The Age UK almanac of disease profiles in later life

A reference on the frequency of major diseases, conditions and syndromes affecting older people in England

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Contents

Introduction

How many 80 year olds have had a stroke? What proportion of 95 year old men have diabetes? How many older people have seen a general practitioner for problems with incontinence? These types of questions are often asked by patients, carers, doctors and service managers, but, until now, there have been no reliable estimates of the prevalence of common diseases, conditions and syndromes for the oldest groups of people in England. We have therefore obtained and analysed anonymised medical records data on over 600,000 older people – aged 60 and above – from a research database provided by the Government's health research institute and medicines regulator. The resulting prevalence estimates are presented in this Almanac as graphs, with supporting information to help interpretation (data tables are provided in the Appendices). This compilation is linked to an analysis of diagnostic and treatment trends that we published in Age & Ageing, entitled "**Much more medicine for the oldest old**" (Melzer et al., 2014), which showed that there was a major increase in recording of disease and intensity of treatment for older people during the last decade, especially for the oldest old. Here, we complement that analysis with the up-to-date estimated of diagnosed diseases.

Although older people, especially the oldest old (85 years and over), often have health and social care needs, official statistics and health surveys generally provide patchy information about this group (Sheppard et al., 2012). This is partly because some older people are difficult to reach by traditional surveys, for example those living with frailty or dementia. However, in the UK, general practitioners (GPs) are responsible for the care of the whole population, including those in residential or nursing homes. The availability of anonymised data from GP electronic clinical records, linked to hospital records, makes it possible for the first time to produce estimates of the prevalence of diseases, common conditions and syndromes which are representative of the older population as a whole (meaning those who visit GP practices and/or are attended by GPs).

By using a large anonymised sample of records from participating GP practices (see details of database under 'Methods' below), the Ageing Research Group from the University of Exeter Medical School have taken a 'snapshot view' of the health of the older population across England in 2014. The resulting figures presented in this Almanac provide estimates of:

1. the prevalence of **common diseases** affecting older people;
2. the prevalence of selected **additional common conditions and syndromes**, the latter including, for example, incontinence and skin ulcers; and
3. **multi-morbidity**, providing details of the numbers of diseases that occur together.

Despite the many needs of the oldest old, there are no previous studies that we can compare our results to directly. Local studies using groups of older volunteers – e.g. the Newcastle 85+ Study, in which volunteers were aged exactly 85 at baseline (Collerton et al., 2009) and the Medical Research Council Cognitive Function and Ageing Study (CFAS) (Matthews et al., 2013) – provide some overlaps. However, there are no comparable data in the oldest old for the whole of England free of the biases, such as responder bias and loss of volunteers to follow-up, that can severely distort data on older people (Kelfve et al., 2013, Andersson et al., 2012).

It should be noted that GP diagnosis and recording of disease in the coded electronic records may not be complete. For example, researchers have reported evidence of under-diagnosis in general practice for conditions including dementia (Connolly et al., 2011), diabetes (Holman et al., 2011) and hypertension (Banerjee et al., 2011). For this

reason, we have supplemented the GP-derived data with the hospital admission records from the same patients, thus greatly enhancing the completeness of our estimates.

It should be noted that the medical terms recorded by GPs can be complex and sometimes difficult to interpret with certainty. While we have made every effort to include the appropriate codes for each estimate, opinions can differ on details and small differences in coding can influence the reported prevalence.

Method

The methods used in these analyses were the same as described in "Much more medicine for the oldest old" (Melzer et al., 2014). We used the Clinical Practice Research Datalink (CPRD), which is jointly funded by the NHS National Institute for Health Research (NIHR) and the Medicines and Healthcare Products Regulatory Agency (MHRA). It is a service that makes NHS observational data available for public health research, and has done so since 1987 (http://www.cprd.com). CPRD services are designed to maximise the way anonymised NHS clinical data can be linked to enable many types of observational research and deliver research outputs that are beneficial to improving and safeguarding public health. CPRD is now widely used and its usage has given rise to over 1,500 clinical reviews and papers.

CPRD contains the anonymised clinical records of UK patients as entered using diagnostic, symptom and prescription (Read) codes by primary care practitioners. A major advantage is that CPRD includes patients in residential and nursing homes, with essentially complete inclusion of people who have frailty and dependency. The quality of the data is checked by CPRD and it is clear that this is a reliable way to collect medical data on a large scale.

We have utilised a complete CPRD dataset for all patients born before 1954 registered with one of the participating general practices in England that take part in the record linkage scheme. We have also accessed linked Hospital Episode Statistics (HES) for the same patients. This dataset collects the diagnoses for each patient admitted to hospital since 1997, and thus provides a powerful addition to the GP records alone. The population included in this dataset is generally representative of the English population in terms of age and sex, when compared with the population projections for England in 2014, developed by Office of National Statistics in 2013. Table 1 describes the population structure.

Table 1: Total number of patients (by age and sex) alive in the Linked CPRD dataset in 2014, meeting eligibility criteria for analysis†*

Age group	Male N (%)		Female N (%)		Total N (%)	
60-64	66,675	(24.1)	67,650	(20.9)	134325	(22.4)
65-69	67855	(24.4)	71021	(22)	138876	(23.2)
70-74	50225	(18.2)	54466	(16.9)	104691	(17.5)
75-79	39073	(14.1)	45584	(14.2)	84657	(14.1)
80-84	28295	(10.2)	37232	(11.6)	65527	(11)
85-89	16143	(5.8)	26290	(8.2)	42433	(7.1)
90-94	6836	(2.5)	15107	(4.7)	21943	(1.7)
95-99	1264	(0.5)	3944	(1.2)	5208	(0.9)
100	150	(0.1)	821	(0.3)	971	(0.2)

Total	276,516 (100)	322,115 (100)	598,631 (100)

* *Figures (N) represent population.*
† *Criteria for eligibility: Registered with the practice for the year of 2014, practice data quality is up to standard. Patients were censored at the earliest date of transfer out of the practice, last collection from the practice or death (data taken CPRD GOLD from the snapshot: November 2014*).

We studied 15 common conditions (Table 2) that have been used in other studies of the Quality and Outcomes Framework (QOF) (Salisbury et al., 2011, Barnett et al., 2012), a system for monitoring GP practices, but we did not include learning disability or obesity. For defining the medical (Read) codes needed to consider whether a diagnosis was present, we used QOF business rules Version 18.0, October 2010 (Primary care commissioning, accessed April 2012). Diagnoses were identified in general practice coded patient records available in the CPRD Gold dataset, plus the linked hospitalisation records, available from HES for most diseases. We classified each disease as present if the necessary codes appeared in the patients' records at any time, unless otherwise stated. For example, for cancer and for additional conditions and syndromes, we considered that recent diagnoses were more important (see definitions on each chart). In addition, for a small number of patients for whom GPs had coded that the disease had resolved, diagnoses were not counted.

Table 2: Diseases and common conditions and syndromes studied

Cardiovascular diseases	**Neuropsychiatric**
Hypertension	Dementia
Atrial Fibrillation	Depression
Coronary heart disease	Epilepsy
Heart failure	Mental health (Psychoses, schizophrenia, bipolar affective disorder)
Stroke	
Respiratory	**Endocrine**
Asthma	Diabetes
Chronic obstructive pulmonary disease	Hypothyroidism
Chronic kidney disease (stages 3 to 5)	**Cancer in the previous 5 years** (excluding non-melanoma skin cancer)
Additional common conditions	***Additional syndromes***
Anaemia	Falls
Osteoarthritis	Fragility fractures
Osteoporosis	Incontinence (urinary and faecal)
	Skin ulcers (including pressure sores)

There is no real consensus over the key conditions associated with older age (Strandberg et al., 2013), although it is clear that they are linked to disability, frailty, dependence and shorter survival. In addition to the fifteen QOF diseases, we searched the CPRD database for three additional 'common' geriatric conditions and four geriatric syndromes associated with older age (Table 2). We considered their inclusion important as, in this age group, common and geriatric conditions have been estimated to be at least as prevalent as other chronic disorders (Cigolle et al., 2007).

These geriatric conditions and syndromes are not indicated in QOF, and thus, in order to search for them within CPRD, it was necessary to generate new search terms. The medical literature was examined by two clinicians working independently (or 'blinded') of each other, with a third clinical reviewer arbitrating disagreements. The conditions and syndromes were coded as present if a relevant Read code (searched under the categories of 'symptoms' and 'diagnosis') appeared in the records up to five years (fifteen years for osteoarthritis and osteoporosis) before the beginning of the analysis year (i.e. 2014), to exclude historical diagnoses with no recent mention. Hospital episode statistics (HES) were not used to estimate diagnostic prevalence for the conditions and syndromes as we wanted to focus on longer term disorder rather than acute and possibly short term episodes that might have resolved before patients left hospital.

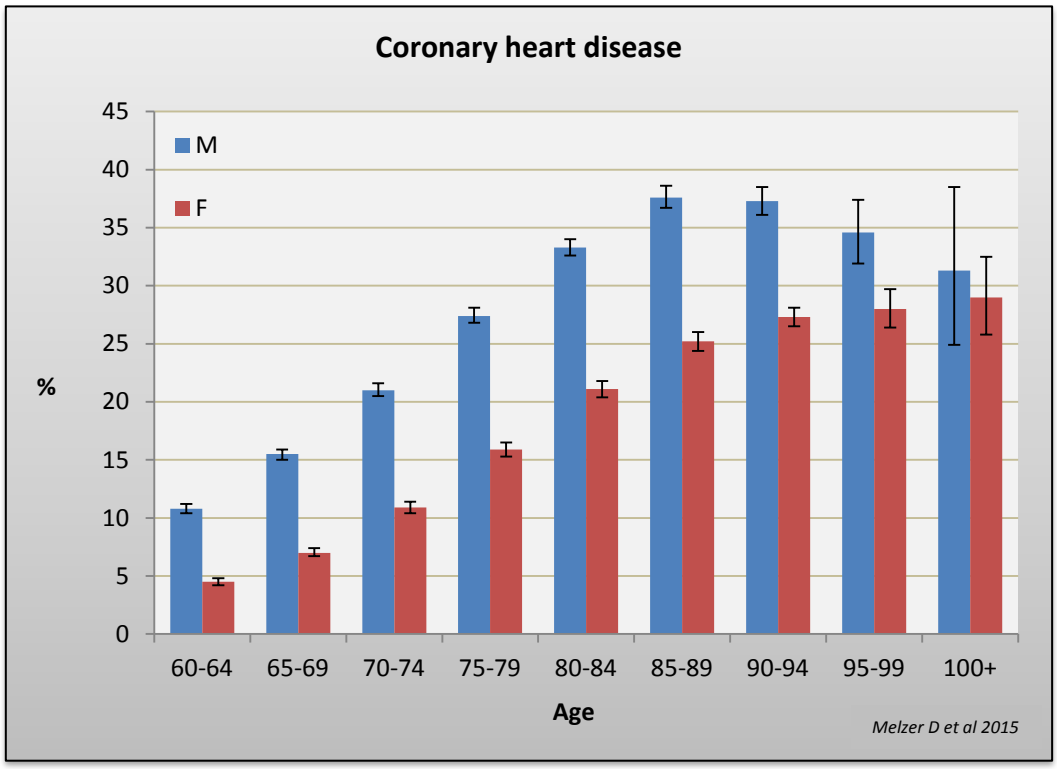
Prevalence graphs

The graphs in the following pages present the prevalence (%) of patients with the specified disease, condition or syndrome who were registered with a general practice in England between 1st January 2014 and 31st December 2014. Only data for the periods during which patients were 'actively' registered with practices were included in analyses (i.e. we used data from current registration date up to the date of last data collection, transfer out of the practice or death). A small number of apparently 'non-active' patients (i.e. those with no clinical or therapy records for the previous three years) were also excluded.

Prevalence charts

Coronary heart disease

Figure 1: Prevalence of coronary heart disease in English general practice and hospital records in 2014.



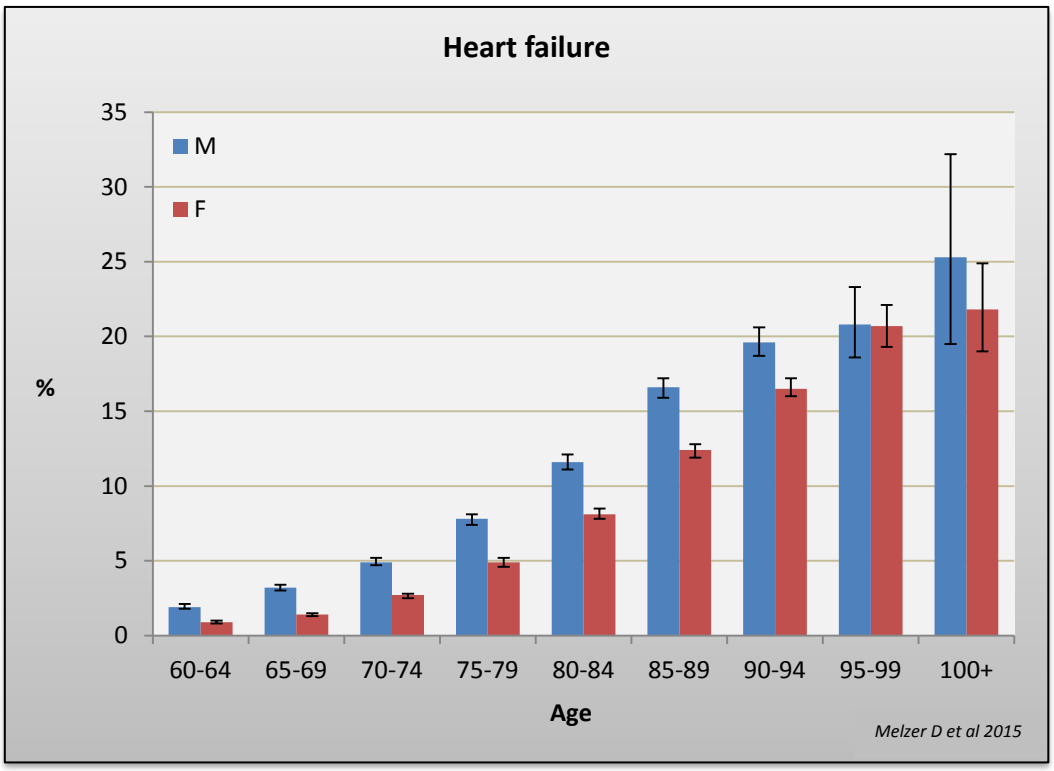
Notes: Prevalence of disease is estimated from CPRD records based on clinical codes entered in anonymised GP and hospital records at any time in the patient's history (with 95% confidence intervals).

Coronary heart disease (CHD) is caused by a blockage or interruption to the heart's blood supply, most commonly due to a build-up of fatty substances in the coronary arteries – a condition known as atherosclerosis. Clinically, CHD can manifest as angina or a heart attack. Although still the biggest killer in the UK, mortality rates have decreased by more than 60% since 1968 in most age groups, including those aged 65 to 74 years (Scarborough et al., 2010); there is a similar trend across Europe (Nichols et al., 2013). However, despite mortality improvements, the prevalence of CHD remains high. Figure 1 shows the known higher prevalence of diagnosed CHD in men than women across all older age groups, with over 37% of men aged 85 to 89 years recorded as having CHD. This figure reduces somewhat in ages above 95; however, it remains above 30%. In women, the prevalence of CHD increases with age reaching its highest prevalence (24.9%) in the 100+ year old group. Comparative statistics from the Health Survey for England in 2006 (a community volunteer study) showed self-reported diagnosis (which had been confirmed by their doctor) of CHD in England as 29% for men and 19% for women aged 75 and over (Health Survey for England, 2006).

Reducing risk factors, prinicipally smoking (Office of National Statistics, 2011), coupled with more successful interventions and targeted medication, have played a major part in the reducton in CHD mortality, and also in reducing the impact and severity of the disease.

Heart failure

Figure 2: Prevalence of heart failure diagnoses in English general practice and hospital records in 2014



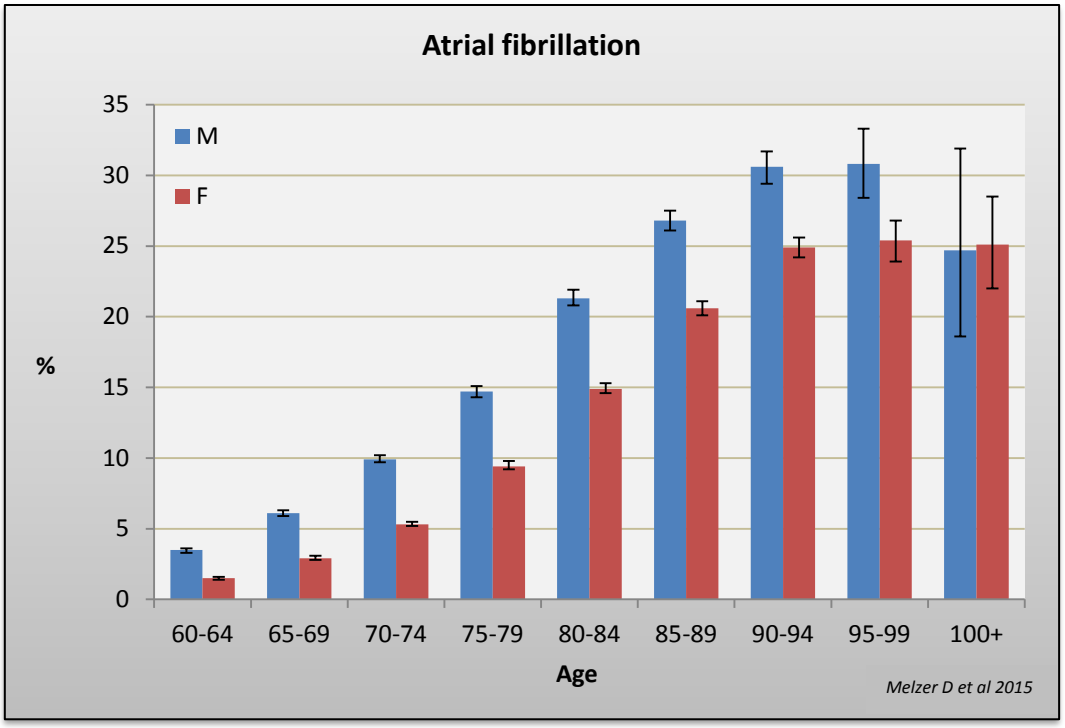
Heart failure is a serious condition caused by the heart failing to pump enough blood around the body at the right pressure. Breathlessness, tiredness and ankle swelling are the main symptoms (Moser et al., 2014). However, all of these symptoms can have other causes, only some of which are also serious. As is clear from Figure 2, heart failure is common in the older population and increases progressively with advancing age. In addition, co-morbid conditions are increasingly being seen alongside heart failure (Curtis et al., 2008) and there is evidence that the presence of other diseases influences how heart failure progresses (Lam et al., 2011) – see 'Multi-morbidity' section from page 29 for details of disease combinations. It is a major public health problem in older people.

A definitive diagnosis of heart failure can be difficult as symptoms can be atypical in the older population and hidden by the co-morbidities of respiratory disorders, obesity and venous insufficiency (Manzano et al., 2012, Cleland et al., 2011). The older people included in Figure 2 were considered to have heart failure if at least one recognised diagnostic code was recorded in their GP or hospital discharge records; however, it is possible that the graph underestimates the prevalence of heart failure in the community since under-diagnosis in older and frail people is common (Hancock et al., 2013).

The Newcastle 85+ population-based longitudinal study estimated the prevalence of left ventricular heart failure in a community volunteer sample of people aged 87-89 years (including those in institutions and/or cognitively impaired) recruited in 2006-07 (Yousaf et al., 2012). Of the 376 patients in this age group in whom heart function was estimated, half had left ventricular systolic dysfunction or isolated moderate or severe diastolic dysfunction, with almost two thirds of these experiencing difficulty breathing that limited their activities; four fifths of those with significant symptoms of left ventricular dysfunction were undiagnosed (Yousaf et al., 2012).

Atrial fibrillation

Figure 3: Prevalence of atrial fibrillation diagnoses in English general practice and hospital records in 2014.



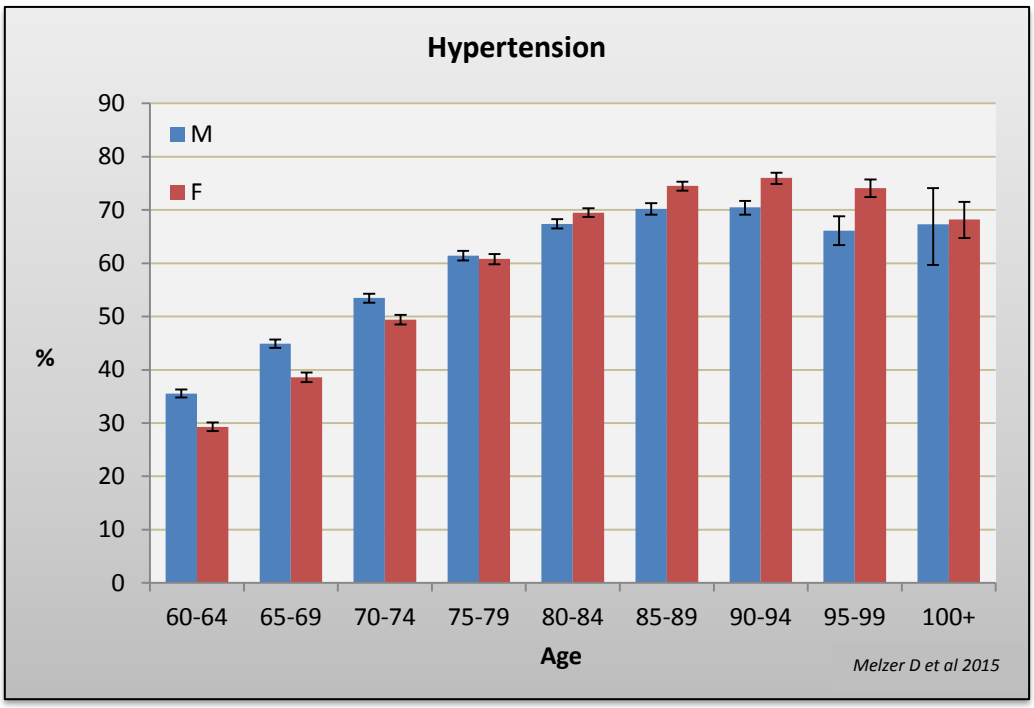
Atrial fibrillation (AF) is a heart condition involving an irregular heart beat with symptoms that can include dizziness, tiredness, shortness of breath and palpitations. AF is known to contribute to strokes and cardiovascular-related mortality, and has a significant impact on quality of life (Valderrama et al., 2005). Increasing with older age and more common in men than women, it has been described as an epidemic in older patients and an important cause of hospitalisation (Steinberg, 2004). In addition, a diagnosis of AF should trigger a patient-doctor discussion about whether the patient should start on warfarin or other anticoagulant drugs to reduce the risk of stroke (NICE, 2014).

In our cohort of 598,631 eligible patients registered before 2014, we found that AF was a common diagnosis right into very old age, with 30.8% of men and 25.4% of women aged 95 to 99 years having a recognised diagnostic code for AF at some point in previous GP and hospital discharge records. Men were more likely to have a diagnosis of AF, except in the centenarian group. In a study of 85-year-old volunteers in Newcastle (recruited 2006-07), 14% were found to have atrial fibrillation through 12 lead ECG but a little over a quarter (28%) of these had not been diagnosed in general practice records (Collerton et al., 2009).

The prevalence of AF is predicted to continue to increase because of improved survival of people with coronary heart disease, the rising prevalence of diabetes and the growth in the ageing population (Valderrama et al., 2005, Tsang et al., 2005).

Hypertension

Figure 4: Prevalence of hypertension diagnoses in English general practice and hospital records in 2014.



Blood pressure tends to rise throughout one's lifetime and is strongly associated with heart attacks, stroke and shortened life expectancy (Lewington et al., 2002). Nevertheless, it is a modifiable risk factor (Wills et al., 2011). Treating high blood pressure - hypertension - reduces mortality, especially in those aged 60-80 years, and reduces the risk of stroke in older people of all ages.

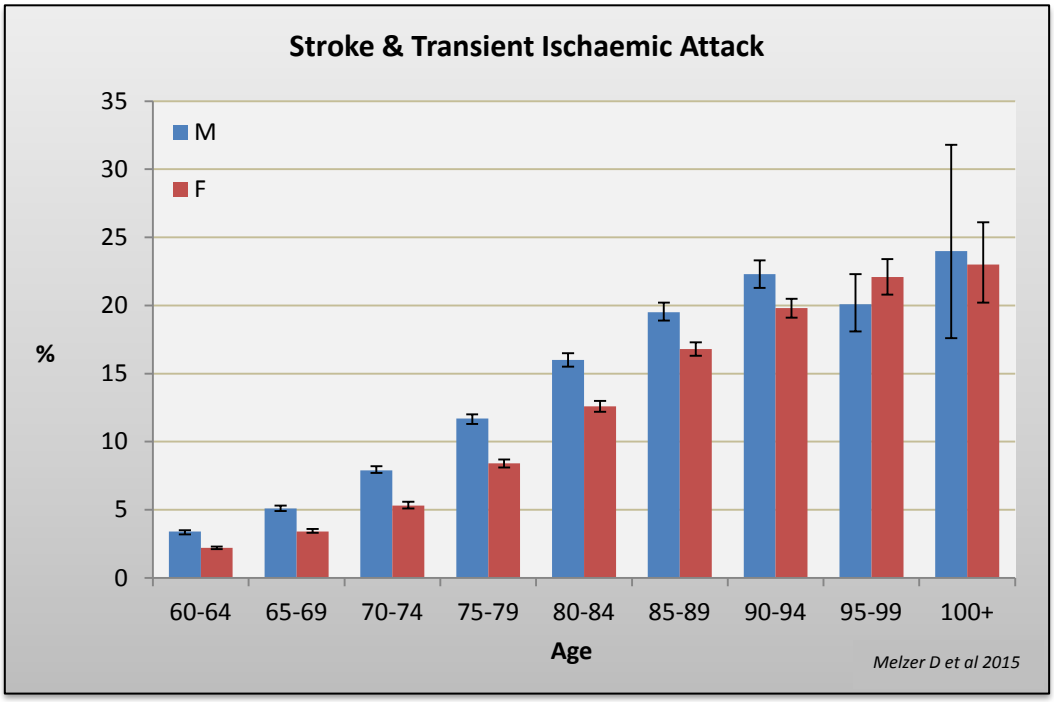
In our studied clinical records, rates of recorded hypertension were high overall. Women aged 80 and over had higher prevalence of hypertension compared to men of similar ages (Figure 4). Women and men age 90-94 had the highest prevalence of hypertension with a value of 76% and 70.5% respectively.

The Health Survey for England measured blood pressure in community-dwelling volunteers (measured by a nurse) in 2012 and found even higher levels of hypertension in men (65-74 years - 59% and 75+ - 64%) and women (65-74 years - 56% and 75+ - 76%) (Health and Social Care Information Centre, 2013). Collerton and colleagues also found the prevalence of hypertension to be 58% in their cohort of 85 year olds from general practice records review in Newcastle (patients recruited in 2006-07), with an estimated additional 25% undiagnosed in the community (Collerton et al., 2009).

Existing evidence suggests that treating hypertension in old age outweighs the risks, although antihypertensive medications can have adverse effects in the presence of co-morbid conditions that are also being treated pharmacologically (Mukhtar and Jackson, 2013).

Stroke and Transient Ischaemic Attack

Figure 5: Prevalence of stroke and transient ischaemic attack diagnoses in English general practice and hospital records in 2014.



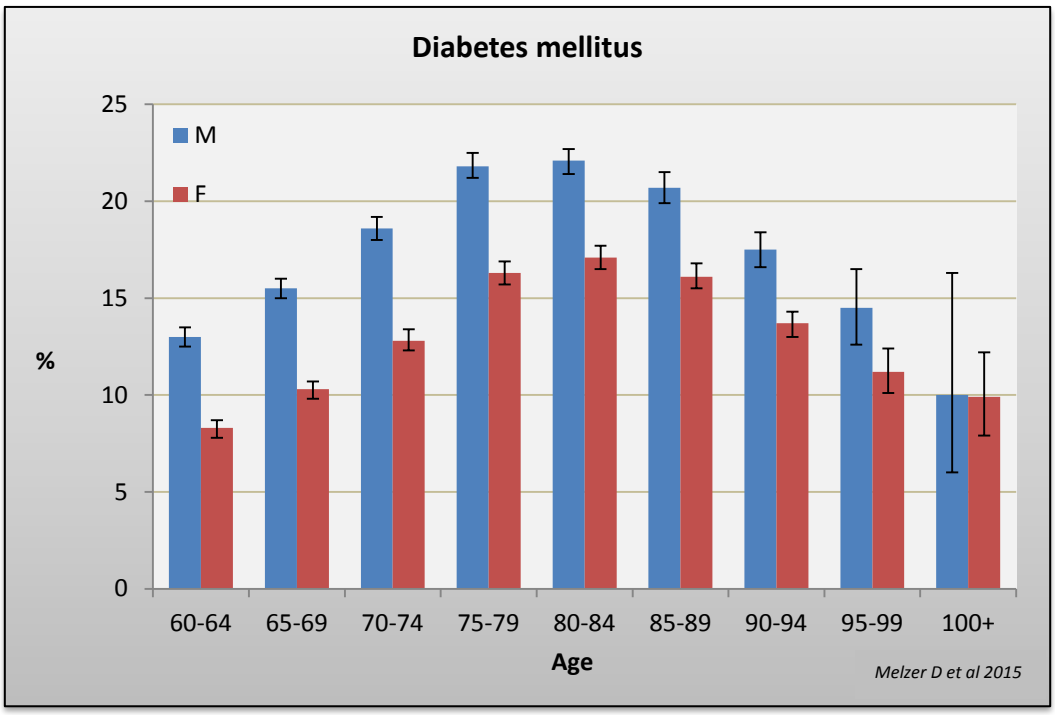
A stroke can occur when there is a sudden disturbance in the blood supply to the brain, usually due to a blood vessel blockage or brain haemorrhage. The subsequent loss of brain function can affect the ability to move one or more limbs, speech comprehension and formulation and cognitive function. It is a major cause of morbidity and mortality in the UK each year. A transient ischaemic attack (TIA) is caused by a more temporary disruption to the brain's blood supply, causing stroke-like symptoms that usually resolve within 24 hours.

Figure 5 shows the prevalence of stroke and TIA diagnoses, recorded in GP and hospital discharge records in 60+ year olds. Prevalence appears to increase with age for both sexes, with 23.0% of women and 24.0% of men aged 100+ having one or more stroke or TIA diagnoses in their medical records.

The prevalence of stroke (TIA not included) identified in a cohort extracted from the CPRD database in the 70+ age group by Lee et al was higher than our estimate at around 24% of patients in the sample in 2008 (Lee et al., 2011). Lee et al used 28 Read codes to identify stroke, compared to 85 codes used in the current work, which were the Read codes identified using the government's QOF business rules (Version 18.0) for stroke.

Diabetes mellitus

Figure 6: Prevalence of diabetes mellitus (Types 1 and 2) diagnoses in English general practice and hospital records in 2014.



Diabetes is a condition that causes high blood sugar levels. Type 2 diabetes occurs when the body does not produce enough insulin or the body's cells do not react to insulin, and is the most common form of diabetes in older people. Obesity with low levels of physical activity are common risk factors for developing Type 2 diabetes. With the rising prevalence of obesity in later life, there has been a dramatic increase in the percentage of older people being diagnosed with diabetes. Nevertheless, under-diagnosis in the older population, particularly in the 85 plus age group, has been estimated to be substantial (Diabetes Health Intelligence and Yorkshire and Humber Public Health Observatory, 2010, Melzer et al., 2013).

In our data from GP and hospital discharge records shown in Figure 6, prevalence rates for having a recorded diagnosis of diabetes mellitus in 2014 rise to a peak of 22.1% of men and 17.1% of women aged 80-84 years. The decrease in the prevalence in the age categories after 80-84 observed here may reflect an increase in mortality with rising age that occurs with advanced and uncontrolled diabetes.

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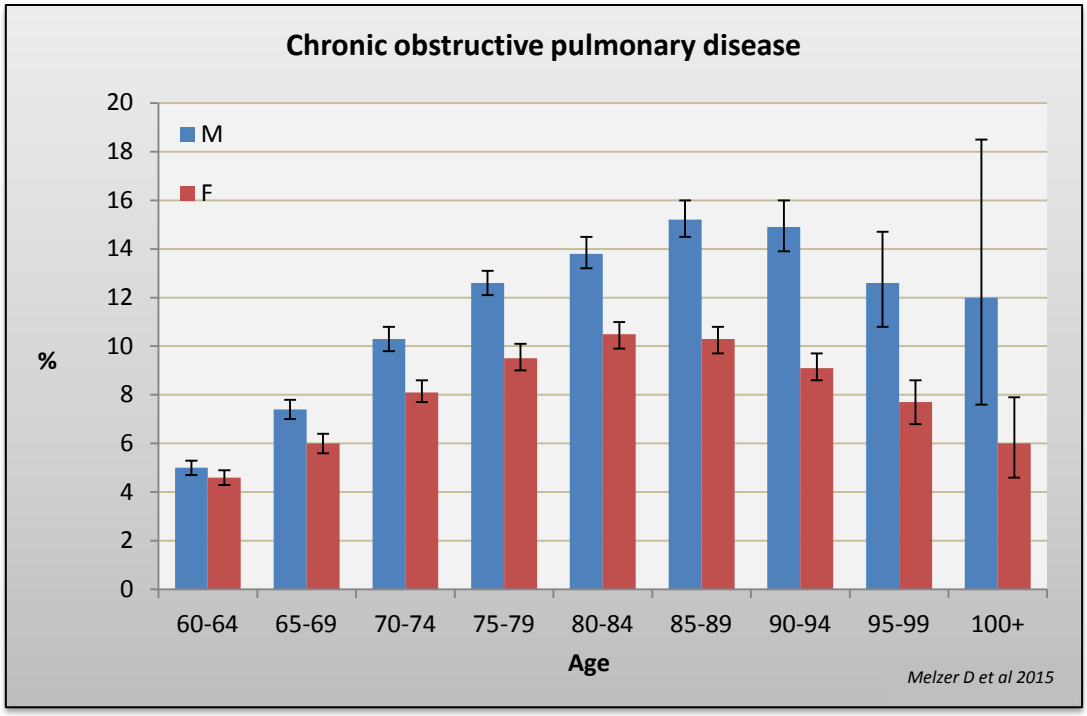
Chronic obstructive pulmonary (lung) disease

Figure 7: Prevalence of chronic obstructive pulmonary disease diagnoses in English general practice and hospital records in 2014.



Chronic obstructive pulmonary disease (COPD) covers a group of persistent and progressive lung disorders that are not fully reversible and include chronic bronchitis, emphysema and chronic obstructive airways disease. Symptoms include a progressive productive cough, breathlessness and a limited capacity for physical exertion. COPD is mainly associated with smoking, although air pollution, genetics and childhood respiratory disorders can also play a part (Decramer M, 2012).

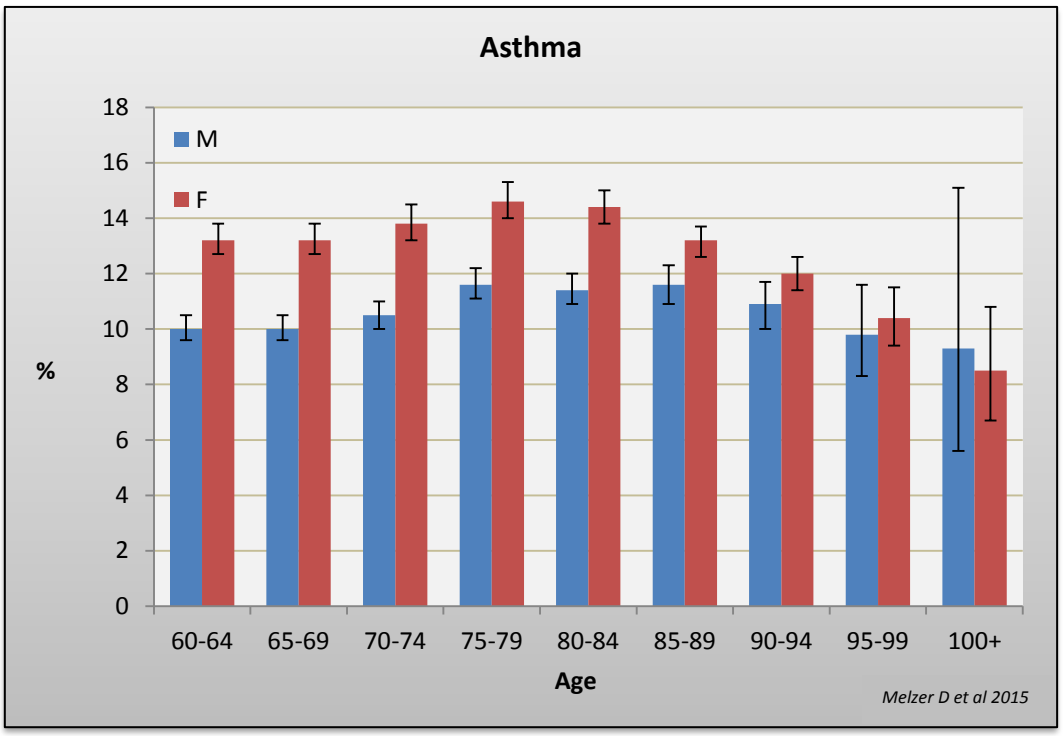
In our data from GP and hospital discharge records (Figure 7), the prevalence of a COPD diagnosis for those aged 60+ years is more common in men than women. The highest prevalence is 15.2% for men in age category 85-89, and 10.5% for women in age 80-84. Prevalence decreases in those aged 90+ years.

Public Health England have estimated a COPD prevalence of 8.9% for those aged 75 years and over and 8.3% for those aged 65 to 74 years for England for 2010/11 (PHE, 2011). Regional and socioeconomic factors have been shown to have a major influence on COPD prevalence across England (Simpson et al., 2010).

Between 700,000 and 900,000 people in the UK have been diagnosed with COPD and it has been estimated that a further 2 million remain undiagnosed (National Institute for Health and Care Excellence, 2010, Nacul et al., 2011). COPD is one of the leading causes of mortality worldwide.

Asthma

Figure 8: Prevalence of asthma diagnoses in English general practice and hospital records in 2014.



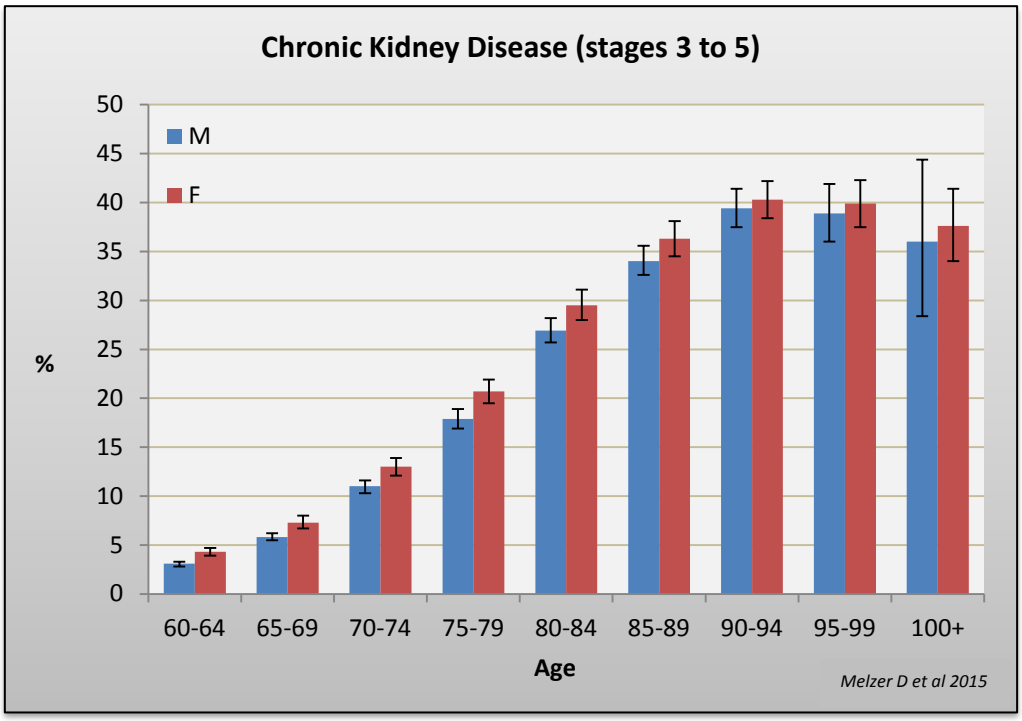
Asthma is associated with episodic symptoms of wheezing, coughing and breathlessness, often worse at night and with exertion, although symptoms vary in severity from person to person. Many people aged 65 and above get their first asthmatic symptoms following an upper respiratory infection (Hanania et al., 2011). Usually, asthma can be well controlled with the use of inhalers or other medication and lifestyle advice on how to avoid environmental triggers. Unlike many younger people, who may need no medication or only require episodic treatment for symptoms, older people are more likely to require sustained treatment to control asthma.

We found that, across all age groups studied, 10.6% of men and 13.6% of women had had an asthma diagnosis in their GP and hospital discharge records.

There is evidence that asthma is under-diagnosed in older adults (Gibson et al., 2012). The much increased risk of co-morbid conditions with advancing age can mean that the diagnosis is overlooked or symptoms are confused with those of other disorders (Hanania et al., 2011).

Chronic kidney disease

Figure 9: Prevalence of chronic kidney disease (stages 3 to 5) diagnoses in English general practice and hospital records in 2014.



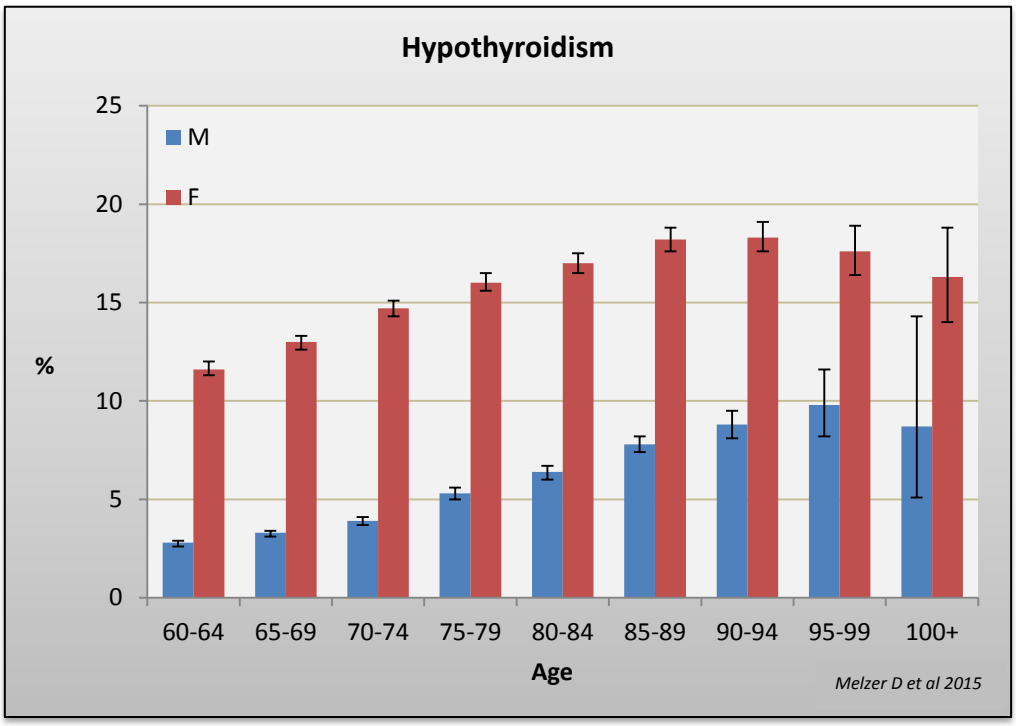
Chronic kidney disease (CKD) is associated with a progressive deterioration in the kidney's ability to filter waste products from the blood stream. If kidney function fails, waste products start to accumulate in the body. It is identified through blood tests showing higher than normal creatinine levels in the blood (which indicate a lower glomerular filtration rate), or an assessment of kidney damage usually through a urine test (which may show protein or blood cells in the urine). Symptoms vary between individuals, but kidney disease is often identified through screening of those at risk from kidney disorder (e.g. those with diabetes or hypertension) or where complications of kidney disease develop (e.g. cardiovascular disease). CKD is split into 5 stages, measured by level of functioning: stages 1 and 2 are early stages of kidney disease, with mild changes in kidney function and very few symptoms, whereas stages 3-4 represent moderate to severe CKD and stage 5 is the most severe, with very low glomerular filtration rates or the individual may be in receipt of renal replacement therapy (Bowling and Muntner, 2012). To be labelled as chronic, kidney disease needs to have been present for at least three months. This classification is, however, controversial, with some arguing that it unnecessarily classifies too many older people as having CKD (Moynihan et al., 2013, Bowling and Muntner, 2012).

In our study of GP and hospital discharge patient records, the prevalence of a diagnosis of moderate to severe CKD (stages 3 to 5) for individuals aged 60 and older rises remarkably with age, reaching the highest prevalence in the 90-94 age category for both sexes (Figure 9). An increase in diagnosis above 80 years has been found previously (Bowling and Muntner, 2012).

The guidelines for CKD diagnosis aim to identify patients with kidney disease earlier, thus reducing the numbers going on to end stage renal failure and/or preventing associated diseases. There is controversy about whether the standard diagnostic criteria are too wide when applied to older patients (Glassock and Winearls, 2008, Winearls and Glassock, 2011).

Hypothyroidism

Figure 10: Prevalence of hypothyroidism diagnoses in English general practice and hospital records in 2014.



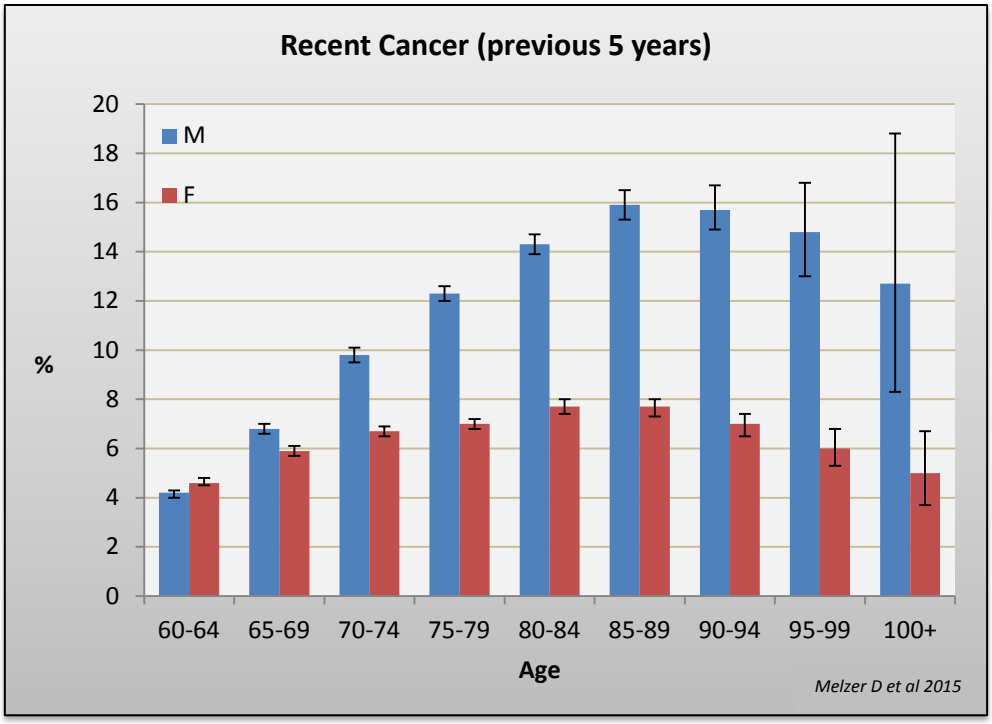
Hypothyroidism (or underactive thyroid) is a condition in which the thyroid gland does not produce enough of the hormone thyroxine, causing symptom of tiredness, weight gain and feeling cold, as well as memory problems and confusion, especially in the older population. These symptoms are common in many disorders, especially in the older population, so diagnosis is confirmed through blood tests. Symptoms can be remedied through ongoing thyroid hormone replacement therapy.

In our study of GP and hospital discharge records for patients 60 years of age and older, hypothyroidism is more prevalent in women than in men. Of our studied sample of 598,631 patients alive and registered in 2014, the prevalence of at least one diagnosis code of underactive thyroid was recorded for between 11.6-18.3% of women and 2.8-9.8% of men across all age groups studied (Figure 10).

In the Newcastle 85+ Study, the prevalence of a range of conditions including hypothyroid disease in 85 year old volunteers was assessed by reviewing medical records, predominantly from patients recruited in 2006-07. The prevalence of hypothyroidism was found to be 15.7% in women and 5.4% for men; less than 1% were estimated to be undiagnosed (Collerton et al., 2009).

Recent Cancer

Figure 11: Prevalence of cancer diagnoses (excluding non-melanoma skin cancers) in English general practice and hospital records in 2014. Previous 5 years of patient history included.



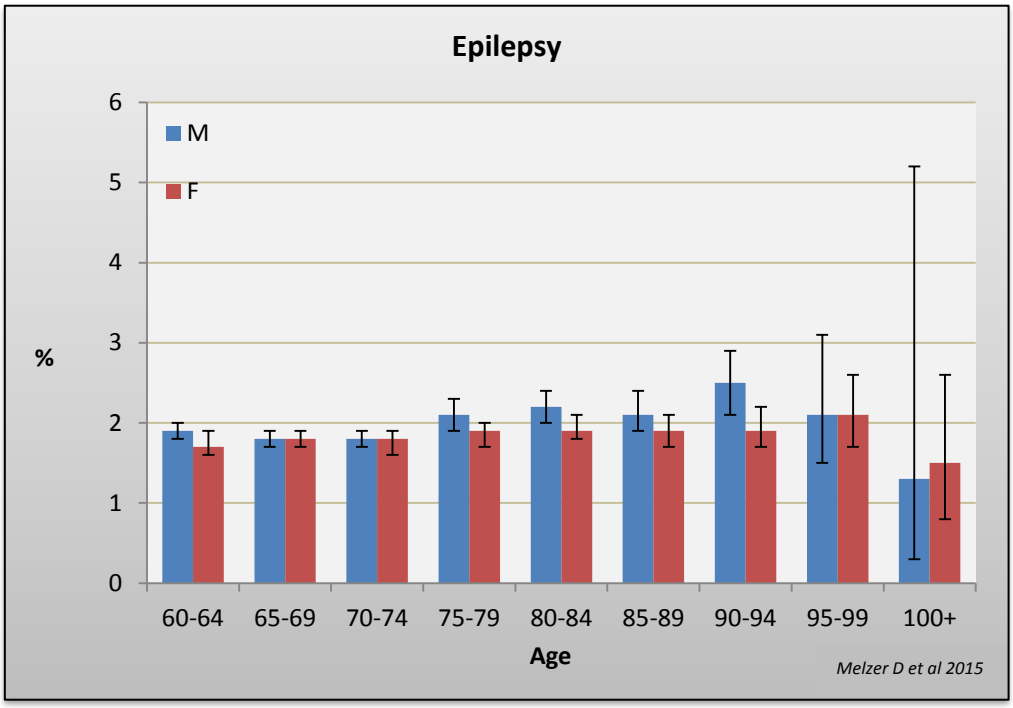
Cancer is the result of the uncontrolled growth of cells. It can spread from the initial location to other parts of the body in the form of metastases. Symptoms vary according to where it manifests and the level of spread. The most prevalent cancers in those aged 65 plus are breast, prostate, bowel and lung.

Figure 11 shows that, of patients alive and registered with the studied GP practices in 2014, men more often received a recent diagnosis of cancer (in the previous five years) than women of similar age, with around 15.9% of men and 7.7% of women aged 85-89 years having been diagnosed with cancer (excluding non-malignant skin cancers).

Good quality care depends on a timely diagnosis (Foot and Harrison, 2011), access to appropriate treatment and increasing the numbers of older people included in clinical trials (Lawler et al., 2014, Macmillan Cancer Support, 2012). More than one in three people will develop cancer at some point in their lifetime, with the vast majority being diagnosed over the age of 60 years (Cancer Research UK, 2011). The bulk of cancer-related deaths (77%) occur in old age (Cancer Research UK, 2011). However, in 2008, around 13% of people aged 65 and above were cancer survivors in the UK and this has been projected to increase to around 23% by 2040 (Maddams et al., 2012).

Epilepsy

Figure 12: Prevalence of epilepsy diagnoses in English general practice and hospital records in 2014.

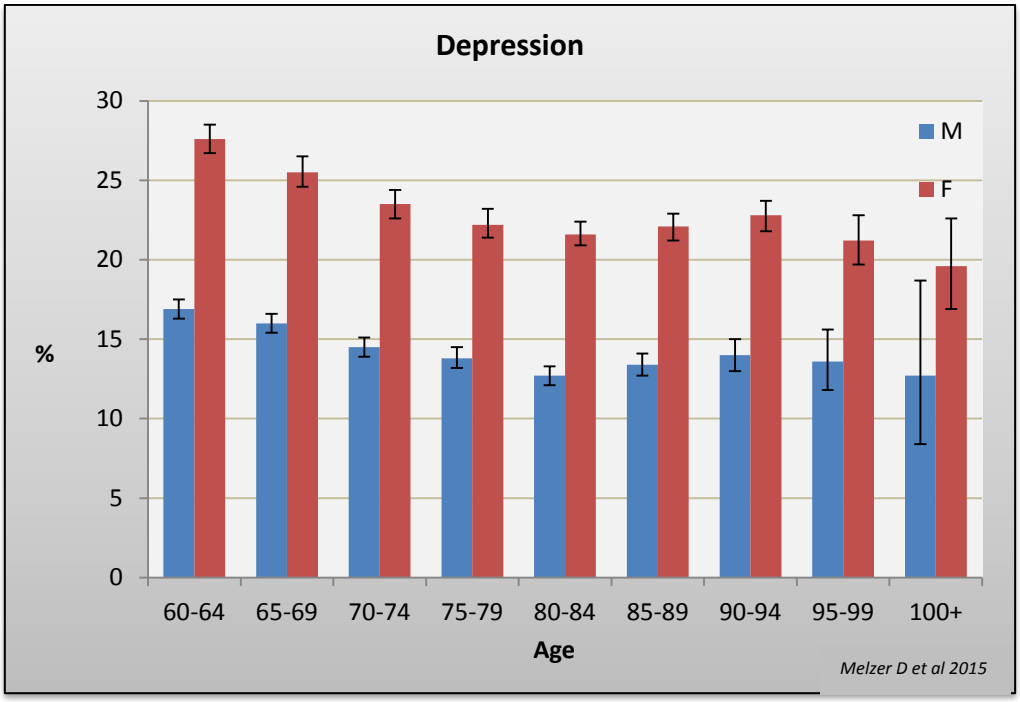


Epilepsy is characterised by recurrent, unprovoked seizures. In high income countries, old age is the most common time to develop epilepsy and epilepsy tends to result in greater morbidity and mortality in old age (Cloyd et al., 2006). Seizures are often recurrent but, in most cases, medication controls ongoing seizures. While epilepsy is often idiopathic (unknown cause), it can also be triggered by a number of disorders including cerebrovascular disease, neurodegenerative disorders due to cognitive impairment (particularly Alzheimer's disease), intracerebral tumours and head injuries (Brodie et al., 2009). Epilepsy in older age groups can manifest in ways different from younger groups and often has symptoms similar to those of other neurological disorders (such as transient ischaemic attacks) and so may be confused with those disorders (Brodie et al., 2009).

In our studied GP and hospital discharge records for patients 60 years of age and older, the overall prevalence of epilepsy (Figure 12) was found to be relatively low (≤2.5%), although estimates lacked precision in the oldest groups due to the relatively small number of cases in the records. However, the disorder is often underdiagnosed or misdiagnosed in older age groups (Roberson et al., 2011).

Depression

Figure 13: Prevalence of depression diagnoses in English general practice and hospital records in 2014.



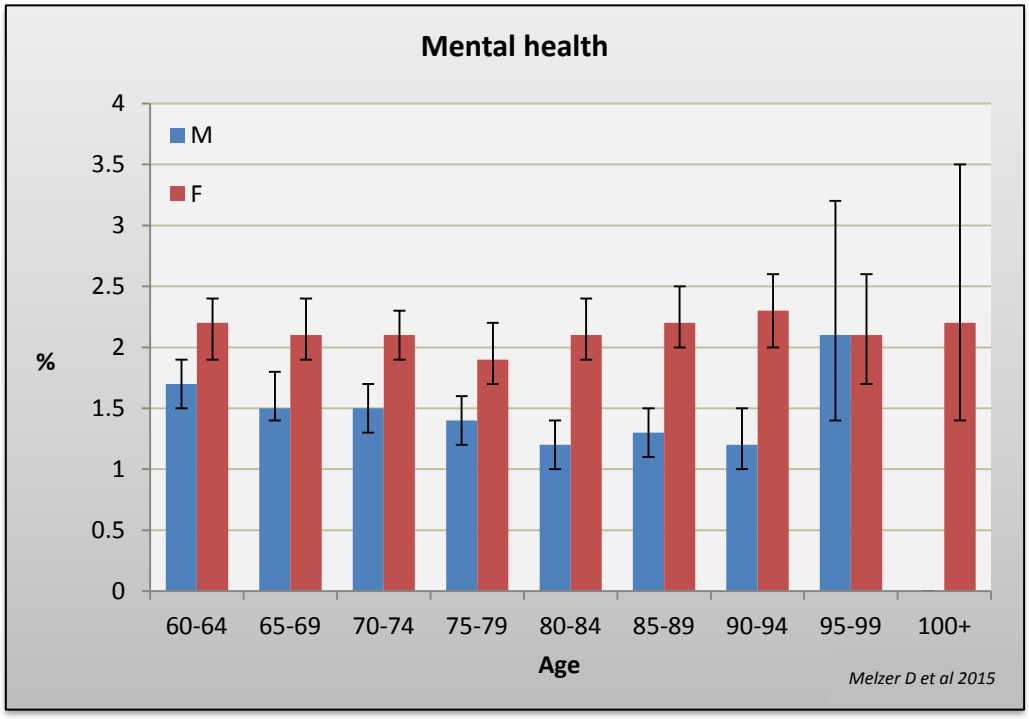
Depression is a common mood disorder. Causes may be unknown (idiopathic) or the result of a wide range of life circumstances. Symptoms vary according to the individual and the effect can be relatively mild or catastrophic, short lived or long lasting. Prolonged depression can be treated using medication, or psychological therapy and healthy lifestyle interventions.

In our analysis, the prevalence of diagnosed depression (at any time in the patients' records) was consistently higher in women than men across all age groups (Figure 13). The highest rates for both women and men were at the age of 60-64, at 27.6% and 16.9% prevalence respectively. While remaining fairly stable, the proportion of individuals diagnosed with depression appears to decrease as age increases.

Our prevalence figures for any diagnosed depression are higher than the estimates from the MRC Cognitive Function and Ageing Study (CFAS), where a cohort of volunteers was screened for primary depression. CFAS found that almost 9% of those aged 65 and above had clinically diagnosed depression, rising to a slightly higher prevalence (almost 10%) in those aged 85 and above (Mc Dougall et al.). Somewhat in contrast to the CFAS findings, the most recent psychiatric morbidity survey showed common mental disorders to be at their lowest in those aged 75 years and older, with more women than men affected (Bebbington et al., 2009). However, with much lower proportions of older people (75+ years) going to their GP to discuss a mental health problem (and despite their higher overall consultation frequency compared to younger age groups), it is difficult to gauge to what extent older people with mental health problems are going undiagnosed (Cooper et al., 2010).

Severe mental health conditions

Figure 14: Prevalence of severe mental health conditions diagnoses in English general practice and hospital records in 2014



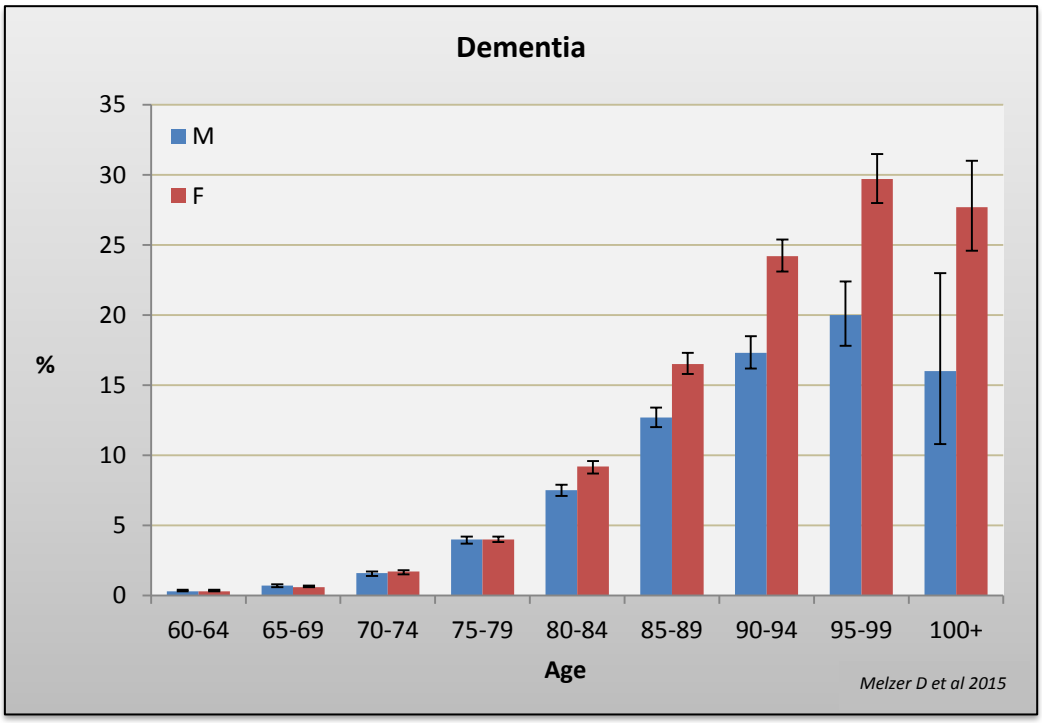
Mental health was added to the NHS Quality and Outcomes Framework to encourage better GP monitoring of psychosis, schizophrenia and bipolar disease in particular (see separate page for depression). The clinical features covered under this heading include hallucinations, delusions, catatonia or thought disorders. Individuals with bipolar disorder also experience bouts of depression interspersed with manic episodes. Treatments include antipsychotic medication, psychological therapies and social support.

The 2014 GP and hospital patient records diagnosed prevalence of severe mental health conditions shown in Figure 14 is below 2.5% for both sexes across all ages. In each age category, except 95-99 (2.1% in both women and men), women tend to have a higher prevalence of these conditions. Mental health cases were not detected in the dataset for men 100 years and older, suggesting that a larger population is required to estimate prevalence in this age group accurately. There is a lack of comparative studies in the UK with which to compare these figures for older age groups, although a Swedish study of psychotic symptoms and paranoid ideation showed psychotic symptoms and schizophrenia in 95 year olds (without dementia) to be high, with one year prevalence of psychotic symptoms estimated at 7.4% (Östling et al., 2007).

The older old require vigilant monitoring for physical health alongside mental health due to higher rates of cardiovascular risk factors and disease (Gardner-Sood et al., 2015), exposure to prescribed medications with significant side effect profiles (e.g. lithium) (Kendrick et al., 1995) and the need to identify and address unmet needs, which can affect life expectancy (Lawrence et al., 2013). Mental health quality indicators introduced in 2003 encourage GPs to keep a register of, and monitor, patients with severe and enduring mental health conditions of these types.

Dementia

Figure 15: Prevalence of diagnosed dementia in English general practice and hospital records in 2014.



Dementia is characterized by a gradual deterioration in memory and other cognitive skills, usually affecting older people as a result of underlying brain disease (in older age, Alzheimer's disease or stroke are the most common causes).

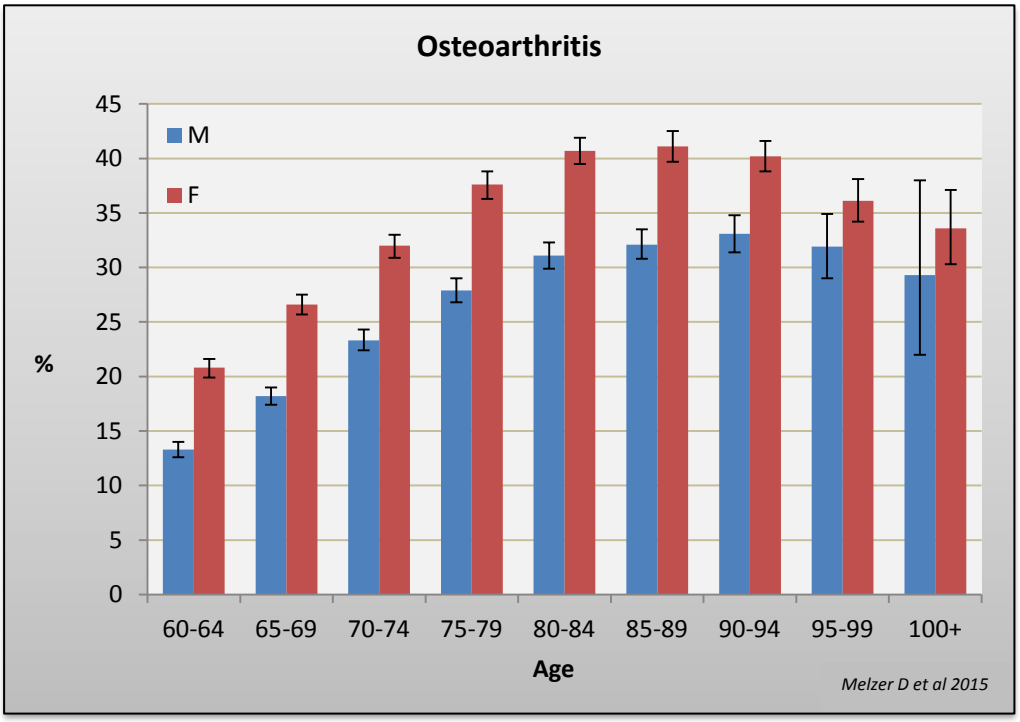
In our study, prevalence of dementia increased with age, with 29.7% of 95-99 year old women having a formal diagnosis and 20% of men (Figure 15). It is thought that a significant proportion of people with dementia lack a formal diagnosis.

Between 2008 and 2011, estimates of prevalence of dementia diagnosis for people aged 80-84 years were 15% of women and 11% of men (Medical Research Council Cognitive Function and Ageing Study). In contrast, prevalence ascertained through GP records of the cohort of 85 year olds in Newcastle found a prevalence of 8.4% (Collerton et al., 2009).

Recent incentives to GPs to improve the rate of diagnosis of dementia may result in higher estimates of prevalence in future years. On the strength of arguments that a formal diagnosis of dementia can help with targeted case management and carer support, a Commissioning for Quality and Innovation (CQUIN) payment framework was introduced in 2012 with the aim of increasing case finding and assessment. The initiative to diagnose dementia is based on the possibility of prescription of a cholinesterase or other cognitive enhancer and the benefits of a diagnosis in helping plan for the future (Waldemar et al., 2007). However, other authors note a lack of evidence to justify screening for dementia (Fox et al., 2013). Also, people with milder forms of dementia may take many years to progress and may die from other causes before their dementia signficantly impacts on their functioning and quality of life.

Osteoarthritis

Figure 16: Prevalence of recorded osteoarthritis in English general practice records in 2014. Previous 15 years of GP patient history considered.



Note: Estimate from CPRD records based on clinical codes entered in anonymised GP records up to 15 years previously, with 95% confidence intervals.

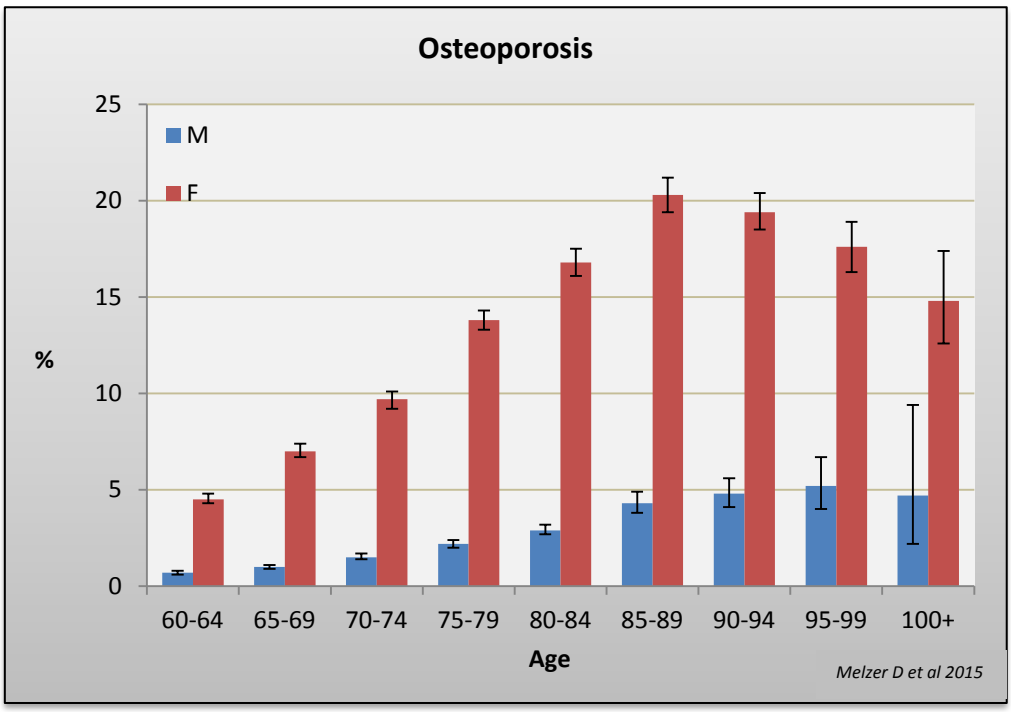
A sizeable proportion of the older population experiences varying degrees of joint pain and much of this is due to osteoarthritis, which is the most prevalent joint disease in older people. Osteoarthritis is a degenerative condition resulting in damage to cartilage and the formation of new bony outgrowths on the edges of the joints. Symptoms vary in type and severity between individuals, with pain being the main symptom, but also loss of movement and stiffness around the joint reduce mobility.

The QOF diagnostic criteria do not require radiographic verification of osteoarthritis. This type of verification has often been used in epidemiological studies of osteoarthritis and a reasonable level of clinical/radiological agreement has been shown (Parsons et al., 2015).

We found that GP diagnoses of osteoarthritis (Figure 16) were common, particularly in women, with around 41.1% of women and 32.1% of men in of 85 to 89 year old age group having one or more Read codes for osteoarthritis in their patient history. Other studies have also shown prevalence of osteoarthritis in 85 year olds (using medical record review and medical assessment) to be very high (52%, women more than men), with knee(s) being by far the most common location of the condition, followed by the hip and generalised osteoarthritis (Duncan et al., 2011).

Osteoporosis

Figure 17: Prevalence of recorded osteoporosis in English general practice records in 2014. Previous 15 years of GP patient history considered.



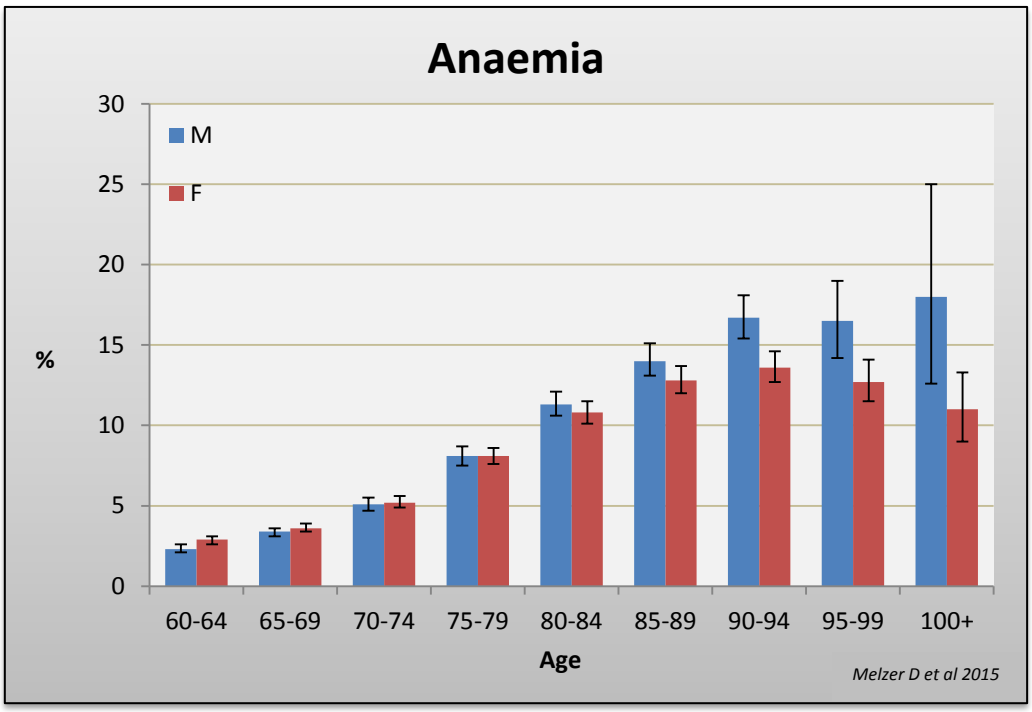
Note: Estimate from CPRD records based on clinical codes entered in anonymised GP records up to 15 years previously, with 95% confidence intervals.

Osteoporosis is a common and progressive condition affecting the density of the bones in older people and leads to an increased risk of fragility fractures, which can result in significant morbidity and mortality as well as socioeconomic burden (Edwards et al., 2015). Osteoporosis is particularly common in post-menopausal women. The most common fractures associated with osteoporosis are those of the hip; the occurrence of these fractures increases with age and has a major economic and health related impact (Colón-Emeric, 2013).

Read codes that we selected for osteoporosis, including codes showing osteoporosis on a bone density scan, were searched within general practice records (see Method section for more information on Read code selection). Figure 17 shows the striking difference in the prevalence of osteoporosis between men and women and the large rise in osteoporosis prevalence with advancing age: 20.3% of women aged 85-89 have diagnosed osteoporosis.

Anaemia

Figure 18: Prevalence of recorded anaemia (all types) in English general practice records in 2014. Previous 5 years of GP patient history considered.



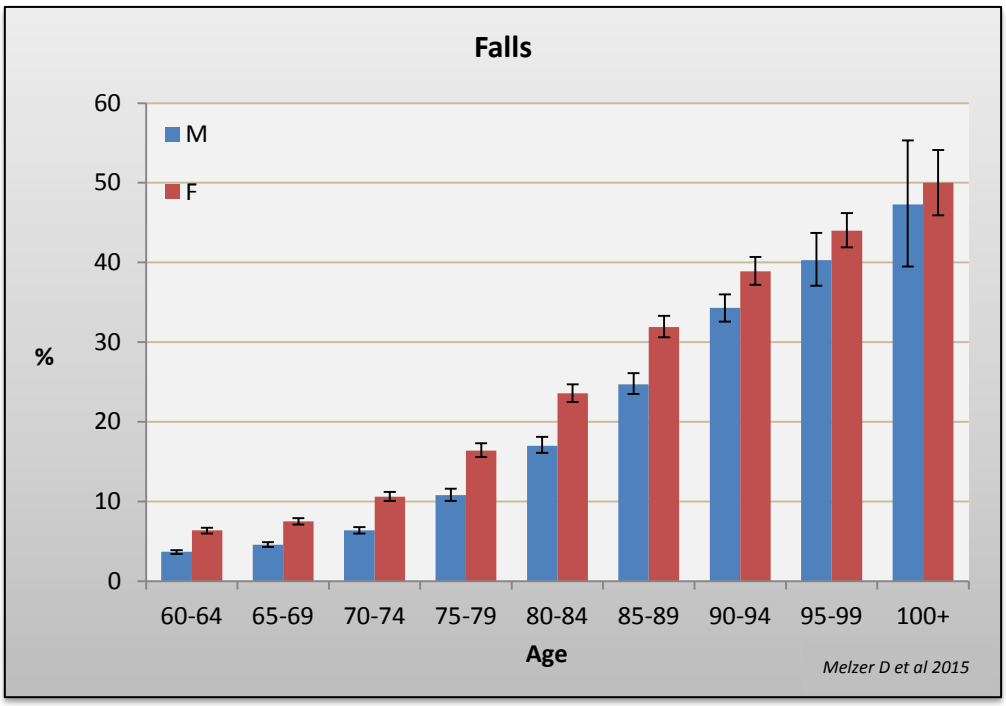
Note: Estimate from CPRD records based on clinical codes entered in anonymised GP records up to 5 years previously, with 95% confidence intervals.

Anaemia is the result of a lack of red blood cells or the reduced ability to produce haemoglobin within the red blood cells; both states reduce the amount of oxygen that can be carried by the bloodstream. The resulting symptoms include a lack of energy and breathlessness, and can result in a pale complexion. There are different types of anaemia, the most common being iron deficient anaemia. In older people, the most usual cause of iron deficient anaemia is chronic disorders such as bleeding from the stomach or intestines due to cancer, peptic ulcers or the use of non-steroidal anti-inflammatory drugs.

Estimates of the prevalence of anaemia vary significantly depending on the diagnostic criteria used (Tull et al., 2009). The WHO criteria set threshold haemoglobin concentrations of <12.0 g/dl (<7.5 mmol/l) for women and <13.0 g/dl (<8.1 mmol/l) for men (World Health Organisation, 2008), while Joosten's criteria (argued to be more relevant for older populations) set a threshold of <11.5 g/dl (<115 g/l) (Joosten et al., 1992). In UK GP practice, haemoglobin is only one of the measures used to make a clinical diagnosis of anaemia. In our data (Figure 18), there is an increasing prevalence of diagnosed anaemia with age, reaching at peak around 90 to 94 years old. We used Read codes for all types of anaemia and our estimate includes people with one or more included codes in the previous 5 years. When haemoglobin levels were tested in a large group of 85 year olds in the Newcastle study, Collerton et al found that around double the number of women were low on haemoglobin (18%) compared to men (around 9%) using Joosten's criteria (Joosten et al., 1992).

Falls

Figure 19: Prevalence of recorded falls in English general practice records in 2014. Previous 5 years of patient history considered.



Note: Estimate from CPRD records based on clinical codes entered in anonymised GP records up to 5 years previously, with 95% confidence intervals.

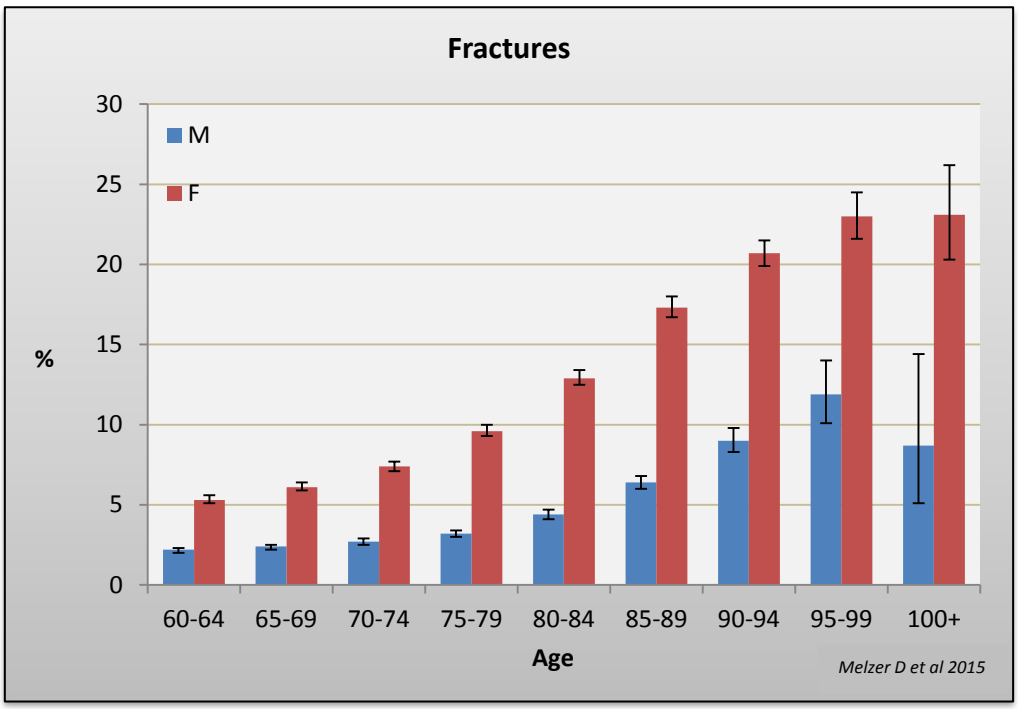
Falls in the older population are frequent. They often result in fractures and hospitalisation, and are the most common cause of death from injury in people aged 65 and above. Older people who fall are a vulnerable group with a higher risk of death than those who have not fallen (Gribbin et al., 2009). Even minor falls can have an impact on independence and mobility (Tian et al., 2013). Osteoporosis increases the risk of fracture in older people who fall and can result in significant morbidity and mortality (Edwards et al., 2015).

We studied falls within the preceding 5 years in patient general practice records. As expected, the prevalence increased with age, as shown in Figure 19. Falls were more common in women than men, and over a quarter of 85-89 year olds (men and women together) had sustained at least one fall in the previous 5 years.

Not all patients will have reported a fall to their GP. In Collerton's study of Newcastle volunteers aged 85 years, the prevalence of falling was estimated to be higher, around 38% in the past year (at the time of study), with no difference between men and women (Collerton et al., 2012), but falls were self-reported during a structured home interview with a nurse. Collerton et al also found that around 11% had sustained a fracture and over third (37%) of those who had fallen once or more in the past had never discussed falls with their GP.

Fractures

Figure 20: Prevalence of recorded fractures in English general practice records in 2014. Previous 5 years of patient history considered.



Note: Estimate from CPRD records based on clinical codes entered in anonymised GP records up to 5 years previously, with 95% confidence intervals.

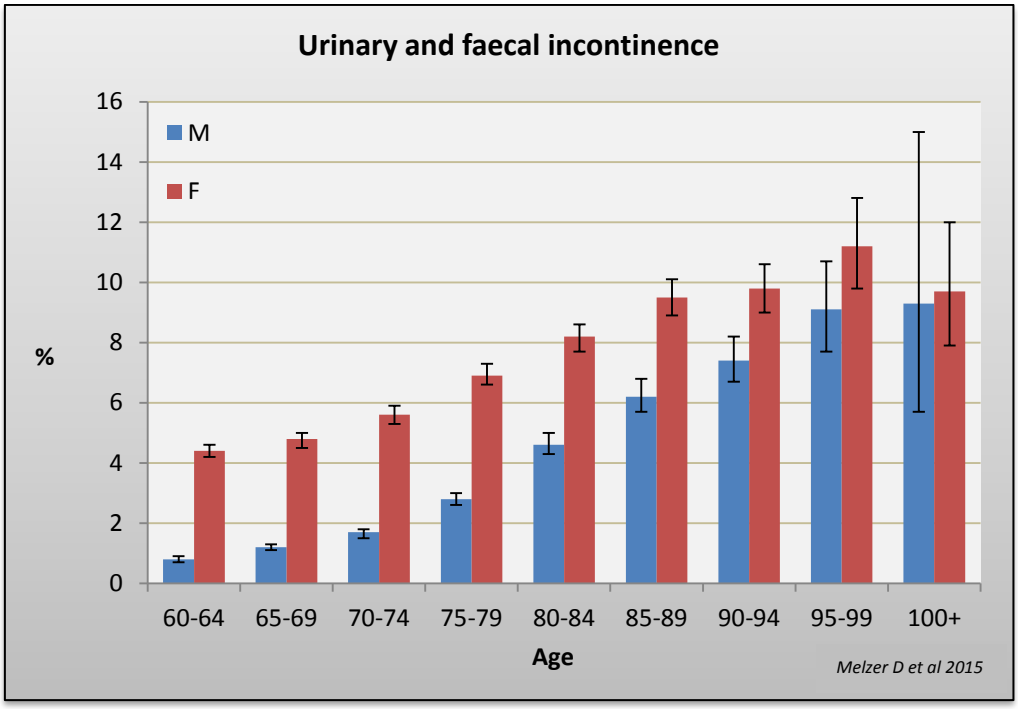
The prevalence of fractures after falling increases as age advances and is higher in older people who are frail (Tom et al., 2013). Sustaining a fracture in old age can have major long term impact on quality of life and independence. Fractures also have a significant socioeconomic impact (Hansen et al., 2013). Osteoporosis plays a major part in the vulnerability to fracture when sustaining a fall. The most common 'fragility' fractures occur in the leg (femur, tibia, ankle), vertebrae, arm (humerus, radius, wrist) and pelvis.

In GP-recorded fragility fractures in the previous 5 years, we found that fracture prevalence increased with age and that the rates were considerably higher in women than men. Higher rates in women were evident in all age groups, with 23% of women over 95 having sustained a fragility fracture over the preceding 5 years.

Collerton et al. estimated the prevalence of fractures in fallers aged 85 years in the Newcastle study and found that almost 11% of those who had fallen in the last year had sustained a fracture (Collerton et al., 2012). Comparing prevalence using data from the English Longitudinal Study of Ageing, 27% of older people living in the community (aged 60+ years) reported having fallen in the past year, with over a quarter of these (29%) saying that the injury had been serious enough to require medical attention (Melzer et al., 2013).

Urinary and faecal incontinence

Figure 21: Prevalence of recorded incontinence symptoms and diagnoses in English general practice records in 2014. Previous 5 years of patient history considered.



Note: Estimate from CPRD records based on clinical codes entered in anonymised GP records up to 5 years previously, with 95% confidence intervals.

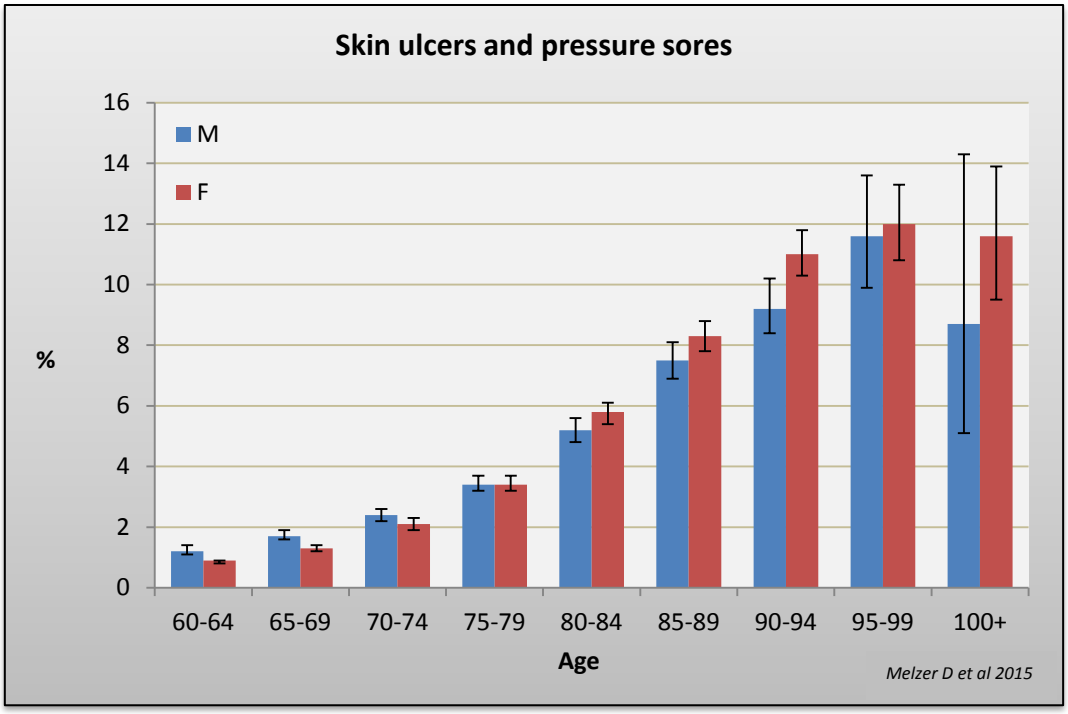
Incontinence, especially urinary incontinence, is relatively common and disabling for many people as they advance in age. Urinary incontinence can be categorised as stress incontinence, urge incontinence or mixed, according to symptoms and clinical work-up (Thirugnanasothy, 2010).

Our coding of incontinence from the GP records included all types, and was based on recorded symptoms and/or having prescribed incontinence pads or a urinary catheter. In Figure 21, we show a higher prevalence of incontinence in women than men until an age of over 95 years (when taking confidence intervals into account). A significant proportion of this increased burden in women may be due to childbirth-related factors (Brown et al., 2015). With 31% of volunteers in the Newcastle 85+ study (38% women and 22% of men) self-reporting moderate, severe or profound urinary incontinence and 9% (9% women and 7% men) self-reporting faecal incontinence (Collerton et al., 2009), it is clear from Figure 21 that the number of patients recorded with these symptoms within general practice records is much lower than those estimated to have this condition in the community.

Incontinence may be under-reported in GP records for a number of reasons, including patients delaying seeking help because of embarrassment, the perception that incontinence is part of normal ageing or simply a lack of awareness that treatments are available (Shaw et al., 2001, Horrocks et al., 2004). When comparing the rate of incontinence diagnoses (any type) in 54,816 UK patients with and without a dementia diagnosis (using electronic medical records), patients with dementia had around three times the rate of those without dementia (Grant et al., 2013).

Skin ulcers and pressure sores

Figure 22: Prevalence of recorded skin ulcers and pressure sores in English general practice records in 2014. Previous 5 years of patient history considered.



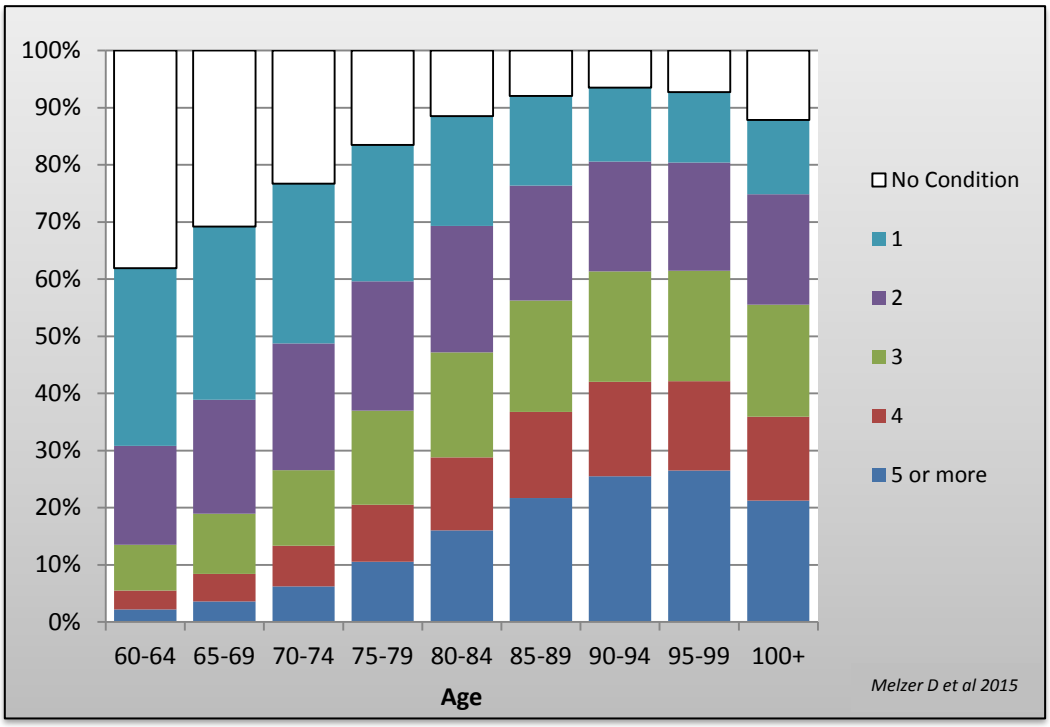
Note: Estimate from CPRD records based on clinical codes entered in anonymised GP records up to 5 years previously, with 95% confidence intervals.

Skin ulcers are open wounds or sores that are the result of a disintegration of skin tissue and often caused by inherent poor circulation, pressure or exposure to heat or cold. Many ulcers become chronically difficult or slow to heal, are prone to infection and can be very painful and debilitating. Skin ulcers resulting from the combination of lack of mobility and pressure (known as pressure sores or, commonly, bed sores) and leg ulcers make up the bulk of the skin ulcers that occur in the older population. People with diabetes are especially prone to ulcers of the feet and these can lead to serious complications if left untreated.

Figure 22 shows rising GP-recorded prevalence of skin ulcers with age, both for men and women. Around 8% of those aged 85 to 89 years had had a skin ulcer recorded by the GP in the past 5 years. Keywords selected and checked by three clinicians included those referring to skin ulcers and pressure and bed sores. There are few direct data for older people to compare these figures with as the populations for which prevalence estimates are made are often those who are hospitalised (Vanderwee et al., 2007) or in a residential care setting rather than the community, and studies do not normally take into account both pressure sores and other ulcers together.

Multi-morbidity

Figure 23: Number of co-existing major diseases by age group, in English general practice records in 2014



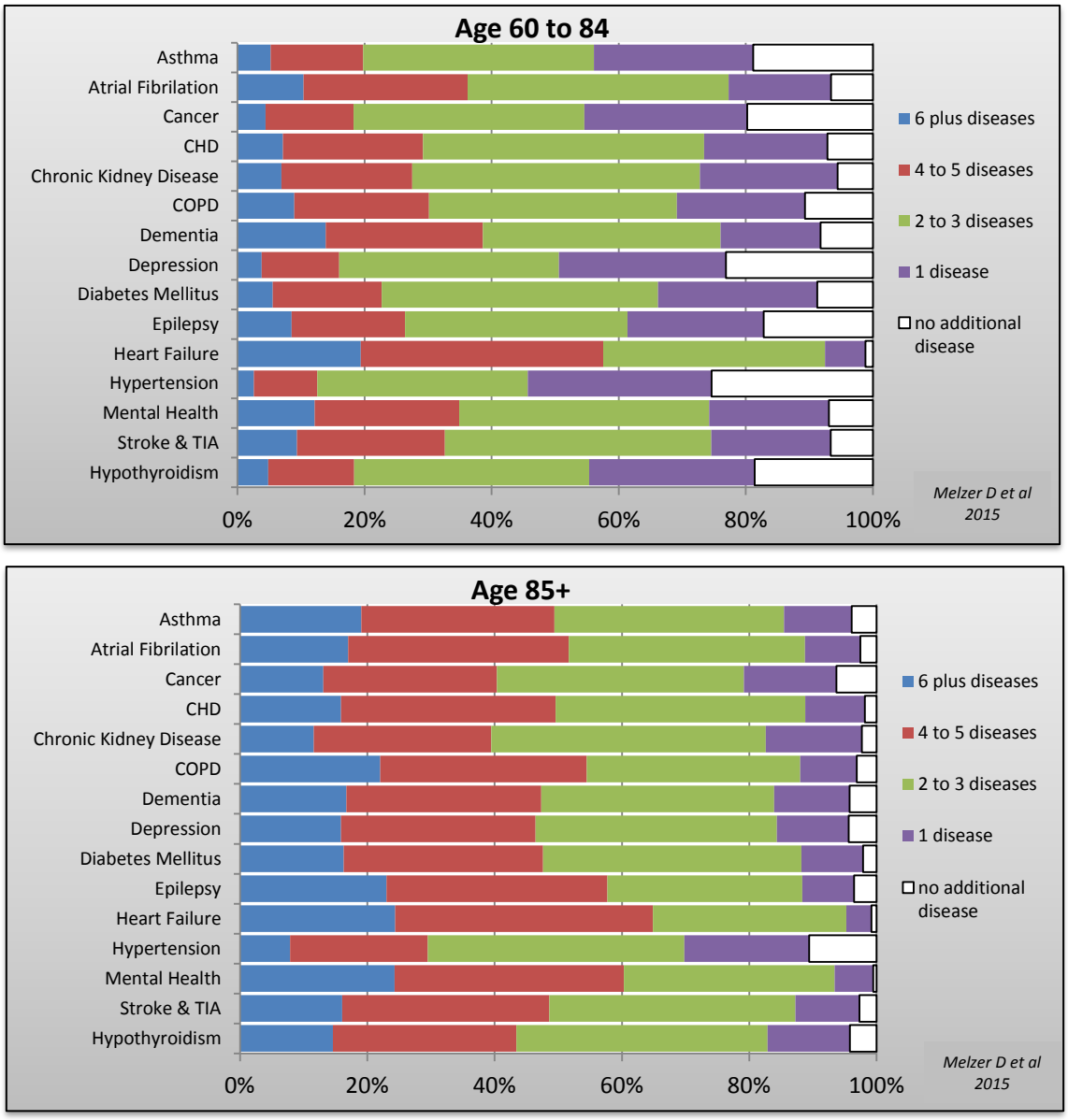
Note: diseases included are Coronary heart disease, Heart failure, Hypertension, Stroke, Diabetes, Chronic obstructive pulmonary disease, Asthma, Chronic kidney disease (stages 3-5), Hypothyroidism, Epilepsy, Depression, Dementia, Cancer (last 5 years), Severe mental health disorders.

In later life, many patients have more than one disease, condition and/or syndrome at the same time. This is called 'multi-morbidity' (Barnett et al. 2012). In the previous charts, we have presented the prevalence of diagnoses for each of the major diseases, conditions and syndromes separately. In this section, we present estimates of the proportion of each age group having none of our studied 'QOF' diseases (see Methods for details) and having one, two, three, four or five or more of the diseases concurrently. As expected the proportion of patients with one or more diagnosed disease(s) increases from the youngest groups onwards, plateauing at over 90% in the 85-89, 90-94 and 95-99 groups. The prevalence of patients' multiple conditions (5 or more) follows a similar trend, increasing with advancing age and levelling off among the nonagenarian group. However, the older population is very diverse, with some centenarians having no diagnoses at all recorded in their electronic medical records.

Having more than one condition (so called co-morbidity) or several conditions (multi-morbidity, often defined as three or more diseases) is more common with advancing age and tends to add to the complexity of the care and treatment needs. It also adds to the challenge of safe and effective prescribing of medicines.

Number of co-morbidities by major disease status

Figure 24: Proportion (%) of patients diagnosed with a common disease diagnosis who also had an additional disease in English general practice records in 2014, for the 60 to 84 and 85 plus year age groups.

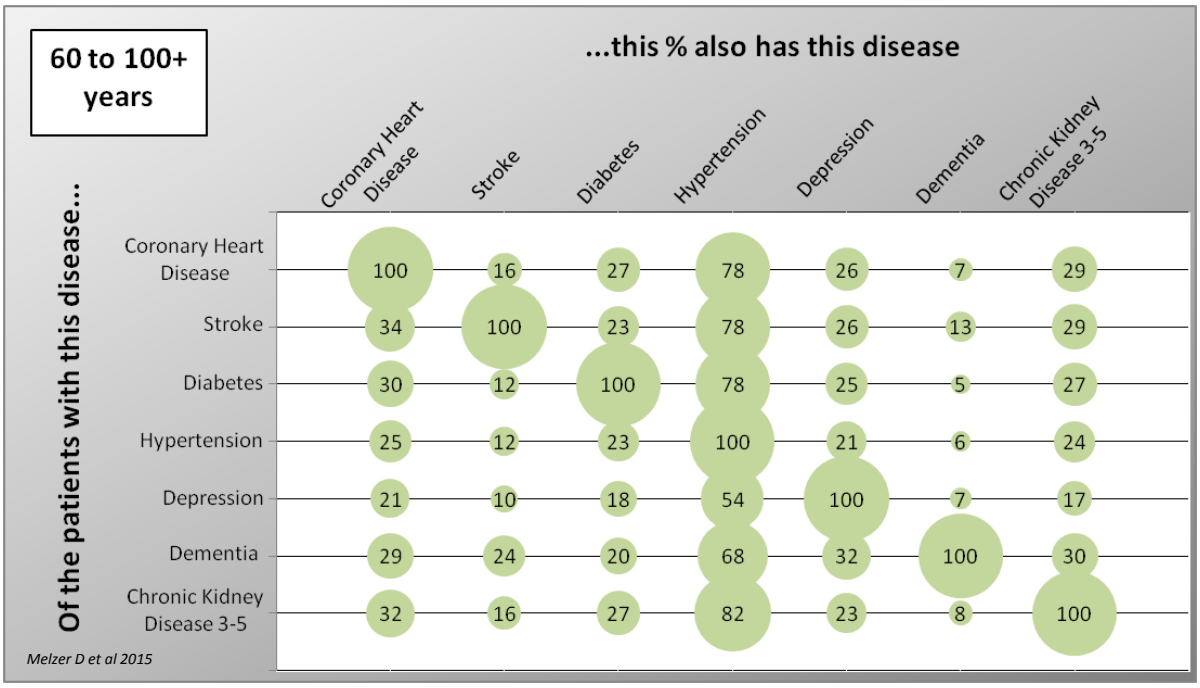


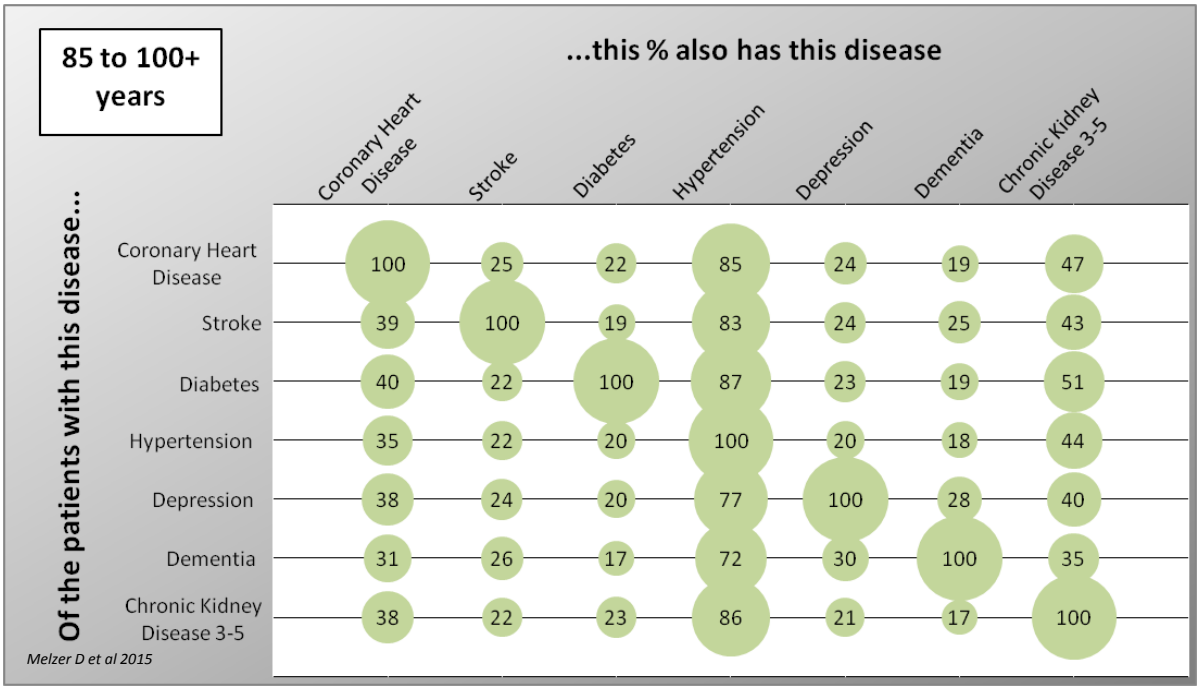
Note: diseases included are Coronary heart disease, Heart failure, Hypertension, Stroke, Diabetes, Chronic obstructive pulmonary disease, Asthma, Chronic kidney disease (stages 3-5), Hypothyroidism, Epilepsy, Depression, Dementia, Cancer (last 5 years), Severe mental health disorders.

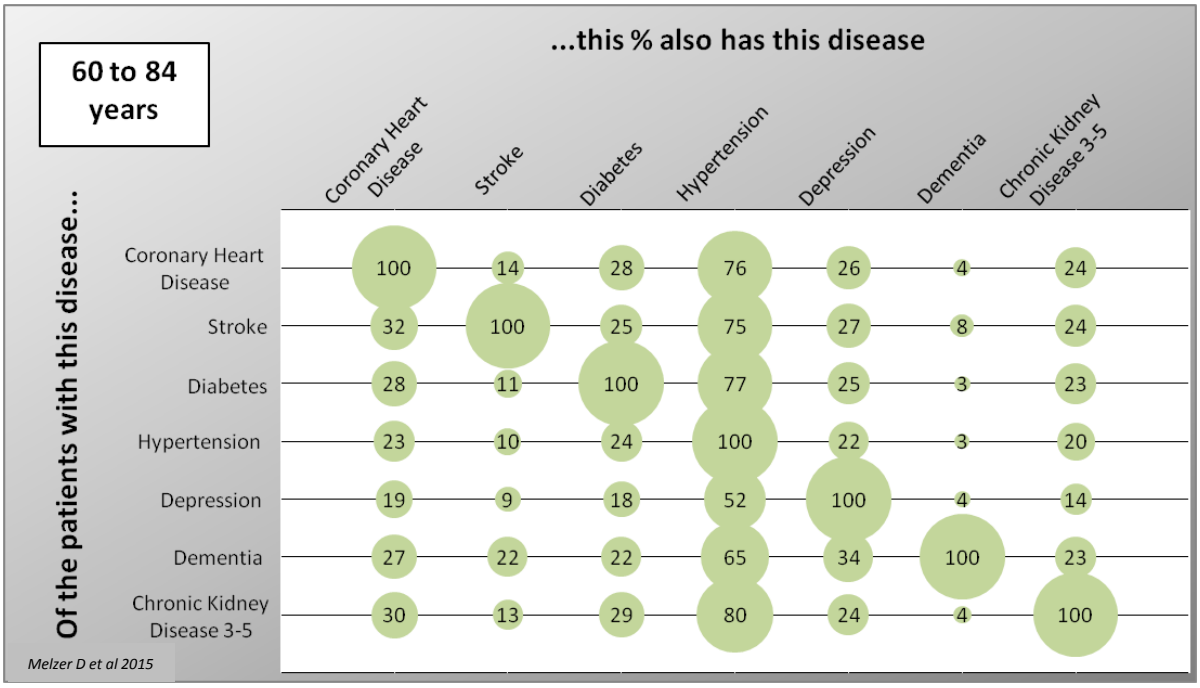
We showed in the previous chart that most older patients have more than one disease at the same time. Here we present estimates of the percentage of those with each major disease who also had other diseases. Overall, the graph shows that the majority of people in the 60 to 84 age group with any of the studied diseases also have other major diseases, and, in many cases, these people have three or more other diseases. For example, in the 60 to 84 year age group, 92% of patients diagnosed with dementia had other diagnoses too, while 53% had 3 or more additional diseases. In the 85+ age group, rates of multiple diagnoses are even higher.

Specific co-morbidities with selected major conditions

Figure 25: Proportion (%) of patients with each major disease (vertical axis) who also have specified additional diseases, in English general practice records in 2014.







In the previous graphs, we noted that many older people have a number of diseases at the same time. Here we present estimates for selected examples of specific combinations of diseases. For each of the diseases listed vertically, the estimates show the proportion of people also having the diseases along the horizontal list: for example, of 60 to 84 year olds with stroke (vertical axis), 32% also have coronary heart disease (horizontal axis). Interestingly, of 60 to 84 year olds with dementia, 22% also had stroke, 22% also had diabetes, 65% also hypertension and 34% had a record of depression. This underlines the need to consider all conditions together when planning care and services: most older people's health problems do not fit neatly into a single disease category. In the 85+ group, most of these co-morbidities were even more common.

Estimates for more conditions are listed in Appendix 4.

Appendices

Appendices 1, 2, 3 and 4 **Reference tables of disease and common condition and syndrome data presented in the graphs.**

Appendix 5 **Electronic record Read codes used in the analyses of common conditions and syndromes.**

Appendix 1: Prevalence (%) estimates by GP recorded disease in English general practice and hospital records in 2014, with 95% confidence intervals

Coronary heart disease

Age	Male	CL- (95%)	CL+ (95%)	Female	CL- (95%)	CL+ (95%)	Total	CL- (95%)	CL+ (95%)
60-64	10.8	10.4	11.2	4.5	4.2	4.8	7.6	7.3	8
65-69	15.5	15.0	15.9	7.0	6.7	7.4	11.1	10.8	11.5
70-74	21.0	20.5	21.6	10.9	10.4	11.4	15.8	15.3	16.2
75-79	27.4	26.8	28.1	15.9	15.3	16.5	21.2	20.6	21.8
80-84	33.3	32.6	34.0	21.1	20.4	21.8	26.4	25.8	27
85-89	37.6	36.7	38.6	25.2	24.4	26.0	29.9	29.3	30.6
90-94	37.3	36.1	38.5	27.3	26.5	28.1	30.3	29.6	31
95-99	34.6	31.9	37.4	28.0	26.4	29.7	29.7	28.3	31.3
100+	31.3	24.9	38.5	29.0	25.8	32.5	29.4	26.6	32.3
Total	20.4	20.0	20.8	12.4	12.0	12.8	16.5	16.1	16.9

Heart failure

Age	Male	CL- (95%)	CL+ (95%)	Female	CL- (95%)	CL+ (95%)	Total	CL- (95%)	CL+ (95%)
60-64	1.9	1.8	2.1	0.9	0.8	1.0	1.4	1.3	1.5
65-69	3.2	3.0	3.4	1.4	1.3	1.5	2.3	2.1	2.4
70-74	4.9	4.7	5.2	2.7	2.5	2.8	3.8	3.6	3.9
75-79	7.8	7.4	8.1	4.9	4.6	5.2	6.2	5.9	6.5
80-84	11.6	11.1	12.1	8.1	7.8	8.5	9.6	9.3	10
85-89	16.6	15.9	17.2	12.4	11.9	12.8	14	13.5	14.4
90-94	19.6	18.7	20.6	16.5	16.0	17.2	17.5	17	18
95-99	20.8	18.6	23.3	20.7	19.3	22.1	20.7	19.5	22
100+	25.3	19.5	32.2	21.8	19.0	24.9	21.8	19.3	24.7
Total	5.7	5.5	5.9	4.4	4.3	4.5	5.3	5.1	5.4

Atrial fibrillation

Age	Male	CL- (95%)	CL+ (95%)	Female	CL- (95%)	CL+ (95%)	Total	CL- (95%)	CL+ (95%)
60-64	3.5	3.3	3.6	1.5	1.4	1.6	2.5	2.4	2.6
65-69	6.1	5.9	6.3	2.9	2.8	3.1	4.5	4.4	4.6
70-74	9.9	9.7	10.2	5.3	5.2	5.5	7.5	7.4	7.7
75-79	14.7	14.3	15.1	9.4	9.2	9.8	11.9	11.6	12.1
80-84	21.3	20.8	21.9	14.9	14.6	15.3	17.7	17.4	18
85-89	26.8	26.1	27.5	20.6	20.1	21.1	22.9	22.5	23.4
90-94	30.6	29.4	31.7	24.9	24.2	25.6	26.7	26.1	27.3
95-99	30.8	28.4	33.3	25.4	23.9	26.8	26.7	25.4	27.9
100+	24.7	18.6	31.9	25.1	22.0	28.5	25	22.1	28.2
Total	10.9	10.7	11.1	8.1	8.0	8.3	9.4	9.3	9.6

Hypertension									
Age	**Male**	**CL- (95%)**	**CL+ (95%)**	**Female**	**CL- (95%)**	**CL+ (95%)**	**Total**	**CL- (95%)**	**CL+ (95%)**
60-64	35.5	34.8	36.3	29.3	28.5	30.1	32.4	31.7	33.1
65-69	44.9	44.1	45.7	38.6	37.7	39.5	41.7	40.9	42.5
70-74	53.5	52.6	54.3	49.4	48.5	50.3	51.4	50.6	52.2
75-79	61.4	60.5	62.3	60.8	59.8	61.7	61.1	60.2	61.9
80-84	67.4	66.5	68.3	69.5	68.7	70.3	68.6	67.8	69.4
85-89	70.2	69.1	71.3	74.5	73.6	75.3	72.9	72	73.7
90-94	70.5	69.1	71.7	76.0	74.9	77.0	74.2	73.3	75.2
95-99	66.1	63.4	68.8	74.1	72.4	75.7	72.2	70.7	73.6
100+	67.3	59.7	74.1	68.2	64.7	71.5	68.1	64.9	71
Total	51.1	50.4	51.7	50.4	49.7	51.1	50.7	50	51.3

Stroke and transient ischaemic attack									
Age	**Male**	**CL- (95%)**	**CL+ (95%)**	**Female**	**CL- (95%)**	**CL+ (95%)**	**Total**	**CL- (95%)**	**CL+ (95%)**
60-64	3.4	3.2	3.5	2.2	2.1	2.3	2.8	2.6	2.9
65-69	5.1	4.9	5.3	3.4	3.3	3.6	4.2	4.1	4.4
70-74	7.9	7.7	8.2	5.3	5.1	5.6	6.6	6.4	6.8
75-79	11.7	11.3	12.0	8.4	8.1	8.7	9.9	9.6	10.1
80-84	16.0	15.5	16.5	12.6	12.2	13.0	14	13.7	14.4
85-89	19.5	18.9	20.2	16.8	16.3	17.3	17.8	17.4	18.2
90-94	22.3	21.3	23.3	19.8	19.1	20.5	20.6	20	21.2
95-99	20.1	18.1	22.3	22.1	20.8	23.4	21.5	20.4	22.7
100+	24.0	17.6	31.8	23.0	20.2	26.1	23	20.3	25.9
Total	8.3	8.1	8.5	7.1	6.9	7.2	7.9	7.8	8.1

Diabetes mellitus									
Age	**Male**	**CL- (95%)**	**CL+ (95%)**	**Female**	**CL- (95%)**	**CL+ (95%)**	**Total**	**CL- (95%)**	**CL+ (95%)**
60-64	13.0	12.5	13.5	8.3	7.8	8.7	10.6	10.2	11.1
65-69	15.5	15.0	16.0	10.3	9.8	10.7	12.9	12.4	13.3
70-74	18.6	18.0	19.2	12.8	12.3	13.4	15.6	15.1	16.1
75-79	21.8	21.2	22.5	16.3	15.7	16.9	18.9	18.4	19.5
80-84	22.1	21.4	22.7	17.1	16.5	17.7	19.3	18.7	19.8
85-89	20.7	19.9	21.5	16.1	15.5	16.8	17.9	17.4	18.5
90-94	17.5	16.6	18.4	13.7	13.0	14.3	14.9	14.3	15.5
95-99	14.5	12.6	16.5	11.2	10.1	12.4	12	11.1	13
100+	10.0	6.0	16.3	9.9	7.9	12.2	9.9	8.2	11.9
Total	17.4	16.9	17.8	12.6	12.1	13.0	14.8	14.4	15.2

Chronic obstructive pulmonary disease									
Age	**Male**	**CL- (95%)**	**CL+ (95%)**	**Female**	**CL- (95%)**	**CL+ (95%)**	**Total**	**CL- (95%)**	**CL+ (95%)**
60-64	5.0	4.7	5.3	4.6	4.3	4.9	4.8	4.5	5.1
65-69	7.4	7.0	7.8	6.0	5.6	6.4	6.7	6.3	7
70-74	10.3	9.8	10.8	8.1	7.7	8.6	9.2	8.7	9.6
75-79	12.6	12.1	13.1	9.5	9.0	10.1	10.9	10.5	11.4
80-84	13.8	13.2	14.5	10.5	9.9	11.0	11.9	11.4	12.5

85-89	15.2	14.5	16.0	10.3	9.7	10.8	12.1	11.6	12.7
90-94	14.9	13.9	16.0	9.1	8.6	9.7	10.9	10.3	11.5
95-99	12.6	10.8	14.7	7.7	6.8	8.6	8.9	8.1	9.7
100+	12.0	7.6	18.5	6.0	4.6	7.9	6.6	5.1	8.5
Total	9.2	8.9	9.6	7.5	7.2	7.9	8.4	8.1	8.8

Asthma

Age	**Male**	**CL-(95%)**	**CL+(95%)**	**Female**	**CL-(95%)**	**CL+(95%)**	**Total**	**CL-(95%)**	**CL+(95%)**
60-64	10.0	9.6	10.5	13.2	12.7	13.8	11.7	11.2	12.1
65-69	10.0	9.6	10.5	13.2	12.7	13.8	11.7	11.2	12.2
70-74	10.5	10.0	11.0	13.8	13.2	14.5	12.2	11.7	12.7
75-79	11.6	11.1	12.2	14.6	14.0	15.3	13.2	12.7	13.8
80-84	11.4	10.9	12.0	14.4	13.8	15.0	13.1	12.6	13.6
85-89	11.6	10.9	12.3	13.2	12.6	13.7	12.6	12.1	13.1
90-94	10.9	10.0	11.7	12.0	11.4	12.6	11.6	11.1	12.2
95-99	9.8	8.3	11.6	10.4	9.4	11.5	10.3	9.4	11.2
100+	9.3	5.6	15.1	8.5	6.7	10.8	8.7	7	10.7
Total	10.6	10.2	11.0	13.6	13.1	14.1	12.2	11.7	12.6

Chronic kidney disease - stage 3 to 5

Age	**Male**	**CL-(95%)**	**CL+(95%)**	**Female**	**CL-(95%)**	**CL+(95%)**	**Total**	**CL-(95%)**	**CL+(95%)**
60-64	3.1	2.8	3.3	4.3	3.9	4.7	3.7	3.4	4
65-69	5.8	5.5	6.2	7.3	6.7	8.0	6.6	6.1	7.1
70-74	11.0	10.3	11.6	13.0	12.1	13.9	12	11.3	12.8
75-79	17.9	16.9	18.9	20.7	19.5	21.9	19.4	18.3	20.4
80-84	26.9	25.7	28.2	29.5	28.0	31.1	28.4	27.1	29.8
85-89	34.0	32.6	35.6	36.3	34.5	38.1	35.5	33.9	37.1
90-94	39.4	37.5	41.4	40.3	38.4	42.2	40	38.3	41.9
95-99	38.9	36.0	41.9	39.9	37.5	42.3	39.7	37.5	41.9
100+	36.0	28.4	44.4	37.6	34.0	41.4	37.3	34	40.7
Total	12.1	11.5	12.6	15.8	15.0	16.7	14.7	14	15.5

Hypothyroidism

Age	**Male**	**CL-(95%)**	**CL+(95%)**	**Female**	**CL-(95%)**	**CL+(95%)**	**Total**	**CL-(95%)**	**CL+(95%)**
60-64	2.8	2.6	2.9	11.6	11.3	12.0	7.2	7	7.5
65-69	3.3	3.1	3.4	13.0	12.6	13.3	8.2	8	8.4
70-74	3.9	3.7	4.1	14.7	14.3	15.1	9.5	9.2	9.8
75-79	5.3	5.0	5.6	16.0	15.6	16.5	11.1	10.7	11.4
80-84	6.4	6.0	6.7	17.0	16.5	17.5	12.4	12	12.8
85-89	7.8	7.4	8.2	18.2	17.6	18.8	14.2	13.8	14.7
90-94	8.8	8.1	9.5	18.3	17.6	19.1	15.3	14.7	15.9
95-99	9.8	8.2	11.6	17.6	16.4	18.9	15.8	14.8	16.9
100+	8.7	5.1	14.3	16.3	14.0	18.8	15.1	13.1	17.5
Total	4.2	4.1	4.4	14.5	14.2	14.8	9.8	9.6	10.1

Cancer, recent

Age	**Male**	**CL-(95%)**	**CL+(95%)**	**Female**	**CL-(95%)**	**CL+(95%)**	**Total**	**CL-(95%)**	**CL+(95%)**

60-64	4.2	4.0	4.3	4.6	4.5	4.8	4.4	4.3	4.5
65-69	6.8	6.6	7.0	5.9	5.7	6.1	6.3	6.2	6.5
70-74	9.8	9.5	10.1	6.7	6.5	6.9	8.2	8	8.4
75-79	12.3	12.0	12.6	7.0	6.8	7.2	9.4	9.2	9.6
80-84	14.3	13.9	14.7	7.7	7.4	8.0	10.5	10.3	10.8
85-89	15.9	15.3	16.5	7.7	7.3	8.0	10.8	10.5	11.1
90-94	15.7	14.9	16.7	7.0	6.5	7.4	9.7	9.2	10.2
95-99	14.8	13.0	16.8	6.0	5.3	6.8	8.1	7.4	8.9
100+	12.7	8.3	18.8	5.0	3.7	6.7	6.2	4.9	7.8
Total	0.0	0.0	0.0	0.0	0.0	0.0	7.6	7.5	7.7

Epilepsy									
Age	**Male**	**CL- (95%)**	**CL+ (95%)**	**Female**	**CL- (95%)**	**CL+ (95%)**	**Total**	**CL- (95%)**	**CL+ (95%)**
60-64	1.9	1.8	2.0	1.7	1.6	1.9	1.8	1.7	1.9
65-69	1.8	1.7	1.9	1.8	1.7	1.9	1.8	1.7	1.9
70-74	1.8	1.7	1.9	1.8	1.6	1.9	1.8	1.7	1.9
75-79	2.1	1.9	2.3	1.9	1.7	2.0	2	1.9	2.1
80-84	2.2	2.0	2.4	1.9	1.8	2.1	2	1.9	2.2
85-89	2.1	1.9	2.4	1.9	1.7	2.1	2	1.8	2.1
90-94	2.5	2.1	2.9	1.9	1.7	2.2	2.1	1.9	2.3
95-99	2.1	1.5	3.1	2.1	1.7	2.6	2.1	1.7	2.5
100+	1.3	0.3	5.2	1.5	0.8	2.6	1.4	0.8	2.5
Total	1.9	1.9	2.0	1.8	1.8	1.9	1.9	1.8	1.9

Depression									
Age	**Male**	**CL- (95%)**	**CL+ (95%)**	**Female**	**CL- (95%)**	**CL+ (95%)**	**Total**	**CL- (95%)**	**CL+ (95%)**
60-64	16.9	16.3	17.5	27.6	26.7	28.5	22.3	21.6	23
65-69	16.0	15.4	16.6	25.5	24.6	26.5	20.9	20.2	21.6
70-74	14.5	13.9	15.1	23.5	22.6	24.4	19.2	18.5	19.9
75-79	13.8	13.2	14.5	22.2	21.4	23.2	18.3	17.6	19.1
80-84	12.7	12.1	13.3	21.6	20.9	22.4	17.8	17.1	18.4
85-89	13.4	12.7	14.1	22.1	21.2	22.9	18.7	18.1	19.5
90-94	14.0	13.0	15.0	22.8	21.8	23.7	20	19.2	20.9
95-99	13.6	11.8	15.6	21.2	19.7	22.8	19.4	18.1	20.8
100+	12.7	8.4	18.7	19.6	16.9	22.6	18.5	16.1	21.2
Total	15.1	14.5	15.6	24.2	23.5	25.0	20	19.4	20.7

Severe mental health conditions									
Age	**Male**	**CL- (95%)**	**CL+ (95%)**	**Female**	**CL- (95%)**	**CL+ (95%)**	**Total**	**CL- (95%)**	**CL+ (95%)**
60-64	1.7	1.5	1.9	2.2	1.9	2.4	1.9	1.7	2.1
65-69	1.5	1.4	1.8	2.1	1.9	2.4	1.8	1.7	2.1
70-74	1.5	1.3	1.7	2.1	1.9	2.3	1.8	1.6	2
75-79	1.4	1.2	1.6	1.9	1.7	2.2	1.7	1.5	1.9
80-84	1.2	1.0	1.4	2.1	1.9	2.4	1.7	1.5	1.9
85-89	1.3	1.1	1.5	2.2	2.0	2.5	1.9	1.6	2.1
90-94	1.2	1.0	1.5	2.3	2.0	2.6	1.9	1.7	2.2
95-99	2.1	1.4	3.2	2.1	1.7	2.6	2.1	1.7	2.6

100+	0.0	0.0	0.0	2.2	1.4	3.5	1.9	1.2	2.9
Total	1.5	1.3	1.7	2.1	1.9	2.3	1.8	1.7	2
Dementia									
Age	**Male**	**CL- (95%)**	**CL+ (95%)**	**Female**	**CL- (95%)**	**CL+ (95%)**	**Total**	**CL- (95%)**	**CL+ (95%)**
60-64	0.3	0.3	0.4	0.3	0.3	0.4	0.3	0.3	0.4
65-69	0.7	0.6	0.8	0.6	0.6	0.7	0.6	0.6	0.7
70-74	1.6	1.4	1.7	1.7	1.5	1.8	1.6	1.5	1.7
75-79	4.0	3.7	4.2	4.0	3.8	4.2	4	3.8	4.2
80-84	7.5	7.1	7.9	9.2	8.7	9.6	8.4	8	8.7
85-89	12.7	12.0	13.4	16.5	15.8	17.3	15	14.4	15.6
90-94	17.3	16.2	18.5	24.2	23.1	25.4	22.1	21.1	23.1
95-99	20.0	17.8	22.4	29.7	28.0	31.5	27.4	25.8	29.1
100+	16.0	10.8	23.0	27.7	24.6	31.0	25.7	23	28.7
Total	2.9	2.8	3.0	4.6	4.4	4.8	4.1	4	4.3

Appendix 2: Prevalence (%) estimates of GP recorded additional common conditions and syndromes in 2014, with 95% confidence intervals

Osteoarthritis

Age	Male	CL- (95%)	CL+ (95%)	Female	CL- (95%)	CL+ (95%)	Total	CL- (95%)	CL+ (95%)
60-64	13.3	12.6	14.0	20.8	19.9	21.6	17.1	16.4	17.8
65-69	18.2	17.4	19.0	26.6	25.7	27.5	22.5	21.7	23.4
70-74	23.3	22.4	24.3	32.0	30.9	33.0	27.8	26.9	28.8
75-79	27.9	26.8	29.0	37.6	36.3	38.8	33.1	32	34.2
80-84	31.1	29.9	32.3	40.7	39.5	41.9	36.6	35.4	37.7
85-89	32.1	30.8	33.5	41.1	39.7	42.5	37.8	36.5	39.1
90-94	33.1	31.4	34.8	40.2	38.8	41.6	38	36.6	39.4
95-99	31.9	29.0	34.9	36.1	34.2	38.1	35.2	33.4	37
100+	29.3	22.0	38.0	33.6	30.3	37.1	33.2	30.1	36.4
Total	21.5	20.7	22.4	31.1	30.1	32.1	27	26.2	27.9

Osteoporosis

Age	Male	CL- (95%)	CL+ (95%)	Female	CL- (95%)	CL+ (95%)	Total	CL- (95%)	CL+ (95%)
60-64	0.7	0.6	0.8	4.5	4.3	4.8	2.6	2.5	2.8
65-69	1.0	0.9	1.1	7.0	6.7	7.4	4.1	3.9	4.3
70-74	1.5	1.4	1.7	9.7	9.2	10.1	5.8	5.5	6
75-79	2.2	2.0	2.4	13.8	13.3	14.3	8.4	8.1	8.8
80-84	2.9	2.7	3.2	16.8	16.1	17.5	10.8	10.3	11.3
85-89	4.3	3.8	4.9	20.3	19.4	21.2	14.2	13.5	14.9
90-94	4.8	4.1	5.6	19.4	18.5	20.4	14.8	14	15.7
95-99	5.2	4.0	6.7	17.6	16.3	18.9	14.7	13.7	15.9
100+	4.7	2.2	9.4	14.8	12.6	17.4	13.2	11.2	15.4
Total	1.7	1.6	1.8	10.6	10.2	11.0	6.6	6.4	6.9

Anaemia

Age	Male	CL- (95%)	CL+ (95%)	Female	CL- (95%)	CL+ (95%)	Total	CL- (95%)	CL+ (95%)
60-64	2.3	2.1	2.6	2.9	2.6	3.1	2.6	2.4	2.8
65-69	3.4	3.1	3.6	3.6	3.4	3.9	3.5	3.3	3.7
70-74	5.1	4.7	5.5	5.2	4.9	5.6	5.2	4.8	5.5
75-79	8.1	7.5	8.7	8.1	7.6	8.6	8.1	7.6	8.6
80-84	11.3	10.6	12.1	10.8	10.1	11.5	11	10.3	11.7
85-89	14.0	13.1	15.1	12.8	12.0	13.7	13.3	12.5	14.1
90-94	16.7	15.4	18.1	13.6	12.7	14.6	14.5	13.6	15.5
95-99	16.5	14.2	19.0	12.7	11.5	14.1	13.5	12.3	14.9
100+	18.0	12.6	25.0	11.0	9.0	13.3	12.2	10.1	14.5
Total	5.7	5.4	6.1	6.3	6.0	6.7	6.3	5.9	6.6

Falls

Age	Male	CL- (95%)	CL+ (95%)	Female	CL- (95%)	CL+ (95%)	Total	CL- (95%)	CL+ (95%)
60-64	3.7	3.4	3.9	6.4	6.0	6.7	5	4.8	5.3
65-69	4.6	4.3	4.9	7.5	7.1	7.9	6.1	5.8	6.4
70-74	6.4	6.0	6.8	10.6	10.1	11.2	8.6	8.1	9.1

75-79	10.8	10.1	11.6	16.4	15.6	17.3	13.8	13.1	14.6
80-84	17.0	16.1	18.1	23.6	22.5	24.7	20.8	19.8	21.8
85-89	24.7	23.5	26.1	31.9	30.6	33.3	29.2	28	30.5
90-94	34.3	32.6	36.0	38.9	37.2	40.7	37.5	35.9	39
95-99	40.3	37.1	43.7	44.0	41.9	46.2	43.2	41.2	45.3
100+	47.3	39.5	55.3	50.0	45.9	54.1	49.8	46.1	53.6
Total	8.5	8.1	9.0	14.3	13.8	14.9	12.2	11.7	12.7

Fractures

Age	**Male**	**CL-(95%)**	**CL+(95%)**	**Female**	**CL-(95%)**	**CL+(95%)**	**Total**	**CL-(95%)**	**CL+(95%)**
60-64	2.2	2.0	2.3	5.3	5.1	5.6	3.8	3.6	3.9
65-69	2.4	2.2	2.5	6.1	5.9	6.4	4.3	4.1	4.4
70-74	2.7	2.5	2.9	7.4	7.1	7.7	5.1	4.9	5.3
75-79	3.2	3.0	3.4	9.6	9.3	10.0	6.6	6.4	6.9
80-84	4.4	4.1	4.7	12.9	12.5	13.4	9.2	8.9	9.5
85-89	6.4	6.0	6.8	17.3	16.7	18.0	13.1	12.7	13.6
90-94	9.0	8.3	9.8	20.7	19.9	21.5	17	16.3	17.7
95-99	11.9	10.1	14.0	23.0	21.6	24.5	20.3	19.2	21.6
100+	8.7	5.1	14.4	23.1	20.3	26.2	20.9	18.4	23.7
Total	3.1	2.9	3.2	9.0	8.8	9.3	6.4	6.3	6.6

Urinary and faecal incontinence

Age	**Male**	**CL-(95%)**	**CL+(95%)**	**Female**	**CL-(95%)**	**CL+(95%)**	**Total**	**CL-(95%)**	**CL+(95%)**
60-64	0.8	0.7	0.9	4.4	4.2	4.6	2.6	2.5	2.8
65-69	1.2	1.1	1.3	4.8	4.5	5.0	3	2.9	3.2
70-74	1.7	1.5	1.8	5.6	5.3	5.9	3.7	3.5	3.9
75-79	2.8	2.6	3.0	6.9	6.6	7.3	5	4.8	5.3
80-84	4.6	4.3	5.0	8.2	7.7	8.6	6.7	6.3	7
85-89	6.2	5.7	6.8	9.5	8.9	10.1	8.3	7.7	8.8
90-94	7.4	6.7	8.2	9.8	9.0	10.6	9	8.4	9.8
95-99	9.1	7.7	10.7	11.2	9.8	12.8	10.7	9.5	12
100+	9.3	5.7	15.0	9.7	7.9	12.0	9.7	7.9	11.8
Total	2.2	2.1	2.4	6.2	6.0	6.5	4.4	4.2	4.6

Skin ulcers and pressure sores

Age	**Male**	**CL-(95%)**	**CL+(95%)**	**Female**	**CL-(95%)**	**CL+(95%)**	**Total**	**CL-(95%)**	**CL+(95%)**
60-64	1.2	1.1	1.4	0.9	0.8	0.9	1	1	1.1
65-69	1.7	1.6	1.9	1.3	1.2	1.4	1.5	1.4	1.6
70-74	2.4	2.2	2.6	2.1	1.9	2.3	2.2	2.1	2.4
75-79	3.4	3.2	3.7	3.4	3.2	3.7	3.4	3.2	3.6
80-84	5.2	4.8	5.6	5.8	5.4	6.1	5.5	5.2	5.9
85-89	7.5	6.9	8.1	8.3	7.8	8.8	8	7.5	8.5
90-94	9.2	8.4	10.2	11.0	10.3	11.8	10.4	9.8	11.2
95-99	11.6	9.9	13.6	12.0	10.8	13.3	11.9	10.8	13.1
100+	8.7	5.1	14.3	11.6	9.5	13.9	11.2	9.4	13.4
Total	2.8	2.6	2.9	3.2	3.0	3.3	3.1	3	3.3

Appendix 3: Co-morbidity reference tables

A. Number of concomitant disease diagnoses per patient, for each age group – Figure 23

	60-64	65-69	70-74	75-79	80-84	85-89	90-94	95-99	100+
5 or more diseases	2.2	3.6	6.2	10.6	16.0	21.7	25.5	26.5	21.2
4 diseases	3.3	4.9	7.1	10.0	12.8	15.0	16.5	15.6	14.7
3 diseases	8.0	10.5	13.2	16.5	18.4	19.5	19.3	19.3	19.6
2 diseases	17.3	19.9	22.2	22.6	22.1	20.1	19.2	18.9	19.3
1 disease	31.1	30.3	27.9	23.9	19.3	15.7	12.9	12.3	13.0
No disease	38.1	30.8	23.3	16.5	11.5	8.0	6.5	7.3	12.2

B. Percentage of patients with each diagnosed disease who also had additional disease diagnoses, for the 85 to 100+ age groups and the 60 to 84 age groups – Figure 24

B1 Number of concomitant diseases if patient is diagnosed with each named disease (age ≥85)

≥85	6 plus diseases	4 to 5 diseases	2 to 3 diseases	1 disease	no additional disease
Hypothyroidism	14.6	28.8	39.5	12.9	4.2
Stroke	16.0	32.5	38.7	10.1	2.7
Severe mental health conditions	24.3	36.0	33.1	6.1	0.5
Hypertension	7.9	21.6	40.3	19.6	10.6
Heart failure	24.4	40.5	30.4	4.0	0.8
Epilepsy	23.0	34.7	30.6	8.2	3.5
Diabetes	16.3	31.4	40.6	9.7	2.1
Depression	15.9	30.6	37.9	11.3	4.4
Dementia	16.7	30.6	36.6	11.9	4.2
Chronic obstructive pulmonary disease	22.0	32.5	33.5	8.9	3.1
Chronic kidney disease, stage 3-5	11.6	27.9	43.1	15.1	2.3
Coronary heart disease	15.9	33.7	39.2	9.4	1.9
Cancer, recent	13.1	27.3	38.8	14.5	6.3
Atrial fibrillation	17.0	34.6	37.1	8.7	2.6
Asthma	19.1	30.3	36.1	10.6	3.9

B2 Number of concomitant diseases if patient is diagnosed with each named disease (age 60 to <85)

60 to 84	6 plus diseases	4 to 5 diseases	2 to 3 diseases	1 disease	no additional disease
Hypothyroidism	4.8	13.5	37.0	26.0	18.6
Stroke	9.4	23.3	41.9	18.8	6.7
Severe mental health conditions	12.2	22.7	39.4	18.8	6.9
Hypertension	2.6	10.0	33.1	28.9	25.4
Heart failure	19.4	38.1	34.9	6.3	1.2
Epilepsy	8.5	17.9	35.0	21.4	17.2
Diabetes	5.5	17.2	43.5	25.1	8.7
Depression	3.8	12.2	34.6	26.3	23.1
Dementia	13.9	24.7	37.4	15.8	8.2
Chronic obstructive pulmonary disease	8.9	21.2	39.0	20.1	10.7
Chronic kidney disease, stage 3-5	6.9	20.6	45.3	21.7	5.5
Coronary heart disease	7.1	22.1	44.2	19.4	7.2
Cancer, recent	4.4	13.9	36.3	25.6	19.8
Atrial fibrillation	10.4	25.8	41.1	16.1	6.6
Asthma	5.2	14.5	36.3	25.1	18.8

Appendix 4: Specific co-morbidities with selected major diseases, conditions and syndromes

A. Proportion (%) of patients with each major disease, condition or syndrome (horizontal axis) who also have specified additional diseases (vertical axis) – Figure 25

All	Cancer	Mental health	CHD	HF	AF	Hypert ension	Stroke & TIA	Diabetes	COPD	Asthm a	CKD 3 to5	Hypothy -roidism	Epile- psy	Depres -sion	Demen -tia
Cancer	100	8.6	10.1	11.9	12.0	8.9	10.0	9.1	11.8	8.6	10.3	7.9	9.2	7.8	8.8
Mental Health	3.6	100	4.8	7.5	6.1	3.8	7.5	4.4	5.0	3.6	5.3	5.0	10.0	8.0	41.3
CHD	22.1	25.1	100	64.0	43.4	25.4	34.1	29.9	31.8	22.3	32.3	21.3	23.6	21.4	29.3
HF	8.3	12.6	20.5	100	28.1	8.5	13.9	10.9	15.3	8.2	15.0	8.2	9.6	6.8	14.2
AF	14.9	18.1	24.8	50.1	100	14.3	27.0	14.3	18.1	11.9	20.3	13.2	14.7	10.0	22.5
Hypertension	59.8	60.9	78.1	82.1	76.8	100	77.5	78.3	63.0	57.3	81.8	59.2	56.6	54.4	68.2
Stroke	10.4	18.8	16.4	20.9	22.8	12.1	100	12.4	13.3	9.4	15.7	10.4	23.9	10.4	24.1
Diabetes	17.7	20.5	26.9	30.5	22.5	22.9	23.1	100	20.4	18.2	27.1	18.5	16.7	18.4	19.6
COPD	13.1	13.4	16.3	24.4	16.2	10.5	14.2	11.6	100	25.5	12.7	10.2	13.2	12.6	12.4
Asthma	13.8	14.1	16.5	19.0	15.4	13.8	14.5	15.0	37.0	100	14.3	15.4	16.2	16.9	12.7
CKD3_5	20.0	24.8	28.8	41.9	31.7	23.7	29.1	26.9	22.2	17.3	100	24.9	15.6	16.7	29.7
Hypothyroid	10.2	15.6	12.7	15.4	13.8	11.5	12.9	12.3	11.9	12.4	16.7	100	12.9	13.3	14.7
Epilepsy	2.3	5.9	2.7	3.4	2.9	2.1	5.6	2.1	2.9	2.5	2.0	2.4	100	2.7	5.5
Depression	20.6	50.7	25.9	25.8	21.3	21.5	26.3	24.8	29.9	27.7	22.7	27.1	29.3	100	31.9
Dementia	4.8	54.1	7.3	11.1	9.8	5.6	12.5	5.5	6.1	4.3	8.3	6.2	12.1	6.6	100
Osteoarthritis	29.1	29.1	33.8	36.3	34.9	31.9	32.8	31.4	32.6	34.3	36.3	34.7	27.6	33.3	31.7
Osteoporosis	7.9	10.9	8.1	10.7	9.4	7.4	9.8	5.2	11.7	9.4	9.8	10.5	10.2	8.7	13.3
Falls	14.8	33.2	19.6	26.8	23.9	15.9	25.3	16.2	18.6	16.0	21.5	17.6	25.1	17.3	40.0
Anaemia	12.0	12.1	12.5	18.0	13.0	9.0	12.5	13.0	11.8	9.0	14.6	10.0	9.9	8.2	13.6
Faecal and urinary incontinence	6.1	12.6	6.2	7.8	6.6	5.4	8.2	5.8	6.3	6.3	7.0	7.0	8.7	7.3	14.3
Fractures	7.6	16.9	8.2	11.7	10.3	7.5	10.6	6.4	9.3	8.2	9.5	9.3	11.9	8.8	18.9
Skin ulcers and pressure sores	4.2	7.6	5.6	10.7	8.4	4.5	6.8	6.3	5.8	4.1	6.7	4.3	5.8	3.9	9.3

B. Proportion (%) of patients, age 85 and older, with each major disease, condition or syndrome (horizontal axis) who also have specified additional diseases (vertical axis) – Figure 25

≥85	Cancer	Mental health	CHD	HF	AF	Hypert ension	Stroke & TIA	Diabetes	COPD	Asthm a	CKD 3 to5	Hypothy -roidism	Epile- psy	Depres -sion	Demen -tia
Cancer	NA	9.4	12.0	12.0	12.7	10.5	10.8	11.0	13.1	11.2	10.7	8.9	11.7	9.4	8.8
Mental Health	8.9	NA	10.6	12.3	11.9	9.7	13.6	10.5	10.4	10.3	9.1	10.9	21.5	18.2	47.8
CHD	35.5	33.1	NA	60.0	45.8	35.0	39.4	40.1	43.0	38.4	37.8	35.0	38.6	38.2	30.9
HF	18.5	20.0	31.3	NA	35.9	18.2	21.1	22.1	29.0	22.6	21.8	19.3	23.1	19.5	17.0
AF	30.3	30.1	37.2	55.9	NA	27.5	37.4	29.0	33.2	28.3	29.1	27.9	32.6	26.1	27.0
Hypertension	75.1	73.4	85.3	85.2	82.6	NA	82.8	87.2	76.5	77.3	85.8	77.8	75.2	76.6	71.5
Stroke	20.1	26.9	25.0	25.6	29.2	21.5	NA	22.0	21.1	20.3	21.8	20.8	41.2	23.5	25.6
Diabetes	17.6	17.8	21.9	23.1	19.4	19.5	18.9	NA	19.4	19.2	22.6	18.2	16.1	19.7	17.2
COPD	14.7	12.4	16.4	21.2	15.6	12.0	12.7	13.5	NA	38.8	12.8	12.7	14.6	14.4	11.2
Asthma	13.2	12.9	15.4	17.4	14.0	12.7	12.9	14.1	40.9	NA	12.9	13.4	15.3	15.2	11.8
CKD3_5	38.9	35.2	46.8	51.7	44.4	43.6	42.6	51.2	41.7	39.8	NA	46.4	36.2	40.1	35.4
Hypothyroid	12.9	16.6	17.1	18.1	16.8	15.6	16.1	16.4	16.3	16.4	18.3	NA	18.1	18.4	15.9
Epilepsy	2.3	4.5	2.6	3.0	2.7	2.1	4.4	2.0	2.6	2.6	2.0	2.5	NA	2.7	3.5
Depression	17.8	36.3	24.4	23.9	20.5	20.1	23.7	23.1	24.2	24.2	20.7	24.1	25.6	NA	29.7
Dementia	15.8	90.6	18.8	19.9	20.2	17.9	24.6	19.2	18.0	17.8	17.4	19.8	31.7	28.2	NA
Osteoarthritis	37.4	32.8	40.4	41.7	39.4	39.3	38.1	37.3	39.5	43.7	40.7	41.0	35.3	43.6	33.4
Osteoporosis	13.5	16.2	14.2	15.5	14.2	14.6	15.1	10.9	16.9	17.9	14.6	17.6	16.1	18.5	15.6
Falls	33.7	49.1	36.8	39.5	38.2	34.4	40.4	34.5	36.1	37.4	34.8	36.5	45.6	42.6	45.8
Anaemia	20.5	15.9	17.6	20.7	16.7	15.1	16.7	19.3	18.1	17.0	18.0	16.8	16.8	15.7	15.0
Faecal and urinary incontinence	9.9	14.9	9.7	10.4	9.4	9.0	11.0	9.7	9.9	10.0	9.4	10.3	12.6	12.1	14.3
Fractures	14.4	27.3	15.6	17.4	16.5	15.5	16.6	13.5	16.9	17.3	15.3	17.2	22.3	19.9	23.2
Skin ulcers and pressure sores	9.2	11.8	10.2	14.1	12.5	9.6	10.8	11.8	11.0	10.4	10.2	9.8	11.9	10.1	11.1

C. Proportion (%) of patients, age 60 to 84 years, with each major disease, condition or syndrome (horizontal axis) who also have specified additional diseases (vertical axis) – Figure 25

60 to 84	Cancer	Mental health	CHD	HF	AF	Hypert ension	Stroke & TIA	Diabetes	COPD	Asthm a	CKD 3 to5	Hypothy -roidism	Epile- psy	Depres -sion	Demen -tia
Cancer	100	8.2	9.6	11.9	11.7	8.6	9.6	8.8	11.5	8.3	10.2	7.7	8.9	7.6	8.7
Mental Health	2.6	100	3.2	5.0	3.5	2.6	5.0	3.5	4.0	2.8	3.7	3.7	8.3	6.7	34.2
CHD	19.5	20.6	100	66.1	42.3	23.4	32.0	28.4	29.7	20.2	29.9	18.4	21.4	19.2	27.4
HF	6.4	8.4	17.5	100	24.6	6.6	11.0	9.2	12.7	6.3	12.2	5.9	7.6	5.2	11.1
AF	12.0	11.3	21.4	46.9	100	11.5	22.9	12.1	15.2	9.7	16.6	10.1	12.1	8.0	17.5
Hypertension	57.0	53.8	76.1	80.5	74.3	100	75.4	77.0	60.4	54.7	80.1	55.2	53.9	51.6	64.5
Stroke	8.6	14.2	14.1	18.3	19.9	10.2	100	10.9	11.9	8.0	13.1	8.1	21.4	8.8	22.4
Diabetes	17.7	22.0	28.2	34.4	23.7	23.5	24.7	100	20.6	18.1	29.0	18.5	16.8	18.2	22.1
COPD	12.8	14.0	16.2	26.1	16.4	10.2	14.8	11.3	100	23.8	12.7	9.7	12.9	12.3	13.8
Asthma	14.0	14.8	16.8	19.9	16.0	14.0	15.1	15.1	36.2	100	14.9	15.8	16.3	17.1	13.8
CKD3_5	16.4	18.9	23.9	36.6	26.2	19.6	23.8	23.2	18.5	14.3	100	20.3	12.7	13.7	23.4
Hypothyroid	9.8	15.0	11.5	13.9	12.5	10.7	11.6	11.7	11.1	11.9	16.0	100	12.1	12.7	13.4
Epilepsy	2.3	6.7	2.7	3.6	3.0	2.1	6.1	2.1	3.0	2.5	2.0	2.4	100	2.8	7.6
Depression	21.1	58.7	26.4	26.9	21.6	21.8	27.3	25.1	31.0	28.2	23.6	27.7	29.9	100	34.4
Dementia	2.7	33.5	4.2	6.4	5.3	3.0	7.8	3.4	3.8	2.5	4.5	3.3	9.2	3.8	100
Osteoarthritis	27.5	27.0	32.0	33.4	32.9	30.3	30.7	30.5	31.3	33.1	34.5	33.4	26.4	32.0	29.9
Osteoporosis	6.8	7.9	6.4	8.1	7.3	5.9	7.7	4.3	10.7	8.3	7.7	8.9	9.3	7.5	10.7
Falls	11.2	24.3	15.0	19.9	17.6	12.1	19.4	13.5	15.3	13.2	15.8	13.5	22.1	14.0	33.7
Anaemia	10.5	10.1	11.1	16.5	11.4	7.8	10.9	12.0	10.6	8.0	13.1	8.6	8.9	7.3	11.9
Faecal and urinary incontinence	5.4	11.4	5.2	6.3	5.4	4.6	7.1	5.3	5.6	5.8	6.0	6.3	8.1	6.7	14.4
Fractures	6.3	10.9	6.2	8.6	7.5	5.9	8.2	5.4	7.9	7.0	7.0	7.6	10.4	7.4	14.3
Skin ulcers and pressure sores	3.3	5.3	4.3	8.9	6.6	3.4	5.3	5.5	4.8	3.3	5.2	3.2	4.9	3.1	7.3

Appendix 5: Electronic record Read codes used in the analyses of geriatric syndromes

Set out below is the list of CPRD medcodes, Read codes and Read code terms used to classify each common condition and syndrome.

Osteoarthritis

Readcode	Medcode	Readcode term	Readcode	Medcode	Readcode term
N05..11	396	Osteoarthritis	**N052800**	32891	Localised, secondary osteoarthritis of other specified site
N05z211	639	Elbow osteoarthritis NOS	**N052600**	33479	Localised, secondary osteoarthritis of the lower leg
N05z400	658	Osteoarthritis NOS, of the hand	**N052100**	33574	Localised, secondary osteoarthritis of the shoulder region
N05z611	665	Knee osteoarthritis NOS	**N05zK00**	34023	Osteoarthritis NOS, of sacro-iliac joint
N11z.11	829	Osteoarthritis spine	**N052700**	34035	Localised, secondary osteoarthritis of the ankle and foot
N053512	1104	Hip osteoarthitis NOS	**N053.00**	34122	Localised osteoarthritis, unspecified
N053611	1296	Patellofemoral osteoarthritis	**N053600**	34804	Localised osteoarthritis, unspecified, of the lower leg
N05z712	1312	Foot osteoarthritis NOS	**N051300**	34806	Localised, primary osteoarthritis of the forearm
N05z412	1959	Thumb osteoarthritis NOS	**N050z00**	34867	Generalised osteoarthritis NOS
N05z511	2209	Hip osteoarthritis NOS	**N05z000**	35527	Osteoarthritis NOS, of unspecified site
N05zB00	2229	Osteoarthritis NOS, of acromioclavicular joint	**N050112**	35919	Bouchards' nodes
N05zL00	2487	Osteoarthritis NOS, of knee	**N050100**	36327	Generalised osteoarthritis of the hand
N05..00	3057	Osteoarthritis and allied disorders	**N050300**	38018	Bouchard's nodes with arthropathy
N05z100	3147	Osteoarthritis NOS, of shoulder region	**N050600**	38019	Erosive osteoarthrosis
N05zA00	3814	Osteoarthritis NOS, of sternoclavicular joint	**N050000**	38631	Generalised osteoarthritis of unspecified site
N050111	4015	Heberdens' nodes	**N05zP00**	40972	Osteoarthritis NOS, of subtalar joint
N050.00	4353	Generalised osteoarthritis - OA	**N052200**	41088	Localised, secondary osteoarthritis of the upper arm
N053700	4461	Localised osteoarthritis, unspecified, of the ankle and foot	**N054600**	41090	Oligoarticular osteoarthritis, unspecified, of lower leg
N05z411	4490	Finger osteoarthritis NOS	**N11D000**	41378	Osteoarthritis of cervical spine
N05z713	4878	Toe osteoarthritis NOS	**N052.00**	42045	Localised, secondary osteoarthritis
N05z500	4967	Osteoarthritis NOS, pelvic region/thigh	**N052500**	44041	Localised, secondary osteoarthritis of pelvic region/thigh
N05z.00	5776	Osteoarthritis NOS	**N052300**	45815	Localised, secondary osteoarthritis of the forearm
N05z900	5802	Osteoarthritis NOS, of shoulder	**N11D100**	47024	Osteoarthritis of thoracic spine

N312.00	6332	Hypertrophic pulmonary osteoarthropathy	**N054000**	48214	Oligoarticular osteoarthritis, unspec, of unspecified sites
N05zJ00	6812	Osteoarthritis NOS, of hip	**N053000**	49545	Localised osteoarthritis, unspecified, of unspecified site
N05zS00	6887	Osteoarthritis NOS, of 1st MTP joint	**N05z200**	50848	Osteoarthritis NOS, of the upper arm
N11..12	7429	Osteoarthritis of spine	**N054100**	52095	Oligoarticular osteoarthritis, unspecified, of shoulder
N05zF00	7866	Osteoarthritis NOS, of MCP joint	**N05z711**	52897	Ankle osteoarthritis NOS
N05zN00	8202	Osteoarthritis NOS, of ankle	**N11D300**	53184	Osteoarthritis of spine NOS
N05zT00	9010	Osteoarthritis NOS, of lesser MTP joint	**N054z00**	53858	Osteoarthritis of more than one site, unspecified, NOS
N05zE00	9649	Osteoarthritis NOS, of wrist	**N051000**	54224	Localised, primary osteoarthritis of unspecified site
N05zH00	9681	Osteoarthritis NOS, of DIP joint of finger	**N05zR00**	54350	Osteoarthritis NOS, of other tarsal joint
14G2.00	9760	H/O: osteoarthritis	**N05zQ00**	55388	Osteoarthritis NOS, of talonavicular joint
N05zG00	11032	Osteoarthritis NOS, of PIP joint of finger	**N054900**	57267	Oligoarticular osteoarthritis, unspecified, multiple sites
12I2.00	13226	FH: Osteoarthritis	**N052z00**	57912	Localised, secondary osteoarthritis NOS
N05z800	15052	Osteoarthritis NOS, other specified site	**N054400**	59616	Oligoarticular osteoarthritis, unspecified, of hand
N05z600	15144	Osteoarthritis NOS, of the lower leg	**N053200**	59637	Localised osteoarthritis, unspecified, of the upper arm
N05z311	15206	Wrist osteoarthritis NOS	**N053300**	60537	Localised osteoarthritis, unspecified, of the forearm
N053100	15441	Localised osteoarthritis, unspecified, of shoulder region	**N05zD00**	65748	Osteoarthritis NOS, of distal radio-ulnar joint
N05z700	15447	Osteoarthritis NOS, of ankle and foot	**N052000**	68712	Localised, secondary osteoarthritis of unspecified site
N051500	15839	Localised, primary osteoarthritis of the pelvic region/thigh	**N05zM00**	70425	Osteoarthritis NOS, of tibio-fibular joint
N053400	16242	Localised osteoarthritis, unspecified, of the hand	**N054700**	72109	Oligoarticular osteoarthritis, unspecified, of ankle/foot
N110.12	17092	Osteoarthritis cervical spine	**N052400**	23638	Localised, secondary osteoarthritis of the hand
2G26.00	17282	O/E - hands - Heberden's nodes	**N050400**	23646	Primary generalized osteoarthrosis
N053800	18112	Localised osteoarthritis, unspecified, of other spec site	**N050200**	23676	Generalised osteoarthritis of multiple sites
N051F00	18602	Localised, primary osteoarthritis of elbow	**N051100**	24022	Localised, primary osteoarthritis of the shoulder region
N11D.00	18826	Osteoarthritis of spine	**N05z300**	24152	Osteoarthritis NOS, of the forearm
N05zC00	19713	Osteoarthritis NOS, of elbow	**N051200**	24217	Localised, primary osteoarthritis of the upper arm
N051800	20472	Localised, primary osteoarthritis of other specified site	**N050700**	24432	Heberden's nodes with arthropathy
N053500	20626	Localised osteoarthritis, unspecified, pelvic	**N051D00**	24958	Localised, primary osteoarthritis of the wrist

		region/thigh			
N051z00	20660	Localised, primary osteoarthritis NOS	**N051700**	25793	Localised, primary osteoarthritis of the ankle and foot
N051600	21159	Localised, primary osteoarthritis of the lower leg	**N05zU00**	27834	Osteoarthritis NOS, of IP joint of toe
N051400	21350	Localised, primary osteoarthritis of the hand	**N05zz00**	27972	Osteoarthritis NOS
N054.00	21528	Oligoarticular osteoarthritis, unspecified	**N051E00**	28908	Localised, primary osteoarthritis of toe
N11D200	22452	Osteoarthritis of lumbar spine	**N053z00**	31200	Localised osteoarthritis, unspecified, NOS
N051.00	32839	Localised, primary osteoarthritis			

Osteoporosis

Readcode	Medcode	Readcode term	Readcode	Medcode	Readcode term
N330.00	277	Osteoporosis	**66a7.00**	38903	Osteoporosis - dietary assessment
N330B00	3346	Vertebral osteoporosis	**N331200**	39334	Postoophorectomy osteoporosis with pathological fracture
N331L00	4013	Collapse of vertebra due to osteoporosis NOS	**N330300**	40428	Idiopathic osteoporosis
N331J00	5841	Collapse of lumbar vertebra due to osteoporosis	**66a8.00**	41376	Osteoporosis - exercise advice
N330200	9700	Postmenopausal osteoporosis	**NyuB100**	41755	[X]Other osteoporosis
N331M00	11503	Fragility fracture due to unspecified osteoporosis	**N331H00**	45736	Collapse of cervical vertebra due to osteoporosis
N331900	12673	Osteoporosis + pathological fracture thoracic vertebrae	**N331500**	46894	Drug-induced osteoporosis with pathological fracture
N330000	14967	Osteoporosis, unspecified	**N331A00**	48772	Osteoporosis + pathological fracture cervical vertebrae
N330100	16307	Senile osteoporosis	**66a5.00**	48962	Osteoporosis - no treatment
N330C00	16857	Osteoporosis localized to spine	**NyuB000**	57301	[X]Other osteoporosis with pathological fracture
N331800	17377	Osteoporosis + pathological fracture lumbar vertebrae	**N330900**	60433	Osteoporosis in multiple myelomatosis
14OD.00	17909	At risk of osteoporotic fracture	**N330400**	62702	Dissuse osteoporosis
NyuB800	18825	[X]Unspecified osteoporosis with pathological fracture	**66aA.00**	70233	Osteoporosis - treatment response
N331K00	19048	Collapse of thoracic vertebra due to osteoporosis	**N330600**	70349	Postoophorectomy osteoporosis
N330500	24093	Drug-induced osteoporosis	**N330700**	93655	Postsurgical malabsorption osteoporosis
N330D00	25650	Osteoporosis due to corticosteroids	**N331M11**	93705	Minimal trauma fracture due to unspecified osteoporosis
66a9.00	26292	Osteoporosis - falls prevention	**66aB.00**	98189	Osteoporosis - no treatment response

N331600	27597	Idiopathic osteoporosis with pathological fracture	**9kj0.00**	98760	Bone sparing drug treatment offered for osteoporosis - ESA
N330A00	31580	Osteoporosis in endocrine disorders	**14GB.00**	99817	History of osteoporosis
N331300	33526	Osteoporosis of disuse with pathological fracture	**8B6b.00**	101068	Osteoporosis medication prophylaxis
66a4.00	34129	Osteoporosis treatment changed	**NyuB200**	102730	[X]Osteoporosis in other disorders classified elsewhere
N330z00	34798	Osteoporosis NOS	**N331B00**	38395	Postmenopausal osteoporosis with pathological fracture
66a3.00	36644	Osteoporosis treatment stopped	**66a7.00**	38903	Osteoporosis - dietary assessment
66a2.00	37646	Osteoporosis treatment started			

Anaemia

Readcode	Medcode	Readcode term	Readcode	Medcode	Readcode term
423..00	4	Haemoglobin estimation	**D21y011**	31040	Congenital dyserythropoietic anaemia
428..00	20	Mean corpusc. haemoglobin(MCH)	**Dyu2200**	31205	[X]Anaemia in other chronic diseases classified elsewhere
D00..12	539	Microcytic - hypochromic anaemia	**1451.00**	31214	H/O: anaemia - iron deficient
D21z.00	739	Anaemia unspecified	**Q455.00**	31248	Congenital anaemia
D00..00	795	Iron deficiency anaemias	**D011z00**	31270	Other vitamin B12 deficiency anaemia NOS
D21z.13	797	Macrocytic anaemia of unspecified cause	**D106300**	31306	Sickle-cell anaemia with haemoglobin C disease
D00..11	882	Hypochromic - microcytic anaemia	**D106200**	31370	Sickle-cell anaemia with crisis
D107.00	1529	Other haemoglobinopathies	**D417.00**	31410	Methaemoglobinaemia
L182500	1668	Iron deficiency anaemia of pregnancy	**D107z00**	31462	Other haemoglobinopathy NOS
D21z.12	1702	Normocytic anaemia due to unspecified cause	**D210300**	31550	Secondary sideroblastic anaemia due to disease
L182.00	1771	Anaemia during pregnancy, childbirth and the puerperium	**D107600**	31662	Haemoglobin Zurich disease
L182400	2054	Anaemia in the puerperium - baby previously delivered	**D110400**	31734	Drug-induced autoimmune haemolytic anaemia
42V1.00	2405	Haemoglobin electrophoresis	**D107300**	31800	Haemoglobin-C disease
D014.00	2452	Protein-deficiency anaemia	**1277.00**	32225	Family history of pernicious anaemia
D010.00	2464	Pernicious anaemia	**D107500**	32373	Haemoglobin-E disease
D011100	2482	Vit B12 defic anaemia due to malabsorption with proteinuria	**42VG.00**	32404	Haemoglobin D level

D211.00	2743	Acute posthaemorrhagic anaemia	**D201111**	32715	Hypoplastic anaemia due to drug or chemical substance
D010.11	2813	Addison's anaemia	**D011000**	32953	Vitamin B12 deficiency anaemia due to dietary causes
D21..00	3265	Other and unspecified anaemias	**D21y200**	33278	Leukoerythroblastic anaemia
D1...00	3326	Haemolytic anaemias	**D00y.00**	33420	Other specified iron deficiency anaemia
D110.00	3818	Autoimmune haemolytic anaemias	**L182z00**	33634	Anaemia during pregnancy/childbirth/puerperium NOS
4235.00	3942	Haemoglobin low	**L182100**	33708	Anaemia during pregnancy - baby delivered
D012500	3981	Macrocytic anaemia unspecified cause	**44CE.00**	34614	Serum haptoglobin screen
D012.00	4080	Folate-deficiency anaemia	**D200100**	34754	Fanconi's familial refractory anaemia
D01..11	4475	Megaloblastic anaemia	**D21y.00**	34934	Other specified anaemias
D41yz11	4526	Macrocytosis - no anaemia	**D201700**	34953	Transient hypoplastic anaemia
D21z.11	4670	Secondary anaemia NOS	**Dyu0200**	35092	[X]Other vitamin B12 deficiency anaemias
D00y100	4839	Microcytic hypochromic anaemia	**D2z..00**	35160	Other anaemias NOS
Dyu0000	4858	[X]Other iron deficiency anaemias	**1271.11**	35504	FH: Addisonian anaemia
D011.11	5271	Vitamin B12 deficiency anaemia	**D112100**	35612	Paroxysmal nocturnal haemoglobinuria
D112011	5434	March haemoglobinuria	**4234.00**	35749	Haemoglobin very low
145..11	5833	H/O: anaemia	**6884.00**	35783	Anaemia screen
D011X00	6028	Vitamin B12 deficiency anaemia, unspecified	**D012100**	36634	Folate-deficiency anaemia due to dietary causes
688..11	6577	Anaemia screen	**D012200**	37082	Folate-deficiency anaemia, drug induced
D000.11	6816	Normocytic anaemia due to chronic blood loss	**D200000**	37320	Congenital hypoplastic anaemia
ZV78300	7525	[V]Screening for other haemoglobinopathy	**D2...00**	37539	Aplastic and other anaemias
D107700	7526	Haemoglobin-H disease	**688Z.00**	37654	Anaemia/blood screen NOS
D107400	7624	Haemoglobin-D disease	**D111100**	38327	Microangiopathic haemolytic anaemia
D0...00	7841	Deficiency anaemias	**44TL.00**	39205	Total glycosylated haemoglobin level
D0z..00	8054	Deficiency anaemias NOS	**D10..00**	39456	Hereditary haemolytic anaemias
D106400	8119	Sickle-cell anaemia with haemoglobin D disease	**D110z00**	39876	Autoimmune haemolytic anaemia NOS
1271.00	8364	FH: Anaemia	**D110000**	39944	Primary cold-type haemolytic anaemia
6886.00	8621	Other hemoglobinopathy screen	**D1y..00**	39967	Other specified haemolytic anaemias
D00yz00	9537	Other specified iron deficiency anaemia NOS	**D00z200**	40750	Idiopathic hypochromic anaemia
D01z000	10506	[X]Megaloblastic anaemia NOS	**D204.00**	41142	Idiopathic aplastic anaemia

B937100	10817	Refractory anaemia with sideroblasts	**423A.00**	41531	Haemoglobin very high
D01..00	11961	Other deficiency anaemias	**D210100**	41699	Acquired sideroblastic anaemia
D214.00	12176	Chronic anaemia	**D012z00**	42117	Folate-deficiency anaemia NOS
4233.00	13755	Haemoglobin - sample sent	**D201100**	43166	Aplastic anaemia due to drugs
44TB.00	14051	Haemoglobin A1c level	**D111000**	43367	Mechanical haemolytic anaemia
42W..12	14052	Glycated haemoglobin	**D201.11**	43825	Normocytic anaemia due to aplasia
42h3.00	14139	Haemoglobinopathy screening test	**B937300**	44420	Refractory anaemia with excess of blasts with transformation
42V5.00	14284	Red cell Haemoglobin A2 estimation	**ZV18200**	44527	[V]Family history of anaemia
42V9.00	14285	Haemoglobin A2 level	**D200.15**	44913	Hypoplastic anaemia - familial
42V2.00	14286	Haemoglobin A	**D104011**	45151	Thalassaemia major - Cooley's anaemia
D10z.00	14698	Hereditary haemolytic anaemia NOS	**42VE.00**	45241	Unstable haemoglobin level
D11z.00	15314	Acquired haemolytic anaemia NOS	**D211.11**	45929	Normocytic anaemia following acute bleed
2C2..00	15358	O/E - anaemia	**D107y00**	45935	Other specified other haemoglobinopathy
D20..00	15422	Aplastic anaemia	**D107100**	45944	Hereditary persistence of fetal haemoglobin [HPFH]
D00zz00	15439	Iron deficiency anaemia NOS	**42VQ.00**	46092	Haemoglobinopathy DNA studies
L182000	15633	Anaemia - unspecified whether in pregnancy or the puerperium	**Dyu0100**	47952	[X]Other dietary vitamin B12 deficiency anaemia
D201.00	15658	Acquired aplastic anaemia	**D112z11**	48096	Cold haemoglobinuria
688..00	15731	Anaemia/blood screening	**D212000**	48145	Anaemia in ovarian carcinoma
D210.00	15936	Sideroblastic anaemia	**D000.12**	48338	Iron deficiency anaemia due to blood loss
D213.00	16052	Refractory Anaemia	**D110100**	49182	Primary warm-type haemolytic anaemia
D201000	16108	Aplastic anaemia due to chronic disease	**D102200**	49451	Drug-induced enzyme deficiency anaemia
2C2Z.00	16109	O/E - anaemia NOS	**D112z12**	50495	Acquired haemolytic anaemia with haemoglobinuria NEC
D215.00	16929	Anaemia secondary to renal failure	**Dyu2400**	51169	[X]Other specified anaemias
D00z.00	18137	Unspecified iron deficiency anaemia	**D013.00**	51489	Other specified megaloblastic anaemia NEC
D1z..00	18631	Haemolytic anaemias NOS	**D112z00**	52522	Haemoglobinuria due to haemolysis from external cause NOS
B937X00	19130	Refractory anaemia, unspecified	**Q425.00**	53052	Late anaemia of newborn due to isoimmunisation
44CA.00	19192	Serum haptoglobin	**D21y000**	53422	Congenital dyshaematopoietic anaemia

D0...12	19383	Sideropenic anaemia	**Dyu0300**	53783	[X]Other folate deficiency anaemias
Q456.00	19574	Anaemia of prematurity	**D01z.11**	53799	Megaloblastic anaemia NOS
42V..00	19845	Haemoglobin variants	**Dyu0600**	53846	[X]Vitamin B12 deficiency anaemia, unspecified
D00z000	19951	Achlorhydric anaemia	**1452.00**	54738	H/O: Anaemia vit.B12 deficient
42VZ.00	20950	Haemoglobin variant NOS	**D012300**	55481	Folate-deficiency anaemia due to malabsorption
L182300	21119	Anaemia during pregnancy - baby not yet delivered	**D103100**	55561	Haemolytic anaemia due to pyruvate kinase deficiency
D001.00	21127	Iron deficiency anaemia due to dietary causes	**D012400**	56114	Folate-deficiency anaemia due to liver disorders
1453.00	21335	H/O: haemolytic anaemia	**ZV78100**	56208	[V]Screening for other or unspecified deficiency anaemia
D201z00	21723	Acquired aplastic anaemia NOS	**D013z00**	56348	Other specified megaloblastic anaemia NEC NOS
1274.00	22033	FH: Sickle cell anaemia	**BBmA.00**	56756	[M] Refractory anaemia with sideroblasts
D102000	22531	Glucose-6-phosphate dehydrogenase deficiency anaemia	**F381500**	56973	Myasthenic syndrome due to pernicious anaemia
D107900	22558	Haemoglobin D trait	**D201412**	57114	Hypoplastic anaemia due to toxic cause
R113.00	22698	[D]Myoglobinuria	**D01z.00**	57274	Other deficiency anaemias NOS
D013000	22715	Combined B12 and folate deficiency anaemia	**D107000**	57298	Congenital Heinz-body anaemia
B937000	22890	Refractory anaemia without sideroblasts, so stated	**D106z00**	57397	Sickle-cell anaemia NOS
428..11	23214	Mean cell haemoglobin	**D110200**	57575	Secondary cold-type haemolytic anaemia
42V6.00	23253	Red cell haemoglobin S estimation	**D111.00**	57897	Non-autoimmune haemolytic anaemia
42VA.00	23254	Haemoglobin variant test	**D00z100**	57954	Chlorotic anaemia
D106.00	23519	Sickle-cell anaemia	**D01y.00**	58136	Other specified nutritional deficiency anaemia
B937200	23875	Refractory anaemia with excess of blasts	**D21yy00**	58695	Other specified other anaemia
D012.11	24870	Folic acid deficiency anaemia	**D012112**	59103	Megaloblastic anaemia due to dietary causes
1454.00	24953	H/O: anaemia NOS	**BBmB.00**	60186	[M]Refractory anaemia+excess of blasts with transformation
D215000	25394	Anaemia secondary to chronic renal failure	**42V7.00**	61958	Haemoglobin acid electrophoresis
D107800	25595	Haemoglobin C trait	**D111500**	63936	Infective haemolytic anaemia
D2y..00	25876	Other specified anaemias	**D200111**	64625	Fanconi's hypoplastic anaemia
D107A00	26074	Haemoglobin E trait	**D201211**	65351	Hypoplastic anaemia due to infection
4238.00	26272	Haemoglobin borderline high	**D104z11**	66137	Mediterranean anaemia
D0y..00	26327	Other specified deficiency anaemias	**D111400**	67088	Drug-induced haemolytic anaemia

D112.00	26437	Haemoglobinuria due to haemolysis from external causes	**D20z.00**	68087	Aplastic anaemia NOS
423B.00	26908	Haemoglobin abnormal	**D011013**	69275	Vegan's anaemia
4237.00	26909	Haemoglobin normal	**D200y00**	69379	Other specified constitutional aplastic anaemia
4236.00	26910	Haemoglobin borderline low	**D014z00**	70835	Protein-deficiency anaemia NOS
423C.00	26911	Haemoglobin H inclusion	**7Q09000**	83476	Hypoplastic haemolytic and renal anaemia drugs Band 1
423Z.00	26912	Haemoglobin estimation NOS	**D112000**	91034	Haemoglobinuria from exertion
4239.00	26913	Haemoglobin high	**7Q09100**	92968	Hypoplastic haemolytic and renal anaemia drugs Band 2
44TC.00	27040	Haemoglobin A1 level	**D111z00**	94214	Non-autoimmune haemolytic anaemia NOS
42Y0.00	27065	Carboxyhaemoglobin level	**D210z00**	94387	Sideroblastic anaemia NOS
42VF.00	27172	Haemoglobin C level	**D0...11**	94528	Asiderotic anaemia
R112.00	27384	[D]Haemoglobinuria	**BBmL.00**	94921	[M] Refractory anaemia with excess of blasts
D000.00	27726	Iron deficiency anaemia due to chronic blood loss	**42W5.00**	96968	Haemoglobin A1c level - IFCC standardised
D11..00	27771	Acquired haemolytic anaemias	**42VJ.00**	98997	Haemoglobin G level
D112200	28238	Paroxysmal cold haemoglobinuria	**Qyu5C00**	99222	[X]Other congenital anaemias, not elsewhere classified
42VH.00	28722	Haemoglobin E level	**1458.00**	100001	History of sickle cell anaemia
D21yz00	28768	Other specified anaemia NOS	**Dyu1500**	100388	[X]Other autoimmune haemolytic anaemias
D011.00	29486	Other vitamin B12 deficiency anaemias	**4L43.00**	100926	Globin gene analysis
L182200	29601	Anaemia in the puerperium - baby delivered	**4132.00**	101829	Haemoglobin variant screening requested
D212.00	30637	Anaemia in neoplastic disease	**D200200**	102848	Constitutional aplastic anaemia with malformation

Falls

Readcode	Medcode	Readcode term	Readcode	Medcode	Readcode term
TC...11	384	Fall - accidental	**TC01.00**	17167	Fall on or from stairs
1B65.11	1634	Collapse - symptom	**TH03.00**	17638	Late effects of accidental fall
R002z00	1759	[D]Syncope and collapse NOS	**TC01000**	17728	Fall on stairs
R002300	1812	[D]Collapse	**TC50.00**	18007	Fall on same level from slipping
R002.00	2307	[D]Syncope and collapse	**38A..00**	19751	Falls assessment

R200.12	4859	[D] Geriatric fall	**TC01100**	21081	Fall from stairs
1B65.00	5284	Had a collapse	**SN21.12**	22414	Heat syncope or collapse
16D..00	6008	Falls	**U10z.00**	24776	[X]Unspecified fall
ZV71B00	6785	[V]Examination and observation following a fall	**TC5z.00**	33529	Fall on same level from slipping, tripping or stumbling NOS
TC...00	6815	Accidental falls	**TC4..00**	33887	Other fall from one level to another
TCz..00	6835	Accidental falls NOS	**TC42000**	38818	Fall from chair
2244.00	7431	O/E - collapse - syncope	**U10A511**	41105	[X]Fall on or from escalator
TC52.00	7948	Fall on same level from stumbling	**8BIG.00**	44119	Falls caused by medication
U10..00	7970	[X]Falls	**TC02.00**	44626	Fall on or from steps
16D1.00	8694	Recurrent falls	**16D2.00**	46559	Number of falls in last year
TCy..00	8730	Other falls	**U10J.00**	48496	[X]Other fall on same level
224..00	10412	O/E - collapsed	**U101000**	49035	[X]Fall same levl frm slip trip + stumb, occurrence at home
U10z000	10419	[X]Unspecified fall, occurrence at home	**224Z.00**	52136	O/E - collapse NOS
147C.00	11045	H/O: collapse	**TC02100**	53082	Fall from steps
TC0..00	11307	Fall on or from stairs or steps	**TC00.00**	53463	Fall on or from escalator
TCyz.00	11308	Other accidental fall NOS	**U103000**	66934	[X]Oth fall same levl, collisn/push by anoth pers, occ home
TC51.00	11709	Fall on same level from tripping	**T43zz00**	73098	Fall-stairs/ladders-WT NOS - unspecified person injured
TC5..00	15112	Fall on same level from slipping, tripping or stumbling	**U100500**	93148	[X]Fall same levl inv ice / snow, occ trade / service area
TCy0.00	15745	Fall from bump against object	**16D5.00**	98223	Fall onto outstretched hand

Fractures

Readcode	Medcode	Readcode term	Readcode	Medcode	Readcode term
S23x111	137	Fracture of radius NOS	**S330012**	22761	Closed fracture of tibial tuberosity
S23B.00	199	Fracture of lower end of radius	**N331111**	23686	Collapse of lumbar vertebra
S234.11	203	Wrist fracture - closed	**S30w.00**	24276	Closed fracture of unspecified proximal femur
S34..00	325	Fracture of ankle	**S4E..00**	24587	Fracture-dislocation or subluxation hip
S234100	343	Closed Colles' fracture	**S23x200**	24621	Closed fracture of ulna (alone), unspecified

S3z..11	358	Fracture NOS	**S100700**	24672	Closed fracture of seventh cervical vertebra
S22..00	517	Fracture of humerus	**S310100**	24674	Closed fracture shaft of femur
S31z.00	520	Fracture of femur, NOS	**S33z.00**	25485	Fracture of tibia and fibula, NOS
S13..00	738	Fracture or disruption of pelvis	**S232.00**	26324	Closed fracture of radius and ulna, shaft
S10B200	835	Fracture of coccyx	**S102.00**	27404	Closed fracture thoracic vertebra
S33x000	971	Closed fracture of tibia, unspecified part, NOS	**S100500**	27575	Closed fracture of fifth cervical vertebra
S23x211	1073	Fracture of ulna NOS	**S235.00**	27590	Open fracture of radius and ulna, lower end
S28..11	1179	Ill-defined fracture of arm	**S234z00**	27591	Closed fracture of forearm, lower end, NOS
S228.00	1548	Fracture of lower end of humerus	**N331600**	27597	Idiopathic osteoporosis with pathological fracture
S234200	1742	Closed fracture of the distal radius, unspecified	**S100600**	27654	Closed fracture of sixth cervical vertebra
S30..11	1994	Hip fracture	**S334.00**	27719	Closed fracture distal tibia
S226.00	2101	Fracture of upper end of humerus	**S134600**	27854	Closed fracture pelvis, iliac wing
S30..00	2225	Fracture of neck of femur	**S222100**	27886	Closed fracture of humerus, shaft
S237.00	2303	Fracture of upper end of radius	**S10B300**	27922	Fracture of ilium
S10B500	2328	Fracture of pubis	**SC3D400**	27989	Sequelae of fracture of femur
S3...11	2603	Leg fracture	**S335.00**	27992	Open fracture distal tibia
S33..00	2630	Fracture of tibia and fibula	**S333.00**	28068	Open fracture of tibia/fibula, shaft
S28z.00	2660	Ill-defined fractures of upper limb NOS	**S333000**	28118	Open fracture shaft of tibia
S230300	2662	Closed Monteggia's fracture	**S10A000**	28133	Fracture of first cervical vertebra
N331.12	2793	Collapse of vertebra NOS	**S33y.00**	28233	Open fracture of tibia and fibula, unspecified part, NOS
S234700	2862	Closed Smith's fracture	**S134400**	28234	Closed fracture pelvis, anterior superior iliac spine
S10x.00	3573	Closed fracture of spine, unspecified,	**S234E00**	28293	Closed fracture distal radius, intra-articular, other type
S10B100	3675	Fracture of sacrum	**S13y.00**	28375	Closed fracture of pelvis NOS
S233.00	3748	Open fracture of radius and ulna, shaft	**S224800**	28393	Closed fracture distal humerus, capitellum
S104.00	3888	Closed fracture lumbar vertebra	**S102100**	28524	Closed fracture thoracic vertebra, wedge
N331L00	4013	Collapse of vertebra due to osteoporosis NOS	**S330000**	28550	Closed fracture of the proximal tibia
S23x300	4359	Closed fracture of the radius and ulna	**N331.11**	28575	Collapse of spine NOS
S10..12	4409	Fracture of vertebra without spinal cord lesion	**S132z00**	28702	Closed fracture pubis NOS
S33x200	4572	Closed fracture of tibia and fibula, unspecified part	**S234600**	28708	Closed fracture radius and ulna, distal

S34x.00	4737	Closed fracture ankle, unspecified	**S224700**	28724	Closed fracture distal humerus, medial epicondyle
S348.00	5009	Fracture of medial malleolus	**S220400**	28739	Closed fracture proximal humerus, head
S302.00	5301	Closed fracture of proximal femur, pertrochanteric	**S312.00**	28954	Closed fracture distal femur
S132.00	5302	Closed fracture pubis	**S304.00**	28965	Pertrochanteric fracture
S312300	5332	Closed fracture distal femur, supracondylar	**S33y200**	29084	Open fracture of tibia and fibula, unspecified part
S15..00	5381	Fracture of thoracic vertebra	**S104400**	29089	Closed fracture lumbar vertebra, transverse process
N331.00	5526	Pathological fracture	**S33x.00**	29109	Closed fracture of tibia and fibula, unspecified part, NOS
N331J00	5841	Collapse of lumbar vertebra due to osteoporosis	**S332.00**	29121	Closed fracture of tibia/fibula, shaft
7K1L700	5886	Closed reduction of fracture of tibia and or fibula	**S33y000**	29164	Open fracture of tibia, unspecified part, NOS
S2...11	5929	Arm fracture	**S10..11**	30058	Fracture of transverse process spine - no spinal cord lesion
7K1LM00	5951	Closed reduction of fracture of wrist	**S2z..00**	30076	Fracture of upper limb NOS
S235100	6074	Open Colles' fracture	**N331100**	30352	Pathological fracture of lumbar vertebra
7K1L800	6106	Closed reduction of fracture of ankle	**S227.00**	30659	Fracture of shaft of humerus
S2...00	6195	Fracture of upper limb	**S11x.00**	30956	Closed fracture of spine with spinal cord lesion unspecified
S23C.00	6213	Fracture of lower end of both ulna and radius	**S29..11**	31708	Multiple fractures of arm
S340.00	6286	Closed fracture ankle, medial malleolus	**S225100**	31760	Open fracture distal humerus, supracondylar
S312100	6320	Closed fracture of femoral condyle, unspecified	**7J41.00**	31933	Decompression of fracture of spine
7K1LF00	6379	Closed reduction of fracture of humerus	**S11..00**	32063	Fracture of spine with spinal cord lesion
S235B00	6380	Open fracture radial styloid	**S224400**	32348	Closed fracture of distal humerus, condyle(s) unspecified
SC3C000	6455	Sequelae of fracture at wrist and hand level	**S236.00**	33404	Fracture of upper end of ulna
7K1L400	6660	Closed reduction of fracture of hip	**S220200**	33489	Closed fracture of proximal humerus, anatomical neck
S132100	6667	Closed fracture pelvis, multiple pubic rami - stable	**S332200**	33520	Closed fracture of tibia and fibula, shaft
S23..00	6825	Fracture of radius and ulna	**S224z00**	33540	Closed fracture of distal humerus, not otherwise specified
S310.00	6868	Closed fracture of femur, shaft or unspecified part	**S331000**	33706	Open fracture of the proximal tibia
S224100	6893	Closed fracture distal humerus, supracondylar	**S232z00**	33808	Closed fracture of radius and ulna, shaft, NOS
S336.00	6917	Fracture of upper end of tibia	**S230900**	33883	Closed fracture of the proximal radius
7K1LL00	6942	Closed reduction of fracture of radius and or ulna	**S37..00**	33903	Fracture of lower limb, level unspecified
S132000	7004	Closed fracture pelvis, single pubic ramus	**SC0X.00**	33918	Sequelae of other fracture of thorax and pelvis

S230600	7009	Closed fracture radius, head	**S134.00**	33961	Other or multiple closed fracture of pelvis
S342000	7135	Closed fracture ankle, lateral malleolus, low	**S100211**	33967	C2 vertebra closed fracture without spinal cord lesion
S344.00	7317	Closed fracture ankle, bimalleolar	**S341.00**	33974	Open fracture ankle, medial malleolus
S342.00	7340	Closed fracture ankle, lateral malleolus	**S332000**	34021	Closed fracture shaft of tibia
S231600	7636	Open fracture radial head	**S334000**	34151	Closed fracture distal tibia, extra-articular
S230700	7660	Closed fracture radius, neck	**S10z.00**	34166	Fracture of spine without mention of spinal cord lesion NOS
S337.00	7723	Fracture of shaft of tibia	**S225.00**	34172	Open fracture of the distal humerus
S239.00	7988	Fracture of shaft of radius	**S4J2100**	34212	Closed fracture-subluxation of pelvis
S31..00	8040	Other fracture of femur	**S23y100**	34367	Open fracture of radius (alone), unspecified
S242.00	8056	Fracture at wrist and hand level	**S10A100**	34403	Fracture of second cervical vertebra
S305.00	8243	Subtrochanteric fracture	**S230500**	34426	Closed fracture of the proximal ulna
S10..00	8255	Fracture of spine without mention of spinal cord injury	**S133000**	34685	Open fracture pelvis, single pubic ramus
S104100	8266	Closed fracture lumbar vertebra, wedge	**S134100**	34708	Closed fracture pelvis, ischium
S238.00	8382	Fracture of shaft of ulna	**S235700**	34730	Open Smith's fracture
S334100	8465	Closed fracture distal tibia, intra-articular	**S231700**	34737	Open fracture radial neck
S315.00	8589	Fracture of lower end of femur	**S232300**	35031	Closed fracture radius and ulna, middle
S10B600	8613	Multiple fractures of lumbar spine and pelvis	**S33x.11**	35253	Lower leg fracture NOS
S314.00	8646	Fracture of shaft of femur	**S150000**	35260	Closed multiple fractures of thoracic spine
S302400	8648	Closed fracture of femur, intertrochanteric	**S112.00**	35849	Closed fracture of thoracic spine with spinal cord lesion
S224600	8661	Closed fracture distal humerus, lateral epicondyle	**S23xz00**	36328	Closed fracture of radius and ulna, NOS
S3...00	8891	Fracture of lower limb	**S300400**	36391	Closed fracture head of femur
S293.00	8915	Multiple fractures of forearm	**S222.00**	36464	Closed fracture of humerus, shaft or unspecified part
S34z.00	9212	Fracture of ankle, NOS	**S310000**	37662	Closed fracture of femur, unspecified part
N331F00	9319	Collapse of thoracic vertebra	**S100711**	38053	C7 vertebra closed fracture without spinal cord lesion
S3x3.00	9348	Multiple fractures of lower leg	**7K1LN00**	38131	Closed reduction of fracture of upper limb
S221.00	9420	Open fracture of the proximal humerus	**S220z00**	38353	Closed fracture of proximal humerus not otherwise specified
S230100	9538	Closed fracture olecranon, extra-articular	**S312500**	38355	Closed fracture distal femur, lateral condyle

S347.00	9917	Open fracture ankle, trimalleolar	**N331B00**	38395	Postmenopausal osteoporosis with pathological fracture
S338.00	10007	Fracture of lower end of tibia	**S235600**	38398	Open fracture radius and ulna, distal
S346.00	10009	Closed fracture ankle, trimalleolar	**S300.00**	38489	Closed fracture proximal femur, transcervical
S234F00	10033	Closed Barton's fracture	**N331D00**	38728	Collapsed vertebra NOS
S311100	10095	Open fracture shaft of femur	**S34y.00**	38765	Open fracture ankle, unspecified
S23A.00	10149	Fracture of shafts of both ulna and radius	**S132y00**	38895	Other specified closed fracture pubis
S22z.00	10382	Fracture of humerus NOS	**S4E0.00**	40267	Closed fracture-dislocation, hip joint
S30y.11	10570	Hip fracture NOS	**S234800**	40268	Closed Galeazzi fracture
S23..11	10640	Forearm fracture	**S220600**	40330	Closed fracture proximal humerus, three part
S10B000	10990	Fracture of lumbar vertebra	**S224300**	40367	Closed fracture distal humerus, medial condyle
S220300	11044	Closed fracture proximal humerus, greater tuberosity	**S370.00**	40368	Closed fracture of lower limb, level unspecified
S234900	11066	Closed volar Barton's fracture	**S234500**	40476	Closed fracture distal ulna, unspecified
S220.00	11222	Closed fracture of the proximal humerus	**S134500**	40587	Closed fracture pelvis, anterior inferior iliac spine
S3X..00	11275	Fracture of lower leg, part unspecified	**S134000**	40643	Closed fracture of ilium, unspecified
S150.00	11277	Multiple fractures of thoracic spine	**S292000**	40976	Closed multiple fractures of clavicle, scapula and humerus
S220100	11313	Closed fracture proximal humerus, neck	**S102z00**	41138	Closed fracture thoracic vertebra not otherwise specified
N331M00	11503	Fragility fracture due to unspecified osteoporosis	**S134300**	41698	Closed fracture pelvis, ischial tuberosity
N331G00	11543	Collapse of lumbar vertebra	**S33xz00**	41971	Closed fracture of tibia and fibula, unspecified part, NOS
S134z00	11639	Other or multiple closed fracture of pelvis NOS	**S313300**	42805	Open fracture distal femur, supracondylar
S10B.00	12406	Fracture of lumbar spine and pelvis	**S232100**	42864	Closed fracture of the radial shaft
N331900	12673	Osteoporosis + pathological fracture thoracic vertebrae	**S230z00**	42957	Closed fracture of proximal forearm not otherwise specified
S310011	12791	Thigh fracture NOS	**S104000**	42968	Closed fracture lumbar vertebra, burst
S3xz.00	14746	Other, multiple and ill-defined fractures of lower limb NOS	**S344000**	42969	Closed fracture ankle, bimalleolar, low fibular fracture
S108.00	14834	Closed fracture pelvis, coccyx	**S311.00**	42972	Open fracture of femur, shaft or unspecified part
S350.12	15166	Os calcis fracture	**S230.00**	43570	Closed fracture of proximal radius and ulna
S224.00	15376	Closed fracture of the distal humerus	**N331.14**	44386	Osteoporotic vertebral collapse
S100000	15613	Closed fracture of unspecified cervical vertebra	**S230A00**	44538	Closed fracture radius and ulna, proximal

S23x.00	15764	Closed fracture of radius and ulna, unspecified part	**S220000**	44721	Closed fracture of proximal humerus, unspecified part
N331011	15837	Collapse of thoracic vertebra	**S330.00**	44830	Closed fracture of tibia and fibula, proximal
S106.00	15877	Closed fracture sacrum	**S235200**	44924	Open fracture of the distal radius, unspecified
N1y1.00	16895	Fatigue fracture of vertebra	**S3x..00**	45517	Other, multiple and ill-defined fractures of lower limb
S292.00	16944	Multiple fractures of clavicle, scapula and humerus	**S312400**	45562	Closed fracture distal femur, medial condyle
N331E00	17008	Collapse of cervical vertebra	**N331H00**	45736	Collapse of cervical vertebra due to osteoporosis
N331800	17377	Osteoporosis + pathological fracture lumbar vertebrae	**SR11.00**	45934	Fractures involving thorax with lower back and pelvis
S230200	17822	Closed fracture of ulna, coronoid	**S132200**	46592	Closed fracture pelvis, multiple pubic rami - unstable
S4C2.00	17921	Closed fracture-subluxation of the wrist	**S280.00**	47478	Closed ill-defined fractures of upper limb
14G7.00	17936	H/O: hip fracture	**S28..00**	49267	Ill-defined fractures of upper limb
S23x100	17952	Closed fracture of radius (alone), unspecified	**S23x000**	50654	Closed fracture of forearm, unspecified
S30y.00	18273	Closed fracture of neck of femur NOS	**S118.00**	51018	Closed fracture of coccyx with spinal cord lesion
S234.00	18299	Closed fracture of radius and ulna, lower end	**S232000**	51364	Closed fracture of radius, shaft, unspecified
S343.00	18388	Open fracture ankle, lateral malleolus	**S300311**	51861	Closed fracture, base of neck of femur
S234000	18389	Closed fracture of forearm, lower end, unspecified	**S110.00**	52300	Closed fracture of cervical spine with cord lesion
S224200	18394	Closed fracture distal humerus, lateral condyle	**S234111**	52389	Smith's fracture - closed
S345.00	18584	Open fracture ankle, bimalleolar	**S330800**	52499	Closed fracture fibula, head
S4C..00	18614	Fracture-dislocation or subluxation of wrist	**S312000**	53279	Closed fracture of distal femur, unspecified
14G6.00	18731	H/O: fragility fracture	**SR12.00**	53423	Fractures involving multiple regions of one upper limb
NyuB800	18825	[X]Unspecified osteoporosis with pathological fracture	**S330200**	54280	Closed fracture of tibia and fibula, proximal
S330300	18840	Closed fracture proximal tibia, medial condyle (plateau)	**S23y.00**	54780	Open fracture of radius and ulna, unspecified part
7K1L500	18962	Closed reduction of fracture of femur	**7K1LC00**	55077	Closed reduction of fracture of lower limb
N331K00	19048	Collapse of thoracic vertebra due to osteoporosis	**S109.00**	55280	Open fracture pelvis, coccyx
S234D00	19058	Closed fracture distal radius, extra-articular, other type	**S332z00**	55464	Closed fracture of tibia and fibula, shaft, NOS
S222000	19186	Closed fracture of humerus NOS	**SR13.00**	69824	Fractures involving multiple regions of one lower limb
S10A200	19189	Multiple fractures of cervical spine	**Syu7200**	73113	[X]Fractures of other parts of femur
14G8.00	19235	H/O: vertebral fracture	**Nyu6700**	73900	[X]Collapsed vertebra in diseases classified elsewhere

S302011	19387	Closed fracture of femur, greater trochanter	**S33A.00**	78444	Fracture of tibia
7J43.00	20598	Fixation of fracture of spine	**7J41500**	90472	Balloon kyphoplasty of fracture of spine
S333200	20678	Open fracture of tibia and fibula, shaft	**N331N00**	93497	Fragility fracture
7J42.00	20744	Other reduction of fracture of spine	**Syu8300**	96939	[X]Fractures of other parts of lower leg
S3x2.00	21773	Multiple fractures of femur	**S33C.00**	100202	Closed fracture of distal tibia and fibula
S312200	21922	Closed fracture of femur, lower epiphysis	**S336000**	101031	Fracture tibial plateau
S312.11	22329	Closed fracture of femur, distal end	**SR15000**	103049	Cl fractures involving multiple regions upper with lower lmb
S330400	22370	Closed fracture proximal tibia, lateral condyle (plateau)			

Faecal and urinary incontinence

Readcode	Medcode	Readcode term	Readcode	Medcode	Readcode term
R076.00	1437	[D]Incontinence of faeces	**K586.00**	17620	Stress incontinence - female
1A24.00	1929	Stress incontinence	**8D7..12**	17637	Incontinence control
8C14.00	2739	Incontinence care	**317A.00**	20728	Pad test for incontinence
K198.00	3182	Stress incontinence	**38DG.00**	100658	International consultn incontinence questionnaire short form
R083.00	3283	[D]Incontinence of urine	**J520200**	25797	Chronic constipation without overflow
19E3.00	3381	Incontinent of faeces	**8HTX.00**	25899	Referral to incontinence clinic
1A26.00	3887	Urge incontinence of urine	**R076100**	27623	[D]Sphincter ani incontinence
1A22011	4631	Bedwetting	**R083100**	31220	[D]Urethral sphincter incontinence
16F..00	5196	Double incontinence	**393..12**	31256	Bowels-incontinence assessment
1A37.00	5705	Dribbling of urine	**PH32300**	34922	Incontinentia pigmenti
1A24.11	5844	Stress incontinence - symptom	R083200	17320	[D] Urge incontinence
19E3.11	6083	Incontinent of faeces symptom	**8B35200**	41632	Dr stopped drugs -inconvenient
1A23.00	6161	Incontinence of urine	**ZQ3C.00**	43222	Bowels incontinence assessment
J520100	6364	Chronic constipation with overflow	**Z9EA.00**	45495	Provision of incontinence appliance
3940.00	13421	Bladder: incontinent	**8D7Z.00**	47963	Urinary bladder control NOS

3941.00	13422	Bladder: occasional accident	**8D71.00**	48601	Incontinence control
394..11	13424	Bladder-incontinence assessment	1593.00	15918	H/O: stress incontinence
3930.00	13426	Bowels: incontinent	**Kyu5A00**	52763	[X]Other specified urinary incontinence
R083z00	15400	[D]Incontinence of urine NOS	**7B42111**	58675	Insertion of Kaufman prosthesis for male incontinence
R076z00	15555	[D]Incontinence of faeces NOS	**7B33800**	98767	Insertion retropubic device stress urinary incontinence NEC

Skin Ulcer or pressure sore

Readcode	Medcode	Readcode term	Readcode	Medcode	Readcode term
M271.13	1216	Leg ulcer NOS	**C10E500**	18683	Type 1 diabetes mellitus with ulcer
2FF2.00	1727	O/E - skin ulcer present	**14F5.00**	19230	H/O: venous leg ulcer
G830.00	1913	Varicose veins of the leg with ulcer	**8HTh.00**	19395	Referral to leg ulcer clinic
M271.00	3928	Non-pressure ulcer lower limb	**Z1B2300**	22204	Dressing of skin ulcer
M27z.00	3929	Chronic skin ulcer NOS	**2G48.00**	22641	O/E - ankle ulcer
M272.00	3930	Ulcer of skin	**2924.00**	23724	O/E - trophic skin ulceration
4JG3.00	4487	Skin ulcer swab taken	**M27y.00**	24232	Chronic ulcer of skin, other specified sites
M270.13	4929	Pressure sore	**M271000**	24327	Ischaemic ulcer diabetic foot
M271.11	5057	Foot ulcer	**2FFZ.00**	29007	O/E - skin ulcer NOS
M271600	5790	Traumatic leg ulcer	**M271.14**	32006	Neurogenic leg ulcer
M271500	5855	Venous ulcer of leg	**C109400**	34912	Non-insulin dependent diabetes mellitus with ulcer
14F3.00	5961	H/O: chronic skin ulcer	**2G5L.00**	35116	O/E - Left diabetic foot - ulcerated
2FF..00	6207	O/E - skin ulcer	**2G5H.00**	35316	O/E - Right diabetic foot - ulcerated
M271.12	6308	Ischaemic leg ulcer	**2G5T.00**	43441	O/E - left healed foot ulcer
81H1.00	6654	Dressing of ulcer	**C108500**	44443	Insulin dependent diabetes mellitus with ulcer
M270.00	6862	Decubitus (pressure) ulcer	**39C1.00**	44641	Superficial pressure sore
2G54.00	7093	O/E - Right foot ulcer	**M270.12**	46101	Plaster ulcer
2G55.00	8709	O/E - Left foot ulcer	**C10F400**	49074	Type 2 diabetes mellitus with ulcer
M271400	8801	Mixed venous and arterial leg ulcer	**2G5W.00**	49640	O/E - left chronic diabetic foot ulcer
M27..00	9180	Chronic skin ulcer	**9NM5.00**	49675	Attending leg ulcer clinic

M070200	11226	Pyoderma gangrenosum	**C108511**	51957	Type I diabetes mellitus with ulcer
G837.00	11264	Venous ulcer of leg	**C109411**	55075	Type II diabetes mellitus with ulcer
M271300	11624	Arterial leg ulcer	**39C2.00**	55382	Deep pressure sore
M271100	11663	Neuropathic diabetic ulcer - foot	**8CV2.00**	62265	Leg ulcer compression therapy started
Z174P00	11786	Pressure sore care	**2G5V.00**	62384	O/E - right chronic diabetic foot ulcer
S8z..12	12269	Traumatic ulcer NOS	**39C3.00**	63243	Pressure sore -deep + superfic
G835.00	12704	Infected varicose ulcer	**C109412**	65704	Type 2 diabetes mellitus with ulcer
7G2EC00	12764	Three layer compression bandage for skin ulcer	**8CT1.00**	65862	Leg ulcer compression therapy finished
M271.15	14838	Trophic leg ulcer	**Z174Q00**	72698	Skin ulcer care
M270.11	14995	Bed sore	**9N0t.00**	85835	Seen in primary care leg ulcer clinic
39C0.00	15505	Pressure sore	**C10F411**	91646	Type II diabetes mellitus with ulcer
7G2E500	15506	Dressing of skin ulcer NEC	**C10E511**	93878	Type I diabetes mellitus with ulcer
G832.00	16079	Varicose veins of the leg with ulcer and eczema	**M271700**	99855	Neuropathic foot ulcer
M07z.12	16558	Infected skin ulcer	**M270200**	101713	Community hospital acquired pressure ulcer
7G2EA00	17787	Two layer compression bandage for skin ulcer	**M270100**	102230	Nursing home acquired pressure ulcer
7G2EB00	17788	Four layer compression bandaging for skin ulcer	**14F6.00**	102297	H/O: foot ulcer
Z1B3.00	17790	Dressing of pressure sore			

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