

Pension Trends

Chapter 3: Life expectancy and healthy ageing

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Chapter 3: Life expectancy and healthy ageing

List of tables and figures		Page number	Type of information
Figure 3.1	Projected principal cohort and period life expectancies at SPA: by sex, 1981 to 2051	3-4	NS
Figure 3.2	Period life expectancy, healthy life expectancy and disability-free life expectancy at 65: by sex, 2008	3-5	NS
Figure 3.3	Period life expectancy and healthy life expectancy at 65: by sex, 1981 to 2008	3-5	NS
Figure 3.4	Period life expectancy for men at 65: by NS-SEC, 1982 to 2006	3-7	NS
Figure 3.5	Period life expectancy for women at 65: by NS-SEC, 1982 to 2006	3-7	NS
Table 3.6	Period life expectancy, healthy life expectancy and disability-free life expectancy at 65: by country and sex, 2008	3-8	NS
Table 3.7	Period life expectancy at 65: by country and English region, 2009	3-9	NS
Figure 3.8	Proportion of the population that is economically active: by age group and sex, April to June 2011	3-9	NS
Figure 3.9	Proportion of economically active population with a long term health problem or disability: by age band and sex, April to June 2011	3-10	NS
Table 3.10	Proportion of economically active population with a health problem or disability that limits the kind of work that they can do: by main health problem, age band and sex, April to June 2011	3-10	NS
Figure 3.11	Adult cigarette smoking levels: by sex, 1974 to 2009	3-11	NS
Figure 3.12	Adult cigarette smoking levels: by household NS-SEC, 2001 to 2009	3-11	NS
Figure 3.13	Adult obesity and overweight levels: by sex, 1993 to 2009	3-12	NS

Note on the data presented in this chapter

Clickable tables and figures

All the tables and figures in this chapter are 'clickable'. This means that in the online version of the chapter, readers can click on any table or figure to download a spreadsheet containing the data used to create it.

Data sources and reliability

The data sources in this chapter are classed as National Statistics or as other types of official statistics ('Not National Statistics'). The [List of tables and figures](#) shows which classification applies to each table or figure: National Statistics (NS) or not (NNS). Information quoted in the text is normally based on the tables and figures. Information in the text which is not based on a table or figure is classed as National Statistics unless otherwise stated.

The term 'National Statistics' is an accreditation quality mark which stands for a range of qualities such as relevance, integrity, quality, accessibility, value for money and freedom from political influence. Sources classed as National Statistics comply with the professional principles and standards set out the UK Statistics Authority's Code of Practice for Official Statistics. For further information on the Code of Practice, see: www.statisticsauthority.gov.uk/assessment/code-of-practice/index.html

Data labelled as 'Not National Statistics' (NNS) does not comply fully with the required standards, but has still been deemed suitable for publication.

Further information on the sources used in Pension Trends can be found in the Guide to Pension Statistics at: www.ons.gov.uk/ons/guide-method/method-quality/guide-to-pension-statistics/index.html

Life expectancy and healthy ageing

- In recent years, Parliament has passed legislation raising the State Pension Age (SPA). Women's SPA began to rise in April 2010. Under current legislation, it will rise from 60 to 65 by November 2018, when SPA will be the same for both men and women; then SPA for both sexes will rise to 68 by 2046.
- Over this decade, life expectancy at SPA will decline for women as their SPA rises. Between 2021 and 2051, life expectancy at SPA is expected to rise gradually for both sexes, because, following a change in the assumptions for future life expectancy in ONS's 2010-based population projections, life expectancy at the relevant ages is now projected to increase at a slightly faster rate than the increases in SPA contained in the Pensions Acts 2007 and 2011 (Figure 3.1).
- A related question is whether people will be able to enjoy their retirement in good health. In 2008, the latest year for which figures are available, UK men at age 65 had 9.9 years of healthy life expectancy, while women had 11.5 years (Figure 3.2).
- In 2002-06, the gap in period life expectancy at age 65 between the highest and lowest classes in the National Statistics Socio-economic Classification in England and Wales was 3.5 years for men and 3.2 years for women (Figures 3.4 and 3.5).
- Within the UK, period life expectancy at age 65 is highest in England and lowest in Scotland (Tables 3.6 and 3.7).
- As economically active people age, the percentage reporting a long term health problem or disability increases (Figure 3.9). The main health problems affecting economically active people over age 60 in April-June 2011 related to the heart, blood pressure and circulatory system; legs or feet; and back or neck (Table 3.10).
- It is hard to predict the health of future generations of older people, but there is evidence of trends for two health-related factors in recent years: there has been a decline in smoking (Figure 3.11) and an increase in obesity (Figure 3.13).

Introduction

Over the course of the 20th century, life expectancy in the UK increased. At the same time fertility rates broadly declined (with the exception of the periods following the First and Second World Wars, and the 1960s). As the 1960s 'baby boomers' reach retirement in the next few decades they will be replaced in the working population by smaller numbers of people born since the 1960s. This will cause the ratio of retired people to those of working age to rise considerably, putting increased pressure on the pension system (see *Pension Trends* Chapter 2).

