b>34a</b>	<i>If code 1 at Bath</i>		
	Having a bath, shower or a wash all over on your own - do you find it ... <b>CARD D</b>		
	very easy	1	→ 36
	fairly easy	2	→ 36
	fairly difficult	3	→ 35 <b>BathEasy</b>
	or very difficult	4	→ 35
	NA	8	→ 36

<b>34b</b>	<i>If code 2 at Bath</i>		
	... Who usually helps you? <b>CARD E</b>		
	Spouse/partner	1	
	Other member of household	2	
	Relative outside household	3	<b>BathHp</b>
	Other	9	
	NA	8	

<b>35</b>	<i>If code 2 or 3 at Bath or code 3 or 4 at BathEasy</i>		
	Do you usually manage to wash your face and hands <b>CARD C</b>		
	on your own	1	
	only with help from someone else	2	→ 35b <b>Wash</b>
	NA	8	→ 36

<b>35a</b>	<i>If code 1 at Wash</i>		
	Washing your face and hands on your own - Do you find it ... <b>CARD D</b>		
	very easy	1	→ 36
	fairly easy	2	→ 36
	fairly difficult	3	→ 36 <b>WashEasy</b>
	or very difficult	4	→ 36
	NA	8	→ 36

<b>35b</b>	<i>If code 2 at Wash</i>		
	Who usually helps you? <b>CARD E</b>		
	Spouse/Partner	1	
	Other member of household	2	
	Relative outside household	3	<b>WashHp</b>
	Other	9	
	NA	8	

<b>36</b>	Do you usually manage to go out of doors and walk down the road ... <b>CARD C</b>		
	on your own	1	
	only with help from someone else	2	→ 36b <b>Walk</b>
	or not at all?	3	→ 37
	NA	8	→ 37

<b>36a</b>	<i>If code 1 at Walk</i>		
	Going out of doors and walking down the road on your own - Do you find it ..... <b>CARD D</b>		
	very easy	1	→ 37
	fairly easy	2	→ 37
	fairly difficult	3	→ 37 <b>WalkEasy</b>
	or very difficult	4	→ 37
	NA	8	→ 37

<b>36b</b>	<i>If code 2 at Walk</i>		
	Who usually helps you? <b>CARD E</b>		
	Spouse/partner	1	
	Other member of household	2	
	Relative outside household	3	<b>WalkHp</b>
	Other	9	
	NA	8	

<b>37</b>	Do you use public transport at all nowadays?		
	Yes	1	
	No	2	→ 37d <b>PubTrans</b>
	NA	8	→ 38

<b>37a</b>	<i>If code 1 at PubTrans</i>		
	Do you usually manage to use public transport on your own, or only with help from someone else?		
	On own	1	
	With help	2	→ 37c <b>PTOwn</b>
	NA	8	→ 38

<b>37b</b>	<i>If code 1 at PTown</i>		
	Using public transport on your own - do you find it ... <b>CARD D</b>		
	very easy	1	→ 38
	fairly easy	2	→ 38
	fairly difficult	3	→ 38 <b>PTEasy</b>
	or very difficult	4	→ 38
	NA	8	→ 38

<b>37c</b>	<i>If code 2 at PTown</i>		
	Who usually helps you? <b>CARD E</b>		
	Spouse/partner	1	→ 38
	Other member of household	2	→ 38
	Relative outside household	3	→ 38 <b>PTHelp</b>
	Other	9	→ 38
	NA	8	→ 38

<b>37d</b>	<i>If code 2 at PubTrans</i>		
	Why is that? <b>SHOW CARD H</b>		
	Health problem or physical difficulty	1	
	Uses own or household's car	2	
	Uses other car/no need to use public transport	3	<b>PTYNot</b>
	Public transport is inconvenient	4	
	Public transport is too expensive	5	
	Other	6	
	NA	8	

<b>38</b>	Do you do the household shopping by yourself?		
	Yes	1	→ 39
	No	2	<b>Shopping</b>
	NA	8	→ 39

<b>38a</b>	<i>If code 2 at Shopping</i>		
	Could you if you had to?		
	Yes	1	
	No	2	<b>ShopOwn</b>
	NA	8	

<b>38b</b>	<i>If code 2 at Shopping</i>		
	Does someone do this for you?		
	Yes	1	
	No	2	<b>ShopHp</b>
	NA	8	

<b>39</b>	Do you deal with personal affairs for example, paying bills, writing letters by yourself?		
	Yes	1	→40
	No	2	<b>Business</b>
	NA	8	→40

<b>39a</b>	<i>If code 2 at Business</i>		
	Could you if you had to?		
	Yes	1	
	No	2	<b>BusOwn</b>
	NA	8	

<b>39b</b>	<i>If code 2 at Business</i>		
	Does someone do this for you?		
	Yes	1	
	No	2	<b>BusHp</b>
	NA	8	

<b>40</b>	Do you wash up and dry dishes?		
	Yes	1	→41
	No	2	<b>Dishes</b>
	NA	8	→ 41

<b>40a</b>	<i>If code 2 at Dishes</i>		
	Could you if you had to?		
	Yes	1	
	No	2	<b>DishOwn</b>
	NA	8	

<b>40b</b>	<i>If code 2 at Dishes</i>		
	Does someone do it for you?		
	Yes	1	
	No	2	<b>DishHp</b>
	NA	8	

<b>41</b>	Do you clean windows inside yourself?		
	Yes	1	→ 42
	No	2	<b>Windows</b>
	NA	8	→ 42

<b>41a</b>	<i>If code 2 at Windows</i>		
	Could you if you had to?		
	Yes	1	
	No	2	<b>WindwOwn</b>
	NA	8	

<b>41b</b>	<i>If code 2 at Windows</i>		
	Does someone do it for you?		
	Yes	1	
	No	2	<b>WindwHp</b>
	NA	8	

<b>42</b>	Do you use a vacuum cleaner?		
	Yes	1	→43
	No	2	<b>Vacuum</b>
	NA	8	→ 43

<b>42a</b>	<i>If code 2 at Vacuum</i>		
	Could you if you had to?		
	Yes	1	
	No	2	<b>VacOwn</b>
	NA	8	

<b>42b</b>	<i>If code 2 at Vacuum</i>		
	Does someone do it for you?		
	Yes	1	
	No	2	<b>VacHp</b>
	NA	8	

<b>43</b>	Do you do jobs involving climbing a stepladder, steps or a chair?		
	Yes	1	→ 44
	No	2	<b>Steps</b>
	NA	8	→ 44

<b>43a</b>	<i>If code 2 at Steps</i>		
	Could you if you had to?		
	Yes	1	
	No	2	<b>StepsOwn</b>
	NA	8	

<b>43b</b>	<i>If code 2 at Steps</i>		
	Does someone do it for you?		
	Yes	1	
	No	2	<b>StpsHp</b>
	NA	8	

<b>44</b>	Do you wash small amounts of clothing by hand?		
	Yes	1	→ 45
	No	2	<b>Laundry</b>
	NA	8	→ 45

<b>44a</b>	<i>If code 2 at Laundry</i>		
	Could you if you had to?		
	Yes	1	
	No	2	<b>LaundOwn</b>
	NA	8	

<b>44b</b>	<i>If code 2 at Laundry</i>		
	Does someone do it for you?		
	Yes	1	
	No	2	<b>Laundhp</b>
	NA	8	

<b>45</b>	Do you open screw top bottles and jars?		
	Yes	1	→46 <b>Bottles</b>
	No	2	

<b>45a</b>	<i>If code 2 at Bottles</i>		
	Could you if you had to?		
	Yes	1	
	No	2	<b>BottlOwn</b>
	NA	8	

<b>45b</b>	<i>If code 2 at Bottles</i>		
	Does someone do it for you?		
	Yes	1	
	No	2	<b>BottlHp</b>
	NA	8	

<b>46</b>	Do you prepare hot meals for yourself?		
	Yes	1	→ 47
	No	2	<b>Cook</b>
	NA	8	→ 49



<b>46a</b>	<i>If code 2 at Cook</i>		
	Could you if you had to?		
	Yes	1	
	No	2	<b>CookOwn</b>
	NA	8	

<b>46b</b>	<i>If code 2 at Cook</i>		
	Does someone do it for you?		
	Yes	1	
	No	2	<b>CookHP</b>
	NA	8	

<b>47</b>	<i>If code 2 at Cook</i>		
	Do you prepare snacks for yourself?		
	Yes	1	→ 48
	No	2	<b>Snack</b>
	NA	8	→ 49

<b>47a</b>	<i>If code 2 at Snack</i>		
	Could you if you had to?		
	Yes	1	
	No	2	<b>SnackOwn</b>
	NA	8	

<b>47b</b>	<i>If code 2 at Snack</i>		
	Does someone do it for you?		
	Yes	1	
	No	2	<b>SnackHp</b>
	NA	8	

<b>48</b>	<i>If code 2 at Snack</i>		
	Do you make cups of tea?		
	Yes	1	→ 49
	No	2	<b>Cup Tea</b>
	NA	8	→ 49

<b>48a</b>	<i>If code 2 at CupTea</i>		
	Could you if you had to?		
	Yes	1	
	No	2	<b>CpTeaOwn</b>
	NA	8	

<b>48b</b>	<i>If code 2 at CupTea</i>		
	Does someone do it for you?		
	Yes	1	
	No	2	<b>CpTeaHp</b>
	NA	8	

<b>49</b>	<i>If any Shop - CpTeaHp coded 1</i>		
	You've told me someone else helps you with [ ...]. Who usually does these things for you? <b>SHOW CARD I</b>		
	Spouse/partner	1	
	Other member of household	2	
	Relative outside household	3	
	Friend or neighbour	4	
	Voluntary worker	5	<b>DomHelp</b>
	Formal NHS or personal social services	6	
	Paid help	7	
	Other	9	
	NA	8	

EldInt3

This is a list of services that people can make use of. Some of them won't apply to you, but other may. Which of these services did you make use of last month. [LAST COMPLETE CALENDAR MONTH] SHOW CARD

50	Local Authority home help or home care worker?		
	Used last month	1	
	Not used last month	2	Homehelp
	NA	8	

51	Private domestic help?		
	Used last month	1	
	Not used last month	2	PrivHelp
	NA	8	

52	District nurse visiting you at home?		
	Used last month	1	
	Not used last month	2	DistNrse
	NA	8	

53	Community psychiatric nurse visiting you at home?		
	Used last month	1	
	Not used last month	2	PsychNrse
	NA	8	

54	Meals on wheels?		
	Used last month	1	
	Not used last month	2	MlsnWhls
	NA	8	

55	Lunch club run by the council or a voluntary body?		
	Used last month	1	
	Not used last month	2	LnchClub
	NA	8	

56	Day Centre for the elderly?		
	Used last month	1	
	Not used last month	2	DayCen
	NA	8	

<b>57</b>	Helper from a voluntary organisation?		
	Used last month	1	
	Not used last month	2	<b>VolHelpr</b>
	NA	8	

<b>58</b>	<i>If code 1 at Home Help</i>		
	About how often did you have your Local Authority home help last month? <b>CARD K</b>		
	Every day or nearly	1	
	Two or three times a week	2	
	Once a week	3	<b>HHTimes</b>
	Less often	4	
	NA	8	

<b>58a</b>	<i>If code 1 at Homehlp</i>		
	About how many hours each week do you have the home help for?		
	1.....97	1	<b>HHHours</b>
	NA	8	

<b>58b</b>	<i>If code 1 at PrivHelp</i>		
	About how often did you have private domestic help last month? <b>CARD K</b>		
	Every day or nearly	1	
	Two or three times a week	2	
	Once a week	3	<b>PHTimes</b>
	Less often	4	
	NA	8	

<b>58c</b>	<i>If code 1 at DisNrse</i>		
	About how often did you have visits from a district nurse last month? <b>CARD K</b>		
	Every day or nearly	1	
	Two or three times a week	2	
	Once a week	3	<b>DNTimes</b>
	Less often	4	
	NA	8	

<b>58d</b>	<i>If code 1 at PsychNrse</i>		
	About how often did you have visits from a psychiatric nurse last month? <b>CARD K</b>		
	Every day or nearly	1	
	Two or three times a week	2	
	Once a week	3	<b>CPNTimes</b>
	Less often	4	
	NA	8	

<b>58e</b>	<i>If code 1 at MlsnWhls</i>		
	About how often did you have Meals on Wheels last month? <b>CARD K</b>		
	Every day or nearly	1	
	Two or three times a week	2	
	Once a week	3	<b>MWTimes</b>
	Less often	4	
	NA	8	

<b>58f</b>	<i>If code 1 at Lnhclub</i>		
	About how often did you have lunch at a lunch club last month? <b>CARD K</b>		
	Every day or nearly	1	
	Two or three times a week	2	
	Once a week	3	<b>LCTimes</b>
	Less often	4	
	NA	8	

<b>58g</b>	<i>If code 1 at DayCen</i>		
	About how often did you go to the Day Centre last month? <b>CARD K</b>		
	Every day or nearly	1	
	Two or three times a week	2	<b>CenTimes</b>
	Once a week	3	
	Less often	4	
	NA	8	

<b>58h</b>	<i>If code 1 at VolHelp</i>		
	About how often were you visited by a voluntary worker last month? <b>CARD K</b>		
	Every day or nearly	1	<b>VHTimes</b>
	Two or three times a week	2	
	Once a week	3	
	Less often	4	
	NA	8	

<b>58i</b>	Let me go back to the list of services that are available to people <b>SHOW CARD L</b>
	Local Authority home help or home care worker?
	Private domestic help?
	District nurse visiting you at home?
	Community psychiatric nurse visiting you at home?
	Meals on wheels?
	Lunch club run by the council or a voluntary body?
	Day Centre for the elderly?
	Helper from a voluntary organisation?

<b>58j</b>	Do you think these services fulfill the needs of older people with disabilities?	Yes	1	→ 59	<b>FulNeed</b>
		No	2		
		Do not know	3		

<b>58k</b>	Do you think the existing services should be changed?	Yes	1		<b>Change S</b>
		No	2	→ 59	
		Do not know	3	→ 59	

<b>58m</b>	Can you tell me what you think should change? (INTERVIEWER to make notes and read content of the notes back to the respondent)		<b>WhatChang</b>

<b>58o</b>	Still looking at the card. Do you think another service is needed? <b>SHOW CARD L</b>	Yes	1		<b>OthServ</b>
		No	2	→ 59	
		Do not know	3	→ 59	

<b>58p</b>	Can you tell me what this service should do? (INTERVIEWER to make notes and read content of the notes back to the respondent)		<b>WhatServ</b>
------------	--	--	-----------------

<b>GDS-15 I would like to ask you some questions about how you feel at the moment</b>				
<b>59</b>	<b>GDS</b>	Are you basically satisfied with your life?	Yes	<b>NO</b>
<b>60</b>	<b>GDS</b>	Have you dropped many of your activities and interests?	<b>YES</b>	No
<b>61</b>	<b>GDS</b>	Do you feel that your life is empty?	<b>YES</b>	No
<b>62</b>	<b>GDS</b>	Do you often get bored?	<b>YES</b>	No
<b>63</b>	<b>GDS</b>	Are you in good spirits most of the time?	Yes	<b>NO</b>
<b>64</b>	<b>GDS</b>	Are you afraid that something bad is going to happen to you?	<b>YES</b>	No
<b>65</b>	<b>GDS</b>	Do you feel happy most of the time?	Yes	<b>NO</b>
<b>66</b>	<b>GDS</b>	Do you often feel helpless?	<b>YES</b>	No
<b>67</b>	<b>GDS</b>	Do you prefer to stay at home, rather than going out and doing new things?	<b>YES</b>	No
<b>68</b>	<b>GDS</b>	Do you feel you have more problems with memory than most?	<b>YES</b>	No
<b>69</b>	<b>GDS</b>	Do you think it is wonderful to be alive now?	Yes	<b>NO</b>
<b>70</b>	<b>GDS</b>	Do you feel pretty worthless the way you are now?	<b>YES</b>	No
<b>71</b>	<b>GDS</b>	Do you feel full of energy?	Yes	<b>NO</b>
<b>72</b>	<b>GDS</b>	Do you feel that your situation is hopeless?	<b>YES</b>	No
<b>73</b>	<b>GDS</b>	Do you think that most people are better off than you are?	<b>YES</b>	No
<b>74</b>	<b>GSCORE</b>	<b>Scoring: Answers in BOLD CAPITALS score one point</b>	<b>Total GDS</b>	

EldInt4

Now here is another list. Which of these health and social services did you make use of during ... [LAST 3 COMPLETE CALENDAR MONTHS]?

**SHOW CARD M**

<b>75</b>	Doctor/GP at his/her surgery? INCLUDE BOTH NHS AND PRIVATE		
	Yes	1	
	No	2	<b>DsLst3M</b>
	NA	8	

<b>76</b>	Doctor attending you at home? INCLUDE BOTH NHS AND PRIVATE		
	Yes	1	
	No	2	<b>DaLst3M</b>
	NA	8	

<b>77</b>	Hospital doctor? INCLUDE BOTH NHS AND PRIVATE		
	Yes	1	
	No	2	<b>HdLST3m</b>
	NA	8	

<b>78</b>	Nurse at a surgery or health centre? INCLUDE BOTH NHS AND PRIVATE		
	Yes	1	
	No	2	<b>NsLst3M</b>
	NA	8	

<b>79</b>	Local Authority social worker or care manager?		
	Yes	1	
	No	2	<b>SwLst3M</b>
	NA	8	

<b>80</b>	Chiropodist at home, clinic or hospital? INCLUDE BOTH NHS AND PRIVATE		
	Yes	1	
	No	2	<b>ChLst3M</b>
	NA	8	

<b>81</b>	<i>If code 1 at DsLst3M</i>		
	Did you see the doctor at the surgery last month, that is, in ...[LAST COMPLETE CALENDAR MONTH]?		
	Yes	1	
	No	2	<b>DsLstMth</b>
	NA	8	



<b>81a</b>	<i>If code 1 at DaLst3M</i>		
	Did the doctor come and see you at home last month, that is, in ... [LAST CALENDAR MONTH]?		
	Yes	1	
	No	2	<b>DaLstMth</b>
	NA	8	

<b>82</b>	<i>If code 1 at HdLst3M</i>		
	Did you see the doctor at the hospital last month, that is, in ... [LAST CALENDAR MONTH]?		
	Yes	1	
	No	2	<b>HdLstMth</b>
	NA	8	

<b>83</b>	<i>If code 1 at NsLst3M</i>		
	Did you see the nurse at the surgery last month, that is, in ... [LAST CALENDAR MONTH]?		
	Yes	1	
	No	2	<b>NsLstMth</b>
	NA	8	

<b>84</b>	<i>If code 1 at SwLst3M</i>		
	Did you see the social worker or care manager last month, this is, in ... [LAST COMPLETE CALENDAR MONTH]?		
	Yes	1	
	No	2	<b>SwLstMth</b>
	NA	8	

<b>85</b>	Chiroprapist at home, clinic or hospital?		
	INCLUDE BOTH NHS AND PRIVATE		
	Yes	1	
	No	2	<b>ChLst3M</b>
	NA	8	

## Income

	Of course you know that the information you have given me will be kept quite confidential. I am reminding you of this because I want to ask you a question about your income. The answer will be helpful in understanding what financial problems older people may experience....
	Could you show me into which group the TOTAL NET INCOME (that is the income left after any tax has been paid) of you and your spouse combined comes?

<b>86</b>	Willing to answer	Yes	No	
		1	2	<b>WillAns</b>

	<b>SHOW CARD N and read out WEEKLY Scale (monthly and annual match weekly scale)</b>
--	--

<b>87</b>	Weekly	Monthly	Annual		
	Less than £100	Less than £400	Less than £5200	<b>Circle code</b>	
	£100 - £199	£400 - £799	£5,200 - £10,399	1	<b>Income</b>
	£ 200 - £299	£800 - £1199	£10,400 - £15,599	2	
	£300 - £399	£1200 - £1599	£ 15,600 - £20,799	3	
	£400 - £499	£1600 - £1999	£20,800 - £ 25,999	4	
	£500 - £599	£2000 - £2399	£ 26,000 - £ 31,199	5	
	£600 - £699	£2400 - £2799	£ 31,200 - £ 36,399	6	
	£700 - £799	£2800 - £3199	£ 36,400 - £ 41,599	7	
	£800 - £899	£3200 - £3599	£ 41,600 - £ 46,799	8	
	£900 - £999	£3600 - £3999	£ 46,800 - £ 51,999	8	
	More than £1000	More than £4000	More than £52,000	10	

## Referrals and Admissions

Circle

		YES	NO	
88	Have you been in hospital within the last 12 months?	1	2	InPa
89	If yes how many times? (If no enter 0)			InPax
90	How many days were you in hospital for on each occasion?	Time eh01	Time ho2	Time eh o3
	ADMISSION	1st	2nd	3rd
	Not applicable	0	0	0
	Enter the approximate number of days			
			YES	NO
91	AE Have you been taken to a Casualty/Accident & Emergency Department any time within the last 12 months		1	2

92	If yes, how many times? (If no code 0)		AEx
----	--	--	-----

		YES	NO
93	Have you been in a Nursing Home within the last 12 months?	1	2
			Home

94	If yes, how many times? (If not code 0)		Homex
----	---	--	-------

95	How many days were you in the Nursing Home for on each occasion?	HDays 1	HDays2	HDays3	HDays4
	ADMISSION	1st	2nd	3rd	4th
	Not applicable	0	0	0	0
	Enter the approximate number of days				

96	Have you been ill at home, so that you have had to spend some time in bed, in the last year?	
	Not applicable	0
	Enter the approximate number of days	
		Bedhome

## HELP WITH COMMON PROBLEMS AND CRISES

One of the things we are interested in is the kinds of local help available to people ....

Can you tell me who you <u>would</u> have turned to? ( <i>Probe if necessary</i> )			Description Code
97	a) If you were ill and could not leave the house		<b>Ill</b>
98	b) If you wanted advice about money problems		<b>Money</b>
99	c) If you were worried about a personal problem		<b>Personal</b>
100	d) If you were “feeling down” and just wanted someone to talk to		<b>Down</b>
101	e) If you needed a lift somewhere		<b>Lift</b>
102	f) If you needed help with preparing meals		<b>Meals</b>
103	g) If you needed a break from looking after someone else		<b>Respite</b>
104	h) If you felt that you could not cope in your home any longer and needed care in a nursing home		<b>CareHom</b>

**Code from:**

No-one	0
Spouse	1
Someone else in the household	2
Relative outside the household	3
Friend/neighbour	4
Family doctor/GP	5
Home Help	6
District Nurse	7
Community psychiatric nurse	8
Voluntary Organisation (such as Age Concern/Help the Aged)	9
Counselling through specialist counsellor at the surgery	10

Counselling through Voluntary Organisation (such as CRUSE)	11
Social Services	12
Local Council	13
Don't Know	14
Other	15

**Interviewer**

If Other write down here

.....

.....**Advoth**

	<b>INTERVIEWER RECORD TYPE OF HOUSING</b>
--	---

<b>105</b>	One storey bungalow/cottage	1	
	House/cottage more than one storey	2	
	Farm	3	
	OAP housing (without warden)	4	<b>House</b>
	Sheltered housing (with warden)	5	
	Ground floor flat	6	
	Upper floor flat	7	
	Other ..... (specify - caravan, maisonette etc)	8	

**INTERVIEWER REPORT**

<b>106</b>	Length of interview	Less than $\frac{1}{2}$ an hour	1	<b>InTime</b>
		$\frac{1}{2}$ to 1 hour	2	
		1 - $1\frac{1}{2}$ hours	3	
		More than $1\frac{1}{2}$ hours	4	
<b>107</b>	Proxy interview?	Yes	1	<b>Proxy</b>
		No	2	
		Part	3	
<b>108</b>	Other people present during interview	All of the time	1	<b>OthPres</b>
		Part of the time	2	
		Not at all	3	
<b>109</b>	Completed the interview?	Yes	1	<b>Comple</b>
		Not interviewed - refusal	2	
		Not interviewed - other*	3	
		Partial interview -	4	

		hearing difficulty		
		Partial interview - confused/demented	5	
		Partial interview - fell asleep	6	
		Partial interview - language difficulty	7	
		Partial interview - other*	8	
		* Specify		
		.....		
		.....		
		.....		
110	Disabilities impeding interview?	None	1	IntDi s
		Hearing	2	
		Sight	3	
		Language problems	4	
		Illness/sickness	5	
		Other (specify)	6	
		.....		
		.....		

Time interview finished		
Total Cape score		if 7 or greater notify office
Total GDS score		if 4 or greater notify office

**Dear interviewer now please complete your time sheet. Thank you.**

## Appendix 6      The general practice record data collection form

Date of Main Interview						
Date of data collection (e.g. 01/03/98)						

On the practice computer, type c at the "local" prompt, press return, type work, press return, type your password, press return, type MR (medical record) at first EMIS menu, type in patient's Age Sex number, type in C (consultation).

**Make sure these details match the survey questionnaires of respondents (if applicable), make sure computer records and paper record refer to same patient!**

Study number					
Age/sex register number					

Sex of Patient (circle)	Male	1	Sex
	Female	2	
	Other/ unknown	3	

Date of Birth							DoB
---------------	--	--	--	--	--	--	-----

1 Did the patient take part in the main survey?	Yes	1	NonRes
	No	2	

### Consultation data

#### 2. Registered General Practitioner

(Initials can be seen on top of consultation record screen):

**Circle number for the doctor the patient is registered with**

DA Barrow	1	EA Loughridge	10
D Bennison	2	DM Lovett	11
DJ Corvin	3	GE Martin	12
PS Crook	4	CR O'Shea	13
J Harris	5	P Riley	14
JM Harvey	6	PGM Slevin	15
BE Holt	7	TDW Smith	16
PW Johnston	8	RJ Thew	17
B Kirkup	9	TAW Wyatt	18

**RegDr**

Consultation screen: If there are entries deal with them first.

Paper record: Confirm that there are no other entries.

If there are no entries in computer record still look at the paper record.

**Before you start mark the last year, the last three and the last complete calendar month from the date of the main interview so that you enter correct figures for the relevant times. For patients who did not take part in the survey time periods are counted from the date of the record audit.**

### Time period LAST YEAR

Look at C, type F1 and P, F1 and E (F1 to get back to MR menu) check the pink (sometimes it is blue) record card in the paper record giving past medical history.

<b>3</b>	In the 12 months before interview has any note been made during any consultation or in any hospital or other letter in the patient records of <b>(Exclude opinion of relatives documented in records, confine to opinion of doctor/nurse about patient)</b>			<b>DemRec</b>
	Alzheimer's Disease	Yes	1	
		No	2	
	Dementia (= Memory loss, poor memory, cognitive deficit)	Yes	1	
		No	2	
	Confusion (= confusional state, confused, disorientated, muddled)	Yes	1	
		No	2	

### CHANGE OF TIME PERIOD (last 3 complete calendar months before survey)!

*Circle number*

<b>4</b>	Saw the doctor at the surgery within the last 3 months before interview? <b>Note: whether saw Dr or Nurse is entered on the right side of the consultation screen!</b>	Yes	1	<b>GCons3m</b>
		No	2 → 6	
		No date for recent entry in record	9 → 6	

<b>5</b>	Number of times seen doctor at surgery in last 3 months?	Enter number of separate visits to the GP		<b>GX3m</b>
----------	--	---	--	-------------

<b>6</b>	Saw the practice nurse at the surgery in the last 3 months?	Yes	1	<b>NCons3m</b>
		No	2 → 8	
		No date for recent entry in record	9 → 8	

<b>7</b>	Number of times seen nurse at surgery in last 3 months?	Enter number of separate visits to the		<b>NX3m</b>
----------	---	--	--	-------------



	Nurse		
--	-------	--	--

**Check paper record for home visits** - they are particularly likely to have been entered on paper record only.

Note: Paper record cards may not be in date order check previous pages if no entries on the uppermost sheet.

<b>8</b>	Had home visit from the doctor within 3 months before interview?	Yes	1	<b>GVis3m</b>
		No	2 → 10	
		No date for recent entry in record	9 → 10	

<b>9</b>	Number of home visits by doctor in last 3 months	Enter number of home visits		<b>GvisX3m</b>
----------	--	-----------------------------	--	----------------

10	Had home visit from the practice nurse within 3 months before interview?	Yes	1	
		No see text below	2 box	NVis3 m
		No date for recent entry in record	9	

If the answer to questions 4, 6, 8 and 10 was NO – GO TO 25

11	Number of home visits by the practice nurse in last 3 months	Enter number of home visits		NvisX3 m
----	--	-----------------------------	--	-------------

**CHANGE OF TIME PERIOD (last complete calendar month before interview)!!**

12	Saw the doctor at the surgery in last month?	Yes	1	GCons m
		No	2 → 14	
		No date for recent entry in record	9 → 14	
13	Number of times seen doctor at surgery in last month?	Enter number of separate visits to the GP		GXm
14	Saw practice nurse at the surgery in last month before interview?	Yes	1	NCons m
		No	2 → 16	
		No date for recent entry in record	9 → 16	
15	Number of times seen nurse at surgery in last month	Enter number of separate visits to the Nurse		NX3m

**Check paper record for home visits** - they are particularly likely to have been entered on paper record only.

**Note:** Paper record cards may not be in date order check previous pages if no entries on the uppermost sheet.

16	Had home visit from the doctor in last month ?	Yes	1	
		No	2 → 18	GVism
		No date for recent entry in record	9 → 18	
17	Number of home visits by doctor in last month	Enter number of home visits		GvisXm
18	Had home visit from practice nurse in last month ?	Yes	1	
		No	2 → 20	NVism

		No date for recent entry in record	9 → 20	
19	Number of home visits by practice nurse in last month	Enter number of home visits		NvisXm

20	Record suggests presence of mental illness or psychological distress within last complete calendar month (prior to interview if took part in main survey or prior to record review) (Exclude if fatigue alone but include if fatigue and other term used suggestive of psychological distress e.g. "feels low")	Yes	1	Distres
		No	2 →25	

Enter the diagnosis or words used to describe the nature of the problem a term would be for example "chronic fatigue" or "depression". It is not the number of words but whether they are part of a single element of the description

21	Term 1		Diag1
22	Term 2		Diag2
23	Term 3		Diag3
24	Term 4		Diag4

## Referral data

### CHANGE OF TIME PERIOD (last 3 complete calendar months before survey)!

Press F1 twice (to main patient menu), type RF, press return, you will see a list of referrals or outpatient clinic attendances, highlight any in the relevant time period and press E to see details, also look at letters in patient notes (if ongoing attendance at a clinic, check when the original referral was made)

Look at the letters contained in the written record this will tell you whether the patient attended a clinic in the **last complete 3 calendar months**, confirm the number of times on the referral screen

25	Did the patient attend a hospital consultant's outpatient clinic within 3 months before the survey (do not include outpatient investigations such as bloodtests and Xray tests)?	Yes	1	Opat3m
		No	2 → 29	

26	Number of times attended a hospital outpatient clinic in 3 months before the survey	Enter number of documented attendances		Opat3x
----	---	--	--	--------

### CHANGE OF TIME PERIOD (last complete calendar month)!

<b>27</b>	Did the patient attend a hospital consultant's outpatient clinic within the <b>last complete calendar month</b> before the survey(do not include outpatient investigations such as bloodtests and Xray tests)?	Yes	1	<b>Opatm</b>
		No	2 → 29	

<b>28</b>	Number of times attended a hospital outpatient clinic within the <b>last complete calendar month</b> before the survey	Enter number of documented attendances		<b>Opatx</b>
-----------	--	--	--	--------------

**CHANGE OF TIME PERIOD (last 3 complete calendar months before the survey)!**

Referrals to hospital consultant's are recorded on computer, those to practice workers or community nurses may be recorded on the consultation screen, the paper record cards or in the letters section of the notes

<b>29</b>	Referral made to any hospital, practice or community service at all in the <b>last 3 complete calendar months</b> before the survey?	Yes	1	<b>AnyRef</b>
		No	2 → 32	

			Yes	No	
<b>30</b>	Referral made	Hospital consultant 1	1	2	
	(within last 3 complete calendar months of the survey)to	Hospital consultant 2 (If more than one consultant was referred to in the time period)	1	2	
		Other GP	1	2	
		Occupational Therapist	1	2	<b>Orto3m</b>
		Physiotherapist	1	2	
		Counsellor at practice	1	2	
		Community Mental Health Team (includes psychiatrist)	1	2	
		Other	1	2	<b>see text</b>

**If all options coded 2 go to Question 32**

**CHANGE OF TIME PERIOD (last complete calendar month before survey)!**

			Yes	No	
<b>31</b>	Referral made	Hospital consultant 1	1	2	
	(in last complete calendar month)	Hospital consultant 2 (If more than one consultant was referred to in the time period)	1	2	
		Other GP	1	2	
		Occupational Therapist	1	2	<b>Ortom</b>
		Physiotherapist	1	2	
		Counsellor at practice	1	2	
		Community Mental Health Team (includes psychiatrist)	1	2	
		Other	1	2	

### CHANGE OF TIME PERIOD (last year)!

Look through letters in notes as Accident and emergency admissions, days in hospital and nursing home admissions will not be recorded on the computer record.

<b>32</b>	Attendance at an Accident and Emergency Department in <b>last year</b> before interview	Yes	1	<b>AEat</b>
		No	2 → 34	

<b>33</b>	Number of attendances in last year	Enter number of attendances		<b>AEns</b>
-----------	------------------------------------	-----------------------------	--	-------------

<b>34</b>	Admissions to Hospital in last year before interview <b>Do not count transfer from main to community hospital separately</b>	Yes	1	<b>Admis</b>
		No	2 → 37	

<b>35</b>	Number of Admissions in last year	Enter number of admissions		<b>Adns</b>
-----------	-----------------------------------	----------------------------	--	-------------

<b>36</b>	Number of days in hospital	Enter number of days		<b>AdDays</b>
-----------	----------------------------	----------------------	--	---------------

<b>37</b>	Admissions to Nursing Home in last year before interview	Yes	1	<b>NHadm</b>
		No	2 → 40	

<b>38</b>	Number of Admissions	Enter number of admissions		<b>NHadns</b>
-----------	----------------------	----------------------------	--	---------------

<b>39</b>	Number of days in nursing home	Enter number of days		<b>NHaday</b>
-----------	--------------------------------	----------------------	--	---------------

### CHANGE OF TIME PERIOD (last complete calendar month)!

Press F1 to return to main menu, type MR, type C, check whether any medication prescribed in a consultation, also check paper record

<b>40</b>	Any medication prescribed within last complete calendar month before interview during consultation?	Yes	1	<b>ConMed</b>
		No	2	

Press F1, type M, check on the repeat prescribing screen whether the patient is on any medication regularly and likely to still be taking it. For this look at the date of last issue.

<b>41</b>	Any medication issued on repeat prescription that was likely to have been taken within last month before interview?	Yes	1	<b>RepMed</b>
		No	2 see text	

**If BOTH questions 40 AND 41 coded 2 (NO) go to end**

42 Tranquilliser, Antidepressant, Neuroleptic Medication or Lithium prescribed within last month before interview (includes medication on repeat prescription i.e. started earlier) <b>Check list at end of questionnaire</b>	Yes	1	<b>Medicat</b>
	No	2 → end	

43 Tranquilliser (e.g. Diazepam)	Yes	1	<b>Tranqu</b>
	No	2 → 47	

44 Enter code from drug list (make sure drug marked T)		<b>TName</b>
--	--	--------------

45 Daily dose (in milligram)	Enter daily dose:		<b>TDose</b>
------------------------------	-------------------	--	--------------

For duration of treatment type F1 then C go back to first mention of prescription of drug then calculate the time it has been taken, check paper record

46 Duration of treatment (in months weeks)	Enter number of months:		<b>TDura</b>
--	-------------------------	--	--------------

47 Antidepressant	Yes	1	<b>Antidep</b>
	No	2 → 51	

48 Enter code from drug list (make sure drug marked A)		<b>AName</b>
--	--	--------------

49 Daily dose (in milligram)	Enter daily dose:		<b>ADose</b>
------------------------------	-------------------	--	--------------

For duration of treatment type F1 then C go back to first mention of prescription of drug then calculate the time it has been taken, check paper record

50 Duration of treatment (in months)	Enter number of months:		<b>ADura</b>
--------------------------------------	-------------------------	--	--------------

51 Neuroleptic	Yes	1	<b>Neurolp</b>
	No	2 → 55	

52 Enter code from drug list (make sure drug marked N)		<b>NName</b>
--	--	--------------

53 Daily dose (in milligram)	Enter daily dose:		<b>NDose</b>
------------------------------	-------------------	--	--------------

For duration of treatment type F1 then C go back to first mention of prescription of drug then calculate the time it has been taken, check paper record

<b>54</b>	Duration of treatment (in months)	Enter number of months:		<b>NDura</b>
-----------	-----------------------------------	-------------------------	--	--------------

<b>55</b>	Lithium containing drug	Yes	1	<b>Lithium</b>
		No	2 → end	

<b>56</b>	Enter code from drug list (make sure drug marked L)		<b>LName</b>
-----------	---	--	--------------

For duration of treatment type F1 then C go back to first mention of prescription of drug then calculate the time it has been taken, check paper record

<b>57</b>	Duration of treatment (in months weeks)	Enter number of months:		<b>LDura</b>
-----------	---	-------------------------	--	--------------

At the end press F5 this will get you to the prompt for the next patient, type the Age/Sex number of the next patient, press F1 to return to main patient menu, press MR, press C and start again.



## Appendix 7      Coding Table for Psychoactive Drugs

Use this table with the medication questions: Look up the name of any drug that you do not know in the table. If it is not there it will not be a tranquilliser, antidepressant, neuroleptic or lithium - circle option 2 at question 38). If it is in the list enter the code number in the appropriate question (Enter code from drug list). The categories tell you which section it needs to go into. Beware of drugs marked N (Depot). They are given at weekly to 3 monthly intervals. The intervals will be specific for the patient. Calculate the daily dose by dividing the amount given by the number of days of the interval between injections.

Name of Drug (Brand or Generic)	Code	Category T(ranquilliser), A(ntidepressant, N(euroleptic), L(ithium)
A Amitryptiline	1	A
Anafranil	2	A
B Benperidol	3	N
Buspirone	4	T
C Chlordiazepoxide	5	T
Chlorpromazine	6	N
Cipramil	7	
Citalopram	7	A
Clomipramine	2	A
Clopixol	8	N
D Depixol	10	N (Depot: this drug is given weekly or at longer intervals - calculate daily dose)
Diazepam	56	T
Dothiepin	11	A
Doxepin	12	A
E Edronax	13	A
Efexor	14	A
F Fluanxol	9	N
Fluoxetine	15	A
Flupenthixol	9	N
Flupenthixol Decanoate	10	N (Depot: this drug is given weekly or at longer intervals - calculate daily dose)
Fluphenazine	16	N
Fluphenazine Decanoate	17	N (Depot: this drug is given weekly or at longer intervals - calculate daily dose)
Fluvoxamine	18	A
G Gamanil	19	A
H Haloperidol	20	N
Haloperidol Decanoate	21	N (Depot: this drug is given weekly or at longer intervals - calculate daily dose)
I	22	A

Imipramine		
Isocarboxazid	23	A
L Largactil	6	N
Lentizol	1	A
Lithium Carbonate	24	L
Lofepramine	19	A
Loprazolam	26	T
Lorazepam	27	T

<b>Name of Drug (Brand or Generic)</b>	<b>Code</b>	<b>Category T(ranquilliser), A(antidepressant), N(euroleptic), L(ithium)</b>
Lormetazepam	28	T
Lustral	29	A
M Maprotiline	30	A
Melleril	31	N
Methotrimeprazine	32	N
Mianserin	33	A
Mirtazapine	34	A
Moclobemide	35	A
Modecate	17	N (Depot: this drug is given weekly or at longer intervals - calculate daily dose)
Molipaxin	36	A
Motival	37	A
N Nardil	38	A
Nefazodone	39	A
Neulactil	40	N
Nitrazepam	41	T
Nortriptyline	37	A
Nozinan	32	N
O Olanzapine	42	N
Oxazepam	43	T
P Paroxetine	44	A
Pericyazine	40	N
Perphenazine	45	N
Phenelzine	38	A
Pimozide	46	N
Pipothiazine Palmitate	47	N (Depot: this drug is given weekly or at longer intervals - calculate daily dose)
Priadel	24	L
Promazine	48	N
Prothiaden	11	A
Protryptiline	49	A
Prozac	15	A
Q Quetiapine	50	N
R Reboxetine	13	A
Risperdal	51	N
Risperidone	51	N
S Serenace	20	N
Seroquel	50	N
Seroxat	44	A
Sertraline	29	A

Sinequan	12	A
Stelazine	52	N
Stilnoct	53	T
Sulpiride	54	N
T Temazepam	55	T
Thioridazine	31	N
Tofranil	22	A
Trazodone	36	A
Trifluoperazine	52	N
Trimipramine	57	A
<b>Name of Drug (Brand or Generic)</b>	<b>Code</b>	<b>Category T(ranquilliser), A(antidepressant), N(neuroleptic), L(lithium)</b>
Triptafen	1	A
Tryptizol	1	A
V Valium	56	T
Venlafaxine	14	A
Z Zimovane	58	T
Zispin	34	A
Zolpidem	53	T
Zopiclone	58	T
Zuclopenthixol Decanoate	25	N (Depot: this drug is given weekly or at longer intervals - calculate daily dose)
Zuclopenthixol	8	N

## **Appendix 8      Literature review – Search strategies**

### **Search for Trials of Treatment of Depression of Older People in Primary Care**

#### **Medline 1970 – 1999**

1. depression.sh
2. 1/ or
3. exp psychotherapy.sh
4. exp behavior therapy.sh
5. exp combined modality therapy.sh
6. counselling.sh
7. social support.sh
8. psychiatric nursing.sh
9. community mental health services.sh
10. community psychiatry.sh
11. adaption, psychological.sh
12. family practice.sh
13. physicians, family.sh
14. primary health care.sh
15. drug therapy.sh
16. 2-15/or
17. treatment outcome.sh
18. effective\$ treatment\$.tw
19. efficacy.tw
20. success rate.tw
21. 17-20/or
22. limit 21 to aged 65+
23. limit 22 to newborn - 65
24. 22 not 23

## BIDS Embase 1980-1999

Abbreviations: sh= subject heading  
tw= textword search  
\$= truncation symbol  
exp= subject heading has been exploded

1. depression.sh
2. exp drug therapy.sh
3. exp primary health care.sh
4. exp psychology.sh
5. psychotherapy.sh
6. cognitive therapy.sh
7. behavior therapy.sh
8. gerontopsychiatry.sh
9. interpersonal psychotherapy.tw
10. itp.tw
11. cbt.tw
12. exp counseling.sh
13. social psychology.sh
14. exp mental healthcare.sh
15. general practice.sh
16. general practitioner.sh
17. gp.tw
18. cognitive behavi\$ therapy.tw
19. 2-18/or
20. treatment outcome.sh
21. efficacy.tw
22. success rate.tw
23. effective.tw
24. 20-23/or
25. limit 24 to aged 65+

## **BIDS SSCI and SCI search for trials of outreach in primary care 1981 -1998**

1. care\* or treatment\* or drug\* and
2. elder\* or geriatric\* or old\* people or aged old\* and
3. depress\* and
4. outreach visit\* or CPN or communit\* psychiatr\* nurs\* or psychiatr\* or GP\* or  
general practi\* or primary car\* and
5. car\* or treatment\* or drug\* or effectiv\*

## **CINAHL 1982 - 1998**

1. primary health care.sh
2. physicians, family.sh
3. family practice.sh
4. gp.tw
5. cpn.tw
6. exp community mental health services.sh
7. exp counseling.sh
8. exp psychotherapy.sh
9. social intervention\$.tw
10. interpersonal psychotherapy.tw
11. itp.tw
12. cognitive behavi\$ therapy.tw
13. cbt.tw
14. cognitive therapy.sh
15. exp drug therapy.sh
16. exp antidepressive agents.sh
17. outreach.tw
18. 1-17/or
19. alzheimers disease.sh
20. exp dementia.sh
21. exp cognition disorders.sh
22. exp depression.sh
23. 19-22/or
24. exp treatment outcome.sh
25. effective\$.tw
26. efficacy.tw
27. success\$.tw
28. 24-27/or
29. 18 and 23 and 28
30. limit to aged 65+

## Psyclit 1974 - 99

sh= subject heading

tw= textword search

\$ = truncation symbol

exp = subject heading has been exploded to search for all related terms

1. exp major depression.sh
2. exp dementia.sh
3. exp senile dementia.sh
4. exp multi infarct dementia.sh
5. exp general paresis.sh
6. exp schizophrenia.sh
7. 1-6/or
8. exp psychotherapy.sh
9. exp counseling.sh
10. exp social support networks.sh
11. exp social services.sh
12. exp psychiatric nurses.sh
13. exp general practitioners.sh
14. exp family medicine.sh
15. exp family physicians.sh
16. exp primary health care.sh
17. exp community mental health services.sh
18. exp community psychiatry.sh
19. exp cognitive therapy.sh
20. exp drug therapy.sh
21. 8-20/or
22. exp treatment outcomes.sh
23. effective\$ treatment.tw
24. efficacy.tw
25. success rate.tw
26. 22-25/or
27. 7 and 21 and 26
28. limit to aged 65+



## **Compliance of Older People with Antidepressant Drug Therapy 1980 - 1999**

### **Embase**

- 1 Depression/ or "depression".mp.
- 2 exp drug therapy/ or exp pharmacotherapy/ or "drug therapy".mp.
- 3 dt.fs.
- 4 2 or 3
- 5 1 and 4
- 6 Patient compliance/
- 7 compliance.mp. [mp=title, abstract, heading word, trade name, manufacturer name]
- 8 adherence.mp. [mp=title, abstract, heading word, trade name, manufacturer name]
- 9 6 or 7 or 8
- 10 5 and 9
- 11 limit 10 to (aged 65+ years)
- 12 from 11 keep 1-64

### **Medline**

- 1 Depression/
- 2 depress\$.ti.
- 3 1 or 2
- 4 exp drug therapy/ or "drug therapy".mp.
- 5 3 and 4
- 6 Depression/dt [Drug Therapy]
- 7 5 or 6
- 8 Patient acceptance of health care/ or Patient compliance/
- 9 adherence.mp. [mp=title, abstract, registry number word, mesh subject heading]
- 10 compliance.mp. [mp=title, abstract, registry number word, mesh subject heading]
- 11 8 or 9 or 10
- 12 7 and 11
- 13 limit 12 to ("aged < 65 and over >" or "aged, 80 and over")
- 14 limit 13 to yr 1980-1999
- 15 from 14 keep 1-19

Databases Pharmline, a UK database produced by the UK Drug Information Group Sept 1978 to April 1999 and IDIS, an American database produced by the University of Iowa College of Pharmacy 1966-April 1999 were searched on our behalf by the Drug Information Service of Leicester Royal Infirmary using the same search strategies.

## References

1. World Health Organization, ed. The ICD-10 classification of mental and behavioural disorders: clinical descriptions and diagnostic guidelines. Geneva: World Health Organization, 1992.
2. Pulska T, Pahkala K, Laippalla P, Kivela S-L. Major depression as a predictor of premature deaths in elderly people in Finland: A community study. *Acta Psychiatr Scand* 1998;97(6):408-11.
3. Dinan TG. The physical consequences of depressive illness. *BMJ* 1999;318:826.
4. Conwell Y. Outcomes of depression. *Am J Geriatr Psychiatry* 1996;4(4 Suppl. 1):S34-44.
5. Fredman L, Schoenbach VJ, Kaplan BH, et al. The association between depressive symptoms and mortality among older participants in the epidemiologic catchment area-Piedmont Health Survey. *J Gerontol* 1989;44:S149-56.
6. Bruce ML, Leaf PJ. Psychiatric disorders and 15-month mortality in a community sample of older adults. *Am J Pub Health* 1989;79:727-30.
7. Beekman ATF, Copeland JRM, Prince MJ. Review of community prevalence of depression in later life. *Br J Psychiatry* 1999;174:307-11.
8. Smith A, Traganza E, Harrison G. Studies on the effectiveness of antidepressant drugs. *Psychopharmacology Bulletin* 1969(Suppl.):1-53.
9. Koder DA, Brodaty H, Anstey KJ. Cognitive therapy for depression in the elderly. *Int J Geriatr Psychiatry* 1996;11(2):97-107.
10. Niederehe G. Psychosocial treatments with depressed older adults: A research update. *Am J Geriatr Psychiatry* 1996;4(4 Suppl. 1):S66-78.
11. Scogin F, McElreath L. Efficacy of psychosocial treatments for geriatric depression: A quantitative review. *J Consult Clin Psychol* 1994;62:69-74.
12. Weissman MM. Psychotherapy in the maintenance treatment of depression. *Br J Psychiatry* 1994;165(S26):42-50.
13. U.S. Preventive Services Task Force, ed. Guide to clinical preventive services: an assessment of the effectiveness of 169 interventions. Report of the U.S. Preventive Services Task Force. Baltimore: William & Wilkins, 1989.
14. Katona C, Freeling P, Hinchcliffe K, Blanchard M, Wright A. Recognition and management of depression in late life in general practice: consensus statement. *Prim Care Psychiatry* 1995;1:107-13.

15. Wright AF. Should general practitioners be testing for depression? *Br J Gen Pract* 1994;44:132-5.
16. Department of Health. National Service Framework for Mental Health – Modern Standards and Service Models. The Stationery Office, London, September 1999.
17. Blanchard M. Depressive Illness. In: Ebrahim S, Kalache A, eds. *Epidemiology in Old Age*. London: BMJ Publishing Group, 1996:279-89.
18. American Psychiatric Association, ed. *Diagnostic and statistical manual of mental disorders: DSM-IV*. 4th ed. Washington, DC: American Psychiatric Association, 1994.
19. Henderson AS, Jorm LAF, Mackinnon A, et al. The prevalence of depressive disorders and the distribution of depressive symptoms in later life: A survey using Draft ICD-10 and DSM-III-R. *Psychol Med* 1993;23(3):719-29.
20. Henderson AS, Korten AE, Jacomb PA, et al. The course of depression in the elderly: a longitudinal community-based study in Australia. *Psychol Med* 1997;27(1):119-29.
21. Copeland JRM, Dewey ME, GriffithsJones HM. A computerized psychiatric diagnostic system and case nomenclature for elderly subjects: GMS and AGE CAT. *Psychol Med* 1986;16:89-99.
22. World Health Organisation Department of Mental Health. *Schedules for Clinical Assessment in Neuropsychiatry*. Geneva: World Health Organisation, 1992.
23. Sheik JL, Yesavage JA. Geriatric Depression Scale (GDS): recent evidence and development of a shorter version. *Clin Gerontologist* 1986;5:165-73.
24. Rout U, Rout JK. Diagnosis and treatment of depression by general-practitioners in England. *Psychol Rep* 1996;78(2):516-8.
25. Freeling P, Rao BM, Paykel ES, et al. Unrecognised depression in general practice. *BMJ* 1985;290:1880-3.
26. Badger LW, Degruy FV, Hartman J, et al. Patient presentation, interview content, and the detection of depression by primary-care physicians. *Psychosomatic Medicine* 1994;56(2):128-35.
27. Kirby M, Bruce I, Radic A, Coakley D, Lawlor BA. Mental disorders among the community-dwelling elderly in Dublin. *Br J Psychiatry* 1997;171:369-72.
28. Copeland JRM, Dewey ME, Wood N, et al. Range of mental illness among the elderly in the community: Prevalence in Liverpool using the GMS-AGE CAT Package. *Br J Psychiatry* 1987;150:815-23.
29. Lindesay J, Briggs K, Murphy E. The Guy's/Age Concern survey. Prevalence rates of cognitive impairment, depression and anxiety in an urban elderly community. *Br J Psychiatry* 1989;155:317-29.

30. Copeland JRM, Gurland BJ, Dewey ME, Kelleher MJ, Smith AMR, Davidson IA. Is there more dementia, depression and neurosis in new york? a comparative study of the elderly in new york and london using the computer diagnosis agecat. *Br J Psychiatry* 1987;151:466-73.
31. Meller I, Fichter MM, Schroppel H. Risk factors and psychosocial consequences in depression of octo- and nonagenarians: results of an epidemiological study. *Europ Arch Psychiatry Clin Neurosci* 1997;247:278-87.
32. Pahkala K, Kesti E, Kongas-Saviaro P, Laippala P, Kivela SL. Prevalence of depression in an aged population in Finland. *Soc Psychiatry Psychiatr Epidemiol* 1995;30(3):99-106.
33. Valvanne J, Juva K, Erkinjuntti T, Tilvis R. Major depression in the elderly: A population study in Helsinki. *Int Psychogeriatr* 1996;8:437-43.
34. Saunders PA, Copeland JR, Dewey ME, et al. The prevalence of dementia, depression and neurosis in later life: the Liverpool MRC-ALPHA Study. *Int J Epidemiol* 1993;22(5):838-47.
35. Lobo A, Saz P, Marcos G, Dia JL, De-la-Camara C. The prevalence of dementia and depression in the elderly community in a southern European population. The Zaragoza study. *Arch Gen Psychiatry* 1995;52(6):497-506.
36. Forsell Y, Winblad B. Major depression in a population of demented and nondemented older people: prevalence and correlates. *J Am Geriatr Soc* 1998;46:27-30.
37. Forsell Y, Jorm AF, von SE, Winblad B. Prevalence and correlates of depression in a population of nonagenarians. *Br J Psychiatry* 1995;167(1):61-4.
38. Beekman AT, Deeg DJ, van TT, Smit JH, Hooijer C, van TW. Major and minor depression in later life: a study of prevalence and risk factors. *J Affect Disord* 1995;36(1-2):65-75.
39. Girling DM, Barkley C, Paykel ES, et al. The prevalence of depression in a cohort of the very elderly. *J Affect Disord* 1995;34(4):319-29.
40. Green BH, Copeland JRM, Dewey ME, et al. Risk factors for depression in elderly people: a prospective study. *Acta Psychiatr Scand* 1992;86:213-7.
41. Egberts ACG, Leufkens HGM, Hofman A, Hoes AW. Incidence of antidepressant drug use in older adults and association with chronic diseases: The Rotterdam Study. *Int Clin Psychopharmacol* 1997;12(4):217-23.
42. Government Statistical Service. Statistics of prescriptions dispensed in the community: England 1988 to 1998. Statistical Bulletin 1999/17, Department of Health, London.
43. Sclar DA, Robison LM, Skaer TL, Galin RS. Trends in the prescribing of antidepressant pharmacotherapy: Office-based visits, 1990-1995. *Clin Therapeutics* 1998;20:871-84.

44. Cole MG, Bellavance F, Mansour A. Prognosis of depression in elderly community and primary care populations: a systematic review and meta-analysis. *Am J Psychiatry* 1997; 5:4-14.
45. Cole MG, Bellavance F. The prognosis of depression in old age. *Am J Geriatr Psychiatry* 1997;5:4-14.
46. Baldwin RC, Simpson S. Prognosis and outcome studies in late-life depression. *Clin Neurosci* 1997;4(1):16-22.
47. Rutz W, Carlsson P, Von Knorring L, Walinder J. Cost-benefit analysis of an educational program for general practitioners by the Swedish Committee for the Prevention and Treatment of Depression. *Acta Psychiatr Scand* 1992;85(6):457-64.
48. O'Hara W, Kohout F, Wallace R. Depression among the rural elderly: a study of prevalence and correlates. *J Nerv Ment Dis* 1985;173:582-9.
49. Carpiniello B, Carta MG, Rudas N. Depression among elderly people. *Acta Psychiatr Scand* 1989;80:445-50.
50. Lebowitz BD, Pearson JL, Schneider LS, et al. Diagnosis and treatment of depression in late life: Consensus statement update. *JAMA* 1997;278(14):1186-90.
51. Keller MB, Lavori P, Mueller TI, et al. Time to recovery, chronicity and levels of psychopathology in major depression: a five-year prospective follow-up of 431 subjects. *Arch Gen Psychiatry* 1992;49:809-16.
52. Katon W. Will improving detection of depression primary-care lead to improved depressive outcomes. *Gen Hosp Psychiatry* 1995;17(1):1-2.
53. Elkin I, Shea T, Watkins JT, et al. National Institute of Mental Health Treatment of Collaborative Research Program. *Arch Gen Psychiatry* 1989;46:971-82.
54. Hamilton M. Development of a rating scale for primary depressive illness. *Br J Soc Clin Psychol* 1967;6:278-96.
55. Paykel ES, Hollyman JA, Freeling P, Sedgwick P. Predictors of therapeutic benefit from amitriptyline in mild depression: A general practice placebo controlled trial. *J Affect Disord* 1988;14:83-95.
56. Blackwell B. Antidepressant drugs: Side effects and compliance. *J Clin Psychiatry* 1982;43:14-8.
57. Mulsant B, Pollock BG. Treatment-resistant depression in late life. *J Geriatr Psychiatry Neurol* 1998;11:186-93.
58. Salzman C. Medication compliance in the Elderly. *J Clin Psychiatry* 1995;56(Suppl. 1):18-22.

59. Hofman A, Rocca WA, Brayne C, et al. The prevalence of dementia in Europe: a collaborative study of 1980-90 Findings. *Int J Epidemiol* 1991;20:736-48.
60. Cartwright A, Smith C. *Elderly people, their medicine and their doctors*. London: Routledge, 1988:28.
61. Hylan TR, Dunn RL, Tepner RG, Meurgey F. Gaps in antidepressant prescribing in primary care in the United Kingdom. *Int Clin Psychopharmacol* 1998;13:235-43.
62. Callahan CM, Hendrie HC, Dittus RS, Brater DC, Hui SL, Tierney WM. Improving treatment of late-life depression in primary-care - a randomized clinical-trial. *J Am Geriatr Soc* 1994;42(8):839-46.
63. Melfi CA, Chawla AJ, Croghan TW, Hanna MP, Kennedy S, Sredl K. The effects of adherence to antidepressant treatment guidelines on relapse and recurrence of depression. *Arch Gen Psychiatry* 1998;55:1128-32.
64. Peveler R, George C, Kinmonth A-L, Campbell M, Thompson C. Effect of antidepressant drug counselling and information leaflets on adherence to drug treatment in primary care: randomised controlled trial. *BMJ* 1999;319:612-5.
65. Stevens T, Katona C, Manela M, Watkin V, Livingston G. Drug treatment of older people with affective disorders in the community: lessons from an attempted clinical trial. *Int J Geriatr Psychiatry* 1999;14:467-72.
66. Waterreus A, Blanchard M, Mann A. Community psychiatric nurses for the elderly: well tolerated, few side-effects and effective in the treatment of depression. *J Clin Nurs* 1994;3:299-306.
67. Banerjee S, Shamash K, Macdonald JD, Mann AH. Randomized controlled trial of effect of intervention by psychogeriatric team on depression in frail elderly people at home. *BMJ* 1996;313:1058-61.
68. Hotopf M, Hardy R, Lewis G. Discontinuation rates of SSRIs and tricyclic antidepressants: a meta-analysis and investigation of heterogeneity. *Br J Psychiatry* 1997;170:120-7.
69. Montgomery SA, Kasper S. Comparison of compliance between serotonin reuptake inhibitors and tricyclic antidepressants: a meta-analysis. *Int Clin Psychopharmacol* 1995;9(Suppl. 4):33-40.
70. Joint Formulary Committee, ed. *British National Formulary*. London: British Medical Association, Royal Pharmaceutical Society of Great Britain, 1999:182-188 (March).
71. Cole MG, Yaffe MJ. Pathway to psychiatric care of the elderly with depression. *Int J Geriatr Psychiatry* 1996;11(2):157-61.
72. Garrard J, Rolnick SJ, Nitz NM, et al. Clinical detection of depression among community-based elderly people with self-reported symptoms of depression. *J Gerontol A Biol Sci Med Sci* 1998;53A(2):M92-M101.

73. McCusker J, Cole M, Keller E, Bellavance F, Berard A. Effectiveness of treatments of depression in older ambulatory patients. *Arch Intern Med* 1998;158(7):705-12.
74. Klinkman MS, Schwenk TL, Coyne JC. Depression in primary care - more like asthma than appendicitis: the. *Can J Psychiatry* 1997;42(9):966-73.
75. Sireling LI, Freeling P, Paykel ES, Rao BM. Depression in general practice: clinical features and comparison with outpatients. *Br J Psychiatry* 1985;147:119-26.
76. Woods RT. Psychological therapies and their efficacy. *Rev Clin Gerontol* 1992;2:171-83.
77. Hinrichsen GA. Interpersonal psychotherapy for depressed older adults. *J Geriatr Psychiatry* 1997;30(2):239-57.
78. Reynolds CF, Frank E, Perel JM, et al. Nortriptyline and interpersonal psychotherapy as maintenance therapies for recurrent major depression - A randomized controlled trial in patients older than 59 years. *JAMA* 1999;281(1):39-45.
79. Cochrane Effective Practice and Organisation of Care Review Group. The Data Collection Checklist. <http://www.abdn.ac.uk/publichealth/hsru/epoc/checklist98.doc> [3/6/99].
80. Ekselius L, von Knorring L, Eberhard G. A double-blind multicenter trial comparing sertraline and citalopram in patients with major depression treated in general practice. *Int Clin Psychopharmacol* 1997;12(6):323-31.
81. Malt UF, Robak OH, Madsbu H-P, Bakke O, Loeb M. The Norwegian naturalistic treatment study of depression in general practice (NORDEP)-I: randomised double blind study. *BMJ* 1999;318:1180-4.
82. Patris M, Bouchard J-M, Bougerol T, Charbonnier J-F. Citalopram versus fluoxetine: A double-blind, controlled, multicentre, phase III trial in patients with unipolar major depression treated in general practice. *Int Clin Psychopharmacol* 1996;11:129-36.
83. Hutchinson DR, Tong S, Moon CAL, Vince M, Clarke A. Paroxetine in the treatment of elderly depressed-patients in general practice: a double-blind comparison with amitriptyline. *Int Clin Psychopharmacol* 1992;6(S4):43-51.
84. Schweizer E, Rickels K, Hassman H, GarciaEspana F. Buspirone and imipramine for the treatment of major depression in the elderly. *J Clin Psychiatry* 1998;59(4):175-83.
85. Vallé-Jones JC, Swarbrick DJ. A comparative-study of once-daily flupenthixol and amitriptyline in the treatment of elderly depressed patients: a multicenter trial in general-practice. *Journal of International Biomedical Information and Data-Ibid* 1983;4(S1):29-35.
86. Brodie NH, McGhie RL, O'Hara H, Vallé-Jones JC, Schiff AA. Anxiety/depression in elderly patients: a double-blind comparative study of fluphenazine/nortriptyline and promazine. *Practitioner* 1975;215:660-4.

87. Høstmaelingen NJ, Asskilt O, Austad SG, et al. Primary care treatment of depression in the elderly: A double-blind, multi-centre study of flupenthixol and sustained release amitriptyline. *Curr Med Res Opin* 1989;11:593-9.
88. Laakmann G, Faltermaier-Temizel M, Bossert-Zaudig S, Baghai T, Lorkowski G. Treatment of mild to moderate depressive syndrome. A placebo-controlled double-blind trial on therapy with benzodiazepines or antidepressants. *Munch Med Wochenschr* 1996;138:39-44.
89. Laws D, Ashford JJ, Anstee JA. A multicentre double-blind comparative trial of fluvoxamine versus lorazepam in mixed anxiety and depression treated in general practice. *Acta Psychiatr Scand* 1990;81:185-9.
90. Dorn M. Psychopharmaka in der Praxis. Doppelblindprüfung Lofepramin gegen Amitriptylin. *Zeitschrift für Allgemeinmedizin* 1980;56(2):133-9.
91. Sussex Clinical Trials Group. Separate and combined anxiolytic and anti-depressant treatment of mixed anxiety/depression. A double-blind, placebo controlled comparison. Sussex Clinical Trials Group. *Acta Psychiatr Scand* 1985;72:81-8.
92. Moon CA, Laws D, Stott PC, Hayes G. Efficacy and tolerability of controlled-release trazodone in depression: a large multicentre study in general practice. *Curr Med Res Opin* 1990;12(3):160-8.
93. National Screening Committee. What is screening? <http://www.doh.gov.uk/nsc/whatscreening/whatscreenind.htm> (10/5/00).
94. Williamson J. Screening, surveillance and Case-finding. In: Arie T, ed. *Health care of the elderly*. London: Croom Helm, 1981:194-213.
95. Marchand R, Tousignant P, Chang H. Cost-effectiveness of screening compared to case-finding approaches to tuberculosis in long term care facilities for the elderly. *Int J Epidemiol* 1999;28(3):563-70.
96. Iliffe S, Mitchley S, Gould M, Haines A. Evaluation of the use of brief screening instruments for dementia, depression and problem drinking among elderly people in general practice. *Br J Gen Pract* 1994;44:503-7.
97. Townsend P, Phillimore P, Beattie A. *Health and Deprivation: Inequality in the North*. London: Croom Helm, 1988.
98. Faley C. *General Medical Services Statistics England and Wales*. Leeds: NHS Executive, 1997.
99. Department of Health and the Welsh Office. *General practice in the National Health Service - The 1990 Contract*. Health Departments of Great Britain, August 1989.
100. Bennett N, Jarvis L, Rowlands O, Singleton N, Haselden L. *Living in Britain - Results from the 1994 General Household Survey*. London: HMSO, 1996.
101. Smyth M, Browne F, eds. *General Household Survey 1990*. London: HMSO, 1992.



102. Pattie AH, Gilleard CJ. The Clifton Assessment Schedule: further validation of a psychogeriatric assessment schedule. *Br J Psychiatry* 1976;129:68-72.
103. Jagger C, Clarke M. Screening for dementia - a comparison of two tests using receiver operating characteristic (ROC) analysis. *Int J Geriatr Psychiatry* 1992;7:659-65.
104. Jagger C, Clarke M, Anderson J, Battcock T. Dementia in Melton Mowbray - A validation of earlier findings. *Age Ageing* 1992;21:205-10.
105. Clarke M, Jagger C, Anderson J, Battcock T, Kelly F, Stern MC. The prevalence of dementia in a total population: A comparison of two screening instruments. *Age Ageing* 1991;20:396-403.
106. Morgan K, Lilley JM, Arie T, Byrne EJ, Jones R, Waite J. Incidence of dementia in a representative British sample. *Br J Psychiatry* 1993;163:467-70.
107. Mullan E, Katona P, D'Ath P, Katona C. Screening, detection and management of depression in elderly primary-care attenders. II: Detection and fitness for treatment - a case record study. *Fam Pract* 1994;11(3):267-70.
108. Burke WJ, Roccaforte WH, Wengel SP. The short form of the geriatric depression scale: a comparison with the 30-item form. *J Geriatr Psychiatry Neurol* 1991;4:173-8.
109. Herrmann N, Mittmann N, Silver IL, et al. A validation study of the geriatric depression scale short form. *Int J Geriatr Psychiatry* 1996;11:457-60.
110. Ingram F. The short geriatric depression scale: a comparison with the standard form in independent older adults. *Clin Gerontologist* 1996;16:49-56.
111. Montorio I, Izal M. The geriatric depression scale: a review of its development and utility. *Int Psychogeriatr* 1996;8:103-12.
112. Van MHWJ, Wallace P, De BGH, Hermans J, Kaptein AA, Mulder JD. Evaluation of the feasibility, reliability and diagnostic value of shortened versions of the geriatric depression scale. *Br J Gen Pract* 1995;45:195-9.
113. Katona CLE, Katona PM. Geriatric depression scale can be used in older people in primary care [7]. *BMJ* 1997;315:1236.
114. D'Ath P, Katona P, Mullan E, Evans S, Katona K. Screening, detection and management of depression in elderly primary-care attenders. I: The acceptability and performance of the 15-item geriatric depression scale (gds15) and the development of short versions. *Fam Pract* 1994;11(3):260-6.
115. Arthur A, Jagger C, Lindesay J, Graham C, Clarke M. Using an annual over-75 health check to screen for depression: Validation of the short geriatric depression scale (GDS15) within general practice. *Int J Geriatr Psychiatry* 1999;14:431-9.
116. Jagger C, Clarke M, Clarke SJ. Getting older -feeling younger: The changing health profile of the elderly. *Int J Epidemiol* 1991;20(1):234-8.

117. World Health Organisation D of MH. Schedules for Clinical Assessment in Neuropsychiatry - Glossary: Differential definitions of Scan items and commentary on the SCAN text. Geneva: World Health Organisation, 1992.
118. Murphy E. Social Origins of Depression in Old Age. *Br J Psychiatry* 1982;141:135-42.
119. Ben-Arie O, Swartz L, Dickman BJ. Depression in the Elderly Living in the Community - Its presentation and features. *Br J Psychiatry* 1987;150:169-74.
120. Altman DG. *Practical Statistics for Medical Research*. London: Chapman & Hall, 1991.
121. Pickles A, Dunn G, Vázquez Barquero JL. Screening for stratification in two-phase ('two stage') epidemiological surveys. *Stat Methods Med Res* 1995;4:73-89.
122. Social Services Department. *Community Care Practice Guidance*. Leicestershire County Council, 1996.
123. Office of Population Censuses and Surveys SSD, ed. *General Household Survey 1994-1995 (computer file)*. Colchester, Essex: The Data Archive (distributor), 1996 (SN: 3538, 13/5/1996).
124. Office for National Statistics SSD, ed. *General Household Survey 1995-1996 (computer file)*. 2nd ed. Colchester, Essex: The Data Archive (distributor), 1998 (SN: 3690, 24/6/98).
125. Joint Formulary Committee, ed. *British National Formulary*. London: British Medical Association, Royal Pharmaceutical Society of Great Britain, 1999 (March).
126. Prince MJ, Harwood RH, Blizard RA, Thomas A, Mann AH. Impairment, disability and handicap as risk factors for depression in old age. The Gospel Oak Project V. *Psychol Med* 1997;27(2):311-21.
127. Mockler D, Riordan J, Murphy M. Psychosocial factors associated with the use/non-use of mental health services by primary carers of individuals with dementia. *Int J Geriatr Psychiatry* 1998;13(5):310-4.
128. Wilson A. Consultation length in general practice: a review. *Br J Gen Pract* 1991;41:119-22.
129. Department of Health, Welsh Office. *National Health Service General Medical Services - Statement of Fees and Allowances payable to General Medical Practitioners in England and Wales*. Department of Health, 1996 (last amended April 1999).
130. Matthews K, Eagles JM. Which antidepressant? *Br J Gen Pract* 1991;41:123-5.

131. Beckerman H et al. Efficacy of physiotherapy for musculoskeletal disorders: what can we learn from research? *Br J Gen Pract* 1993;43:73-7.
132. Chalmers I, Altman DG, eds. *Systematic reviews*. London: BMJ Publishing Group, 1995:14.
133. Stern JM, Simes RJ. Publication bias: evidence of delayed publication in a cohort study of clinical research projects. *BMJ* 1997;315:640-5.
134. Wahlbeck K, Cheine M, Essali MA. Clozapine vs "typical" neuroleptic medication for schizophrenia. In: *Cochrane Collaboration. Cochrane Library. Issue 4. Oxford: Update Software.*
135. Wahlbeck K, Adams C. Sponsored drug trials show more favourable outcomes. *BMJ* 1999;318:465.
136. Egger M, Smith GD, Schneider M, Minder C. Bias in meta-analysis detected by a simple, graphical test. *BMJ* 1997;315:629-34.
137. Roth M, Huppert FA, Tym E. *The Cambridge Examination for Mental Disorders of the Elderly*. Cambridge University Press, 1988.
138. Ames D. Epidemiological studies of depression among the elderly in residential and nursing homes. *Int J Geriatr Psychiatry* 1991;6:347-54.
139. Harris CM, Dajda R. The scale of repeat prescribing. *Br J Gen Pract* 1996;46:649-53.
140. Neal RD, Heywood PL, Morley S. Real world data--retrieval and validation of consultation data from four general practices. *Fam Pract* 1996;13(5):455-61.
141. Gilliland AEW, Mills KA, Steele K. General practitioner records on computer - Handle with care. *Fam Pract* 1992;9(4):441-50.
142. Pringle M, Ward P, Chilvers C. Assessment of the completeness and accuracy of computer medical records in four practices committed to recording data on computer. *Br J Gen Pract* 1995;45(399):537-41.
143. Whitelaw FG, Nevin SL, Milne RM, Taylor RJ, Taylor MW, Watt AH. Completeness and accuracy of morbidity and repeat prescribing records held on general practice computers in Scotland. *Br J Gen Pract* 1996;46:181-6.
144. Rethans J-J, Martin E, Metsemakers J. To what extent do clinical notes by general practitioners reflect actual medical performance? A study using simulated patients. *Br J Gen Pract* 1994;44:153-6.
145. Government Statistical Service. *Statistics of prescriptions dispensed in the community: England 1987 to 1997*. Statistical Bulletin, Department of Health, 24 July 1998.
146. Thompson C, Kinmonth AL, Stevens L, et al. Effects of a clinical-practice guideline and practice-based education on detection and outcome of depression in primary care: Hampshire Depression Project randomised controlled trial. *Lancet* 2000;355:185-91.

147. Upton MWM, Evans M, Goldberg DP, Sharp DJ. Evaluation of ICD-10 PHC mental health guidelines in detecting and managing depression within primary care. *Br J Psychiatry* 1999;175:476-82.
148. Katon W, Vonkorff M, Lin E, et al. Collaborative management to achieve treatment guidelines - impact on depression in primary-care. *JAMA* 1995;273(13):1026-31.
149. Rutz W, von Knorring L, Wålinder J, Wistedt B. Effect of an educational program for general practitioners on Gotland on the pattern of prescription of psychotropic drugs. *Acta Psychiatr Scand* 1990;82:399-403.
150. Rihmer Z, Rutz W, Pihlgren H. Depression and suicide on Gotland. An intensive study of all suicides before and after a depression-training programme for general practitioners. *J Affect Disord* 1995;35(4):147-52.
151. Rutz W, Von Knorring L, Walinder J. Long-term effects of an educational program for general practitioners given by the Swedish Committee for the Prevention and Treatment of Depression. *Acta Psychiatr Scand* 1992;85:83-8.
152. Mann AH, Blizard R, Murray J, et al. An evaluation of practice nurses working with general practitioners to treat people with depression. *Br J Gen Pract* 1998;48:875-9.
153. McCormick A, Fleming D, Charlton J. Morbidity Statistics from General Practice - Fourth National Study 1991-1992. London: Office of Population Censuses and Surveys, 1995 (MB5; 3).
154. Fombonne E. Increased rates of depression: Update of epidemiological findings and analytical problems. *Acta Psychiatr Scand* 1994;90(3):145-56.
155. Raja V. Conceptions of health and health care among two generations of Gujarati speaking Hindu women in Leicester [Thesis]. University of Leicester, Department of Sociology, 1993.