In response to this, Parliament has enacted a number of changes, including increases in State Pension Age (SPA). The projections presented in this chapter are based on existing legislation on SPA increases (those contained in the Pensions Acts 1995, 2007 and 2011), but readers should be aware that further changes are likely (see below: **Life expectancy at State Pension Age**).

The Government has also put in place measures designed to make it possible for people to work longer if they wish to do so. The retirement provisions of the Employment Equality (Age) Regulations 2006 introduced a Default Retirement Age (DRA) of 65, making it impossible for employers to retire employees below this age unless the decision could be 'objectively justified' (see *Pension Trends* Chapter 1). In 2010, the Government announced its intention to abolish the DRA; it was phased out between 6 April and 30 September 2011, preventing enforced retirement at any age unless it can be objectively justified.

Taken together, these measures are designed to lower the pension burden on Government and private pension providers by reducing the average number of years spent in retirement and increasing years spent in employment and saving for retirement. Present trends in retirement behaviour indicate a rise in the average age at which people leave the labour market (see *Pension Trends* Chapter 4).

This chapter sets out to examine three related questions of interest. First, it considers what life expectancy at SPA is likely to be for men and women over the next four decades, as SPA rises under the Pensions Acts 1995, 2007 and 2011. Second, it asks whether the planned increases in SPA during this period will allow people to enjoy their remaining years of retirement in a relatively good standard of health. As the First Report of the Pensions Commission¹ pointed out in 2004: "The feasibility and desirability of later retirement depends upon

whether longer life expectancy is associated with greater health in old age, i.e. whether people living 20 years beyond 65 rather than 15 are enjoying five more years of healthy active life, or facing five more years of ill health and impaired capability".

The third question which the chapter explores is whether people are able to continue their participation in the labour market at older ages, or if, due to age-related health problems, they are limited in their economic participation.

These questions are not easy to answer, particularly as it is not possible to predict with any certainty the health profile of the future UK population. However, this chapter presents the evidence currently available.

Finally, the chapter explores briefly the issue of social care of the elderly. This is important because the changes in life expectancy and health of the older population have implications for its social care requirements.

To address the first question, life expectancy is examined at current and future SPAs (based on existing legislation) for men and women in the UK. In relation to the second question, the chapter compares the current life expectancy, healthy life expectancy and disability-free life expectancy of men and women at age 65, and looks at trends in life expectancy and healthy life expectancy over time.

Although the average experience is a useful starting point, it is also important to examine the experience of different groups in society. Therefore we examine inequalities in life expectancy in terms of gender and socio-economic classification. We also present differences in life expectancy, healthy life expectancy and disability-free life expectancy for men and women in the countries of the UK – England, Wales, Scotland and Northern Ireland – and variations in life expectancy between English regions. Such differences are important not only in terms of individual experience, but because of their implications in relation to the pension burden on Government and private pension providers.

In relation to the third question, the 'fitness for work' section of the chapter considers the economic activity of older people with long term health problems, before examining the main types of health problem affecting people limited by health issues in the kind of work that they can do. The chapter then presents evidence on conditions which increase the risk of disease in old age, such as smoking and obesity, and raises the question of how these may affect the health profiles of future generations of retired people and older workers.

Life expectancy calculations

Life expectancy is calculated by applying age and sex specific mortality rates (the proportions of people of a given age and sex who die in each year) to estimate the average number of years of life remaining to a man or woman of a specific age in a particular year (such as a boy at birth in 1950, or a woman aged 65 in 2020). There are two methods of calculating life expectancy: the period and cohort methods.

The period method applies mortality rates based only on deaths in the year in question. For example, to estimate the average life expectancy of a 65 year old man in 1940, the calculation would use the mortality rates for men aged 65, 66, 67 and so on in 1940. The period method follows the implied hypothetical assumption that mortality rates do not change over time. Therefore, when mortality rates are falling, the method underestimates life expectancy.

The cohort method, in contrast, uses mortality rates that prevail as the type of person in question ages. For example, the cohort method calculation of life expectancy for a 65 year old man in 1940 would use the mortality rate for a 65 year old man in 1940, a 66 year old in 1941, a 67 year old in 1942 and so on. This requires the estimation of future mortality rates as well as the observation of past rates.

Official estimates of cohort life expectancy produced by the Office for National Statistics (ONS) base their projections of future mortality rates on a combination of extrapolation from preceding trends in mortality rates and expert consensus on the likely impact on future mortality rates of trends in public health and medicine. When mortality rates are known (as they are for past years), the cohort method is a better indicator of life expectancy than the period method. When the calculation concerns population groups young enough to live beyond the present year (for example, men aged 50 in 1970), both known and projected rates of mortality must be used and the accuracy of the method will depend upon the validity of the assumed mortality rates. ONS often uses estimates of life expectancy based on the period method because this avoids the element of uncertainty associated with assumptions about future mortality rates.

Both period and cohort estimates acknowledge the inevitable uncertainty around such projections by producing two variants, one based on low expectations of mortality and the other based on higher expectations. The 'principal projection', which is the one used in the next

section, falls between these two extremes and is based on assumptions judged to be the best that could be made at the time they are adopted. However, uncertainties remain in these projections.

Life expectancy at State Pension Age

In recent years, there have been many legislative changes to State Pension Age (SPA) for both men and women. Under the Pensions Act 1995, there was to be a gradual rise in the SPA of women from 60 to 65 years between April 2010 and April 2020. However, under the Pensions Act 2011 women's SPA will increase to 65 between April 2016 and November 2018; and from December 2018 the SPA for both men and women will increase to reach 66 in October 2020. Then, under the Pensions Act 2007, SPA will rise to 67 between 2034 and 2036 and 68 between 2044 and 2046.

The projections presented in this section are based on this legislation, and do not take into account possible changes that have been announced or discussed but have not yet become law. For example, in his 2011 Autumn Statement, the Chancellor outlined plans to bring forward the date at which SPA starts to rise to 67 to 2026; further changes may be proposed based on the April 2011 Green Paper *A state pension for the 21st century*².

Figure 3.1 shows principal projections of life expectancy at the SPA which applies in each year from 1981 to 2051. The birth cohorts reaching SPA in 1981 are therefore men born in 1916 (aged 65) and women born in 1921 (aged 60), whereas those reaching SPA in 2021 are men and women born in 1955 (aged 66) and in 2051, those born in 1983 (aged 68).

Figure 3.1 shows the difference between projected life expectancies produced by each measure, with the cohort method presenting a higher life expectancy at each data point than the period approach. For both period projections and cohort projections, life expectancy of women at SPA exceeds that of men. From 1981 to 2011, life expectancy at SPA increased each decade for both sexes. Over this decade, women will see a decline in their life expectancy at SPA, reflecting the increase in women's SPA from age 60 to 66 between 2010 and 2020; the gap in life expectancy at SPA between women and men falls from 6.9 years in 2011 to 2.5 years in 2021 (cohort measure) and from 6.3 years in 2011 to 2.2 years in 2021 (period measure). Cohort and period life expectancy at SPA will rise for both sexes between 2021 and 2051, but at a slower rate than before the increases to SPA contained in the Pensions Acts 2007 and 2011 were introduced. It should be noted that, because of a change in the assumptions for future life expectancy in ONS's 2010-based

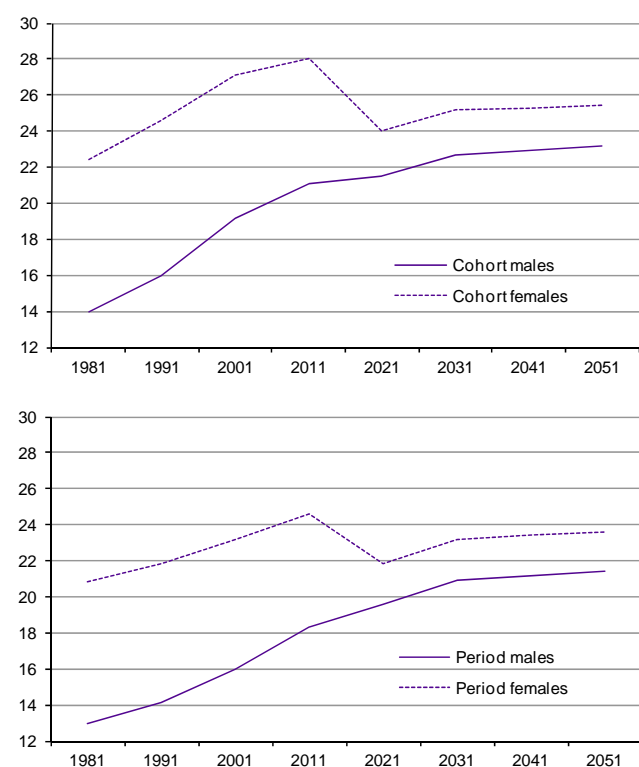
population projections, the picture looks different with respect to previous editions of this chapter. Previously, life expectancy at SPA for both sexes was expected to level off from 2021 (cohort measure) or 2031 (period measure) as increases in SPA matched increases in life expectancy. Now life expectancy at the relevant ages is projected to increase at a slightly faster rate than the increases in SPA contained in the Pensions Acts 2007 and 2011.

Figure 3.1

Projected principal cohort and period life expectancies at SPA: by sex^{1,2}, 1981 to 2051

United Kingdom

Years



1 Period and cohort life expectancies calculated using historic mortality rates (from 1981 to 2010) and projected mortality rates from the 2010-based national population projections (for 2011 onwards).
 2 For 2011, estimates for women have been produced by interpolating between life expectancies at age 60 and age 61 to allow for the fact that women will be reaching SPA at 60 years and 7 months in mid-2011.

Source: Office for National Statistics

In both the cohort and period projections, women have greater life expectancy at SPA than men even after the alignment of SPA in November 2018. The cohort measure gives women over 25 years of life expectancy at SPA between 2031 and 2051, while men have around 23 years. The period measure is slightly less favourable, giving women over 23 years of life expectancy at SPA from 2031 to 2051, while men are projected to have around 21 years.

Health expectancy

ONS calculates two types of health expectancy using information for Great Britain from the General Lifestyle Survey (GLF) – known before 2008 as the General Household Survey (GHS) – and from the Continuous Household Survey of Northern Ireland (CHS) and the 2001 Census³.

- **Healthy life expectancy** is defined as expected years of remaining life in ‘good’ or ‘very good’ general health; it should be noted that, due to European requirements, the definition has changed with respect to previous editions of this chapter, where the definition of healthy life expectancy was based on expected years of ‘fairly good’ or ‘good’ health⁴.
- **Disability-free life expectancy** is defined as expected years of remaining life free from a limiting long-standing illness or disability.

Health expectancies are calculated in a similar way to life expectancies but include rates of poor health or limiting long-standing illness and disability in addition to mortality rates (see Box: **Health expectancy calculations**).

Health expectancy calculations

Health expectancies are estimated using Sullivan period life tables⁵ which combine the age and sex specific mortality rates used to calculate life expectancy estimates with age and sex specific rates of ‘good’ and ‘very good’ general health or free from limiting long-standing illness or disability. When health expectancies are calculated for a specific age such as 65, the measure is based on the number of person years lived in good or very good health or free from a limiting long-standing illness or disability in all age groups aged 65 and older, divided by the number of people surviving to age 65.

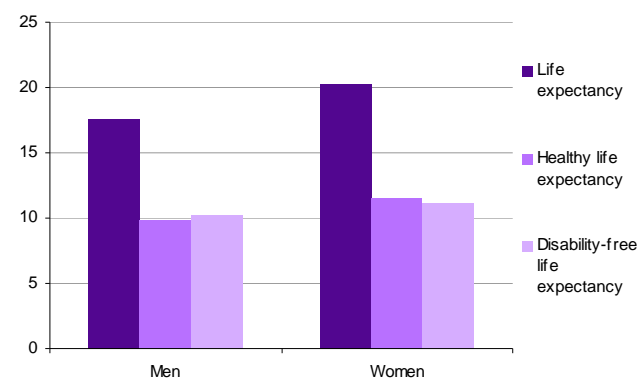
For example, healthy life expectancy in the UK at age 65 for the year 2008 is defined as the average number of years a person aged 65 would live in good or very good health if he or she experienced the UK’s age specific mortality and good or very good general health rates at age 65 and over for the years 2007 to 2009, pooled. The resulting figure reflects current mortality and morbidity experiences, not how long individuals will live in future in good or very good health, as both death and health rates are likely to change in the future.

Health expectancy measures are based on what individuals report in surveys about their own health or disability status⁶. They suffer from the limitations common to all measures based on self-perception, which are ‘subjective’ because each respondent makes their own assessment, rather than reporting against standard measures. However, a measure based on

self-perception is useful in this context, as we want to understand what older people feel about their own health and how this affects their behaviour – for instance, whether they can enjoy their period of retirement. It is also useful because self-assessed health status is associated with likelihood of (objectively measured) illness and risk of death and with hospital admissions and functional limitations.

Figure 3.2
Period life expectancy, healthy life expectancy and disability-free life expectancy at 65: by sex^{1,2,3}, 2008

United Kingdom
 Years



- 1 Estimates calculated using life table data from the Office for National Statistics, and health related data from the GLF, CHS and the Census.
- 2 Estimates are based on a three year moving average plotted on the central year. Therefore the 2008 figures use data from 2007 to 2009 (population data are mid-year estimates).
- 3 Healthy life expectancy is based on new definition (a person being in 'good' or 'very good' general health on a 5-point scale).

Source: Office for National Statistics

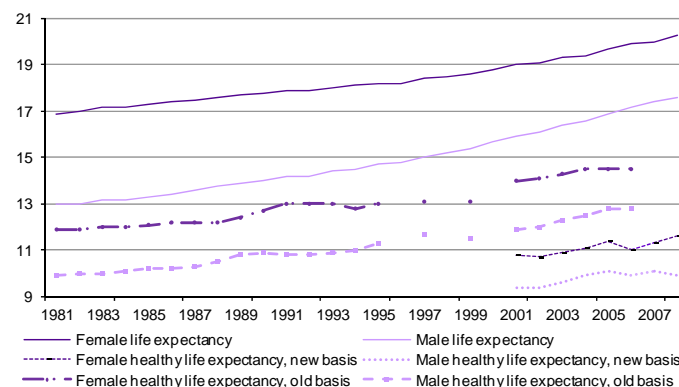
Figure 3.2 illustrates the life expectancy, healthy life expectancy and disability-free life expectancy of men and women at age 65 in the UK. Life expectancy at age 65 informs us of the years an individual who has survived to age 65 can expect to live, while healthy life expectancy and disability-free life expectancy at age 65 add a dimension of quality, indicating the length of time that an individual can expect to live in 'good' or 'very good' health or free from a limiting long-standing illness or disability. The estimates of healthy life expectancy shown here are lower than in previous editions of *Pension Trends* Chapter 3, due to the change in the definition of healthy life expectancy noted above, which raises the benchmark for classifying people as being in good general health.

As already seen in the previous section, women in the UK have longer life expectancy than men at the same age. Figure 3.2 shows that in 2008 (with estimates based on a three-year moving average using pooled data from 2007

to 2009) period life expectancy at age 65 was 17.6 years for men and 20.2 years for women. In terms of healthy life expectancy, men at age 65 in 2008 could expect to live for a further 9.9 years in good or very good health, while women at age 65 could expect to live for a further 11.5 years in good or very good health. In terms of disability-free life expectancy, men at age 65 in 2008 could expect to live for a further 10.2 years free from a limiting long-standing illness or disability, while women at age 65 could expect to live a further 11.2 years free from a limiting long-standing illness or disability. These figures indicate that men and women who are retired at age 65 could expect to spend 56 per cent and 57 per cent respectively of their retirement in good health and 58 per cent and 55 per cent respectively of their retirement free from disability⁷.

Figure 3.3
Period life expectancy and healthy life expectancy at 65: by sex^{1,2,3,4}, 1981 to 2008

Great Britain
 Years



- 1 Estimates calculated using life table data from the Office for National Statistics, and health related data from the GHS/GLF, CHS and the Census.
- 2 Life expectancy and healthy life expectancy estimates based on a three year moving average plotted on the central year. Healthy life expectancy data for 1996, 1998 and 2000 are unavailable because the GHS was not carried out in 1997 and 1999.
- 3 The calculation of health expectancies from 2001 applies a different assumption about growth in the communal establishment population between censuses and in the prevalence of poor health in children aged 0-15 than previously: details are available in ONS *Health Statistics Quarterly* No. 26, Summer 2005 (see **Sources and further reading**).
- 4 'New basis' refers to the new definition of healthy life expectancy from 2006, based on a person being in 'good' or 'very good' general health on a 5-point scale. Actual data has been used from 2006; simulated data has been used from 2001 to 2005. 'Old basis' refers to the pre-2007 3-point scale definition based on a person being in 'fairly good' or 'good' health.

Source: Office for National Statistics

Figure 3.3 shows a comparison for Great Britain of increases in the period life expectancy and healthy life expectancy estimates of men and women aged 65 between 1981 and 2008. The definition of healthy life expectancy changed in 2006, in response to European requirements (see above). Figure 3.3 shows results based on the new definition from

2006 onwards ('new basis'), as well as a simulation of results on the new basis since 2001. For comparison, results using the previous definition ('old basis') are included up to 2006, the last year for which estimates are available on the old basis.

A consistent year-on-year increase can be seen in the life expectancy of men and women in Great Britain. Men were estimated to live for a further 13.0 years at age 65 in 1981 (period life expectancy), rising to 17.6 years in 2008. Women's period life expectancy at age 65 in 1981 was 16.9 years, increasing to 20.3 years in 2008. Female life expectancy has increased at a slower rate than male life expectancy over this period. Therefore, although women continue to live longer than men, the gap has narrowed from 4.0 years in 1981 to 2.7 years in 2008. The increases in life expectancy represent an extension to the periods of time that people who are retired at age 65 have in which to enjoy their retirement.

Over the same period there have also been increases in the number of years that men and women at 65 in Great Britain can expect to live in good or very good health as measured by estimates of healthy life expectancy. However, these increases in healthy life expectancy are not as consistent year-on-year as the increases in life expectancy. Figure 3.3 shows that between 1981 and 1999, healthy life expectancy rose overall (by 1.6 years for men and 1.2 years for women, old basis) but there were years where it remained static or fell in comparison to the previous year. The upward trend continued between 2001 and 2008 (rising by 0.5 years for men and 0.8 years for women, new basis).

If healthy life expectancy increases more slowly than life expectancy in coming decades, people will spend a greater part of their retirement in poor health. However, it remains to be seen whether current trends in life expectancy and healthy life expectancy will continue over the next few decades. How these trends develop will determine the proportion of retirement that people have to enjoy life in a good or relatively good state of health.

Inequalities

We have seen in the previous section that distinct differences exist between men and women in regard to life expectancy, healthy life expectancy and disability-free life expectancy. Similar differences or inequalities also exist between other groups in society, notably between individuals from different socio-economic backgrounds. These socio-economic differences affect the amount of time that people have to enjoy their retirement. They can

be analysed using the National Statistics Socio-economic Classification⁸ (NS-SEC) (see Box: **The NS-SEC**).

The NS-SEC

The National Statistics Socio-economic Classification is based on dividing people into classes according to their occupation (or former occupation, if retired). The classes are numbered 1 (highest) to 7 (lowest):

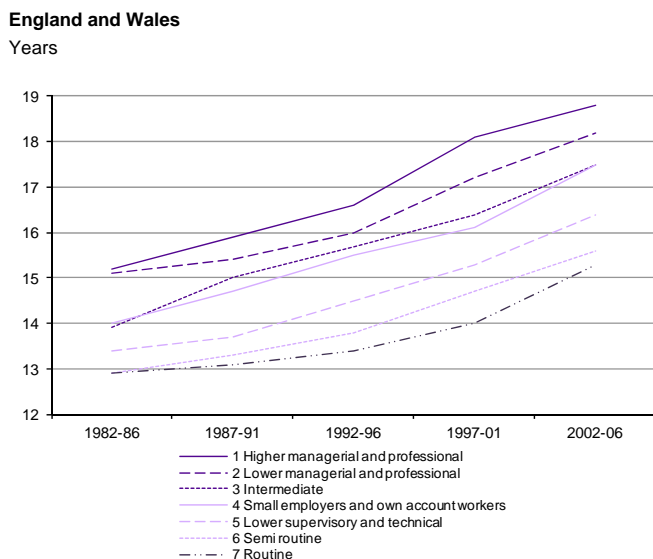
- 1 **Higher managerial and professional**
e.g. senior officials in national and local government; directors and chief executives in major organisations; civil engineers, medical practitioners, physicists, geologists, IT strategy and planning professionals
- 2 **Lower managerial and professional**
e.g. teachers in primary and secondary schools, quantity surveyors, IT technicians, social workers
- 3 **Intermediate**
e.g. NCOs and other ranks in the Armed Forces, graphic designers, medical technicians, secretaries
- 4 **Small employers and own account workers**
e.g. hairdressing and beauty salon proprietors, shopkeepers, farmers, self-employed taxi drivers
- 5 **Lower supervisory and technical**
e.g. bakers and flour confectioners, screen- printers, plumbers, gardeners, rail transport operatives
- 6 **Semi-routine**
e.g. pest control officers, clothing cutters, traffic wardens, farm workers, veterinary nurses, shelf fillers
- 7 **Routine**
e.g. hairdressing employees, floral arrangers, sewing machinists, bus drivers, bar staff, road sweepers

The process of deciding to which NS-SEC class an individual belongs can be complicated⁹. It should be noted that between 1982-86 and 2002-06 there have been changes in the distribution of the population by NS-SEC class. These may have affected the observed pattern of inequalities between NS-SEC class with regard to life expectancy.

For England and Wales, Figure 3.4 shows changes in men's life expectancy at age 65 by NS-SEC from the early 1980s to 2002-06, the latest years for which such breakdowns are available. Throughout this period overall life expectancy increased for all NS-SEC classes. However, men in 'higher managerial and professional' occupations had the highest life expectancy, and it increased more rapidly than for those in 'routine' occupations. In 1982-86 men in NS-SEC 1 could expect to live 2.3 years longer than men in NS-SEC 7. By 2002-06, this gap had increased to 3.5 years, with men in

'higher managerial and professional' occupations expected to live for 18.8 years at age 65 compared with 15.3 for men in 'routine' occupations. NS-SEC inequalities in men's life expectancy at age 65 have an impact upon the number of years that men have to enjoy retirement.

Figure 3.4
Period life expectancy for men at 65: by NS-SEC¹, 1982 to 2006



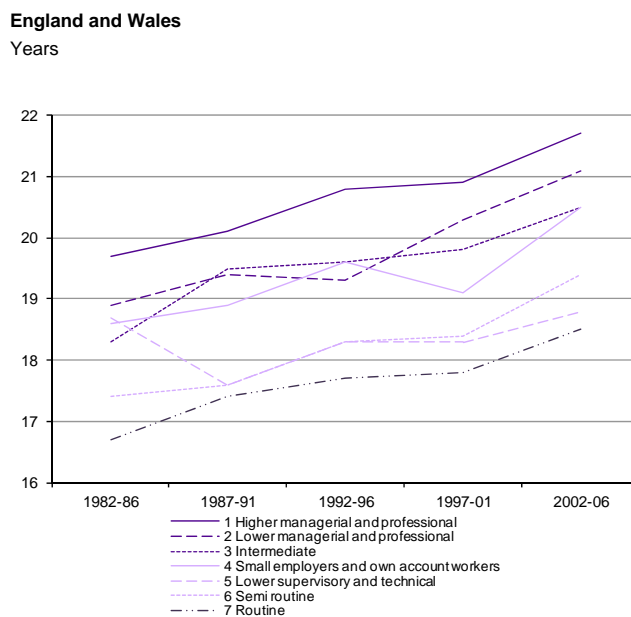
1 The Longitudinal Study includes communal establishments in its sample.

Source: Longitudinal Study, Office for National Statistics

Figure 3.5 shows changes in life expectancy for women at 65 by NS-SEC in England and Wales from the early 1980s to 2002-06. The patterns are harder to interpret than for men because there is considerable volatility in the estimates for the intermediate classes. A number of factors may be behind this volatility¹⁰. However, it is clear that life expectancy increased for all NS-SEC classes over this period with the exception of NS-SEC 5, and also that there are distinct inequalities between the classes.

Women in 'higher managerial and professional' occupations have the highest life expectancy at age 65. In 1982-86, they could expect to live 3.0 years longer than women in 'routine' occupations. However, by contrast with men, the gap between the highest and lowest NS-SEC classes increased little for women between 1982-86 and 2002-06 because life expectancy rose at a similar pace in the highest and lowest NS-SEC classes. In 2002-06, women in 'higher managerial and professional' occupations could expect to live for 21.7 years at age 65 compared with 18.5 years for women in 'routine' occupations, a gap of 3.2 years.

Figure 3.5
Period life expectancy for women at 65: by NS-SEC¹, 1982 to 2006



1 The Longitudinal Study includes communal establishments in its sample.

Source: Longitudinal Study, Office for National Statistics

Thus, the experience of different socio-economic groups may diverge considerably from the life expectancy of the 'average person', with members of lower NS-SEC classes at a disadvantage. The Second Report of the Pensions Commission¹¹ suggested that the development of 'enhanced' or 'impaired life' annuities might help to offset these disadvantages for those with defined contribution pensions, including personal and stakeholder pensions (see Glossary). Such annuities provide higher pensions for people who are likely to have lower life expectancies. However, there are no official statistics on the proportion of people receiving them.

Another approach is to use postcodes when calculating annuities, as these are thought to be a good proxy for differences in life expectancies relating to socio-economic differences. This is now common practice for the insurance companies that provide annuities. People living in poor or deprived areas are likely to be offered higher annuity rates than those living at wealthier addresses.

It would be useful to consider the trends in healthy life expectancy and disability-free life expectancy of those at age 65 from different social classes in order to explore whether inequalities exist between the extremes of the social scale and whether healthy life expectancy and disability-free life expectancy show similar trends to life expectancy. At present there is a shortage of data in this area, so it is not possible to present this analysis.

Table 3.6

Period life expectancy, healthy life expectancy and disability-free life expectancy at 65: by country and sex^{1,2,3}, 2008

United Kingdom

Years

	Men			Women		
	Life expectancy	Healthy life expectancy	Disability-free life expectancy	Life expectancy	Healthy life expectancy	Disability-free life expectancy
UK	17.6	9.9	10.2	20.2	11.5	11.2
England	17.8	10.0	10.5	20.4	11.7	11.4
Wales	17.2	10.7	10.3	20.0	10.1	11.6
Scotland	16.4	8.8	8.9	19.0	10.7	10.9
Northern Ireland	17.1	9.6	9.0	19.9	10.7	9.2

1 Estimates calculated using life table data from the Office for National Statistics, and health related data from the GLF, CHS and the Census.

2 Estimates are based on a three year moving average plotted on the central year. Therefore the 2008 figures use data from 2007 to 2009 (population data are mid-year estimates).

3 Healthy life expectancy is based on new definition (a person being in 'good' or 'very good' general health on a 5-point scale).

Source: Office for National Statistics, National Records of Scotland, Northern Ireland Statistics and Research Agency

However, it is possible to look at differences between different parts of the UK. Table 3.6 presents data on period life expectancy, healthy life expectancy and disability-free life expectancy at 65 by the countries of the UK: England, Wales, Scotland and Northern Ireland.

Of all of the countries of the UK, in 2008 England had the highest life expectancy and disability-free life expectancy for men at 65, and Wales had the highest healthy life expectancy for men at this age. At the other end of the scale, men in Scotland had the lowest life expectancy, healthy life expectancy and disability free life expectancy.

Women aged 65 in England had the highest healthy life expectancy and women in Wales had the highest disability-free life expectancy in 2008. As with men, it was women in Scotland retiring at 65 who were likely to have the shortest retirement period and women in England who were likely to have the longest. Women aged 65 in Wales had the lowest healthy life expectancy and those in Northern Ireland the lowest disability-free life expectancy. Women aged 65 in Northern Ireland were likely to spend less of their remaining lives free from disability (47 per cent) than women in Wales and Scotland (58 per cent) or England (56 per cent).

Although distinct inequalities exist between life expectancy, healthy life expectancy and disability-free life expectancy of people living in different parts of the UK, it is at present unclear whether such inequalities will persist into the future. If these inequalities do persist, the effects of a rise in SPA in the UK as a whole could be seen as disproportionately

affecting the amount of time that those living in areas with lower rates of life expectancy, healthy life expectancy and disability-free life expectancy have to enjoy their retirement. Whether this will occur is at present uncertain and will depend on how differences in life expectancy, healthy life expectancy and disability-free life expectancy affect those living in different parts of the UK in years to come.

We can also examine life expectancy at the level of English regions and compare it with life expectancy in Scotland, Wales and Northern Ireland. Further breakdowns are also available at Local Authority level¹². Official statistics at regional and Local Authority level are not available for healthy life expectancy and disability-free life expectancy, but for disability-free life expectancy experimental statistics are available at regional and Local Authority level¹³.

Table 3.7 shows that in 2009, the English regions with the highest life expectancy at age 65 were the South East and South West for men (18.9 years) and London and the South West for women (21.5 years). By contrast, Scotland had the lowest life expectancy at age 65 in 2009: 16.6 years for men and 19.2 years for women. Over the period 2001 to 2009, life expectancy at age 65 improved in all countries and regions of the UK. The biggest improvements were in London, where life expectancy increased by 2.5 years for men and 2.0 years for women. The smallest improvement for men was in Northern Ireland (an increase of 1.6 years). The smallest improvement for women was in Scotland, with an increase of 1.2 years.

Table 3.7
Period life expectancy at 65: by country and English region^{1,2}, 2009

United Kingdom	Years	
	Men	Women
United Kingdom	17.8	20.4
England	18.0	20.6
North East	17.2	19.7
North West	17.3	19.8
Yorkshire and The Humber	17.7	20.3
East Midlands	18.1	20.7
West Midlands	17.9	20.7
East of England	18.7	21.2
London	18.7	21.5
South East	18.9	21.4
South West	18.9	21.5
Wales	17.5	20.2
Scotland	16.6	19.2
Northern Ireland	17.3	20.1

1 Estimates are based on a three year moving average plotted on the central year. Therefore the 2009 figures use data from 2008 to 2010 (mid-year population estimates and annual mortality data combined).

2 Figures for the UK, England, Wales, Scotland and Northern Ireland were calculated using complete life tables (based on single year of age). English region figures were calculated using abridged life tables (based on 5-year age bands) due to smaller numbers, to ensure that the figures produced were sufficiently robust.

Source: Office for National Statistics, National Records of Scotland, Northern Ireland Statistics and Research Agency

Inequalities and the pension burden

Differences in life expectancy between people working in different occupations and regional or local differences are important not only in terms of individual retirement experiences, but in relation to the pension burden on Government and private pension providers.

Private pensions provided in the form of annuities can take account of differences in life expectancy. Insurance companies can adjust the annuity rates they offer based on location (see above: **Inequalities**).

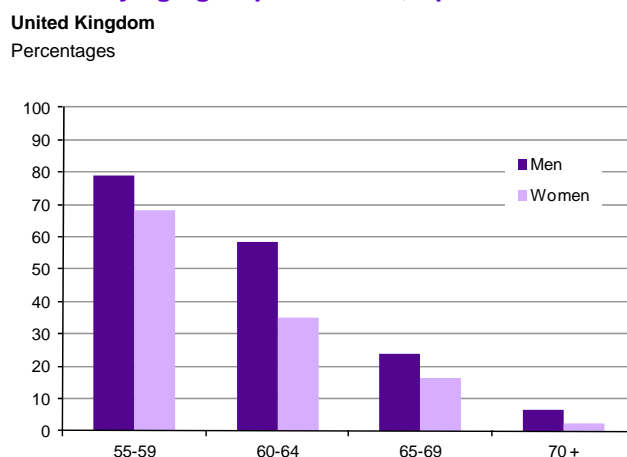
However, this is not the case for state pensions (the basic state pension and additional state pension) or for defined benefit private pensions (see Glossary). In such schemes, individuals accumulate rights to the same annual pension as others with the same contribution record during their working lives, irrespective of differences in life expectancy reflecting factors such as sex, socio-economic status or location. Therefore with state pensions and defined benefit private pensions, the pension provider (the Government and private employers) must ensure that differences in life expectancy are taken into account so that sufficient funds

are available to provide the promised pension benefits. Assuming identical working life histories and retirement ages, it will cost more, on average, to provide a pension to a woman living in London or the south of England than to a man living in Scotland.

Fitness for work

The combination of the Pensions Acts 1995, 2007 and 2011 which increase SPA and the ending of the Default Retirement Age in 2011 (see above: **Introduction**) mean that in coming decades people will be increasingly likely to continue working beyond the retirement ages prevalent in the second half of the 20th century. An analysis of the ages at which men and women leave the labour market is presented in *Pension Trends* Chapter 4. This section explores whether people are able to continue their participation in the labour market at older ages. It looks at information about economic activity in the age groups around retirement, and the proportion of economically active older people who face problems of ill health or disability. It then considers the main health problems reported by those who are limited in the kind of work they can do.

Figure 3.8
Proportion of the population that is economically active: by age group and sex^{1,2}, April to June 2011



1 The Labour Force Survey excludes most people living in communal establishments from its sample.

2 Data is not seasonally adjusted.

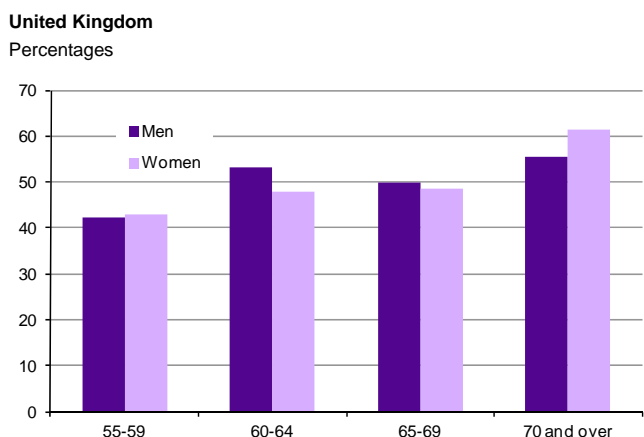
Source: Labour Force Survey, Office for National Statistics

Some people choose to work later in life or have to continue working because they have not saved enough for their retirement (see *Pension Trends* Chapter 10). Figure 3.8 shows the proportion of the UK population in the age groups around retirement who were economically active (in employment including self-employment, or actively seeking work) in April to June 2011. Despite a fall in the proportion of economically active women after age 60 and

economically active men after age 65, over one-third of women aged 60 to 64 and nearly one-quarter of men aged 65 to 69 were still economically active. It should be noted that although the 65 to 69 age group for men represents those in the five years immediately after SPA, in April-June 2011 this was not the case for women in the 60 to 64 age group, as women's SPA started to increase in April 2010. In April-June 2011 an estimated 90 per cent of women aged 60 to 64 were over SPA (see *Pension Trends* Chapter 4).

Figure 3.9 shows the proportion of economically active men and women who consider themselves to have health problems or disabilities that they expect to last for more than a year¹⁴. Unsurprisingly, as people age, the percentage reporting a long term health problem or disability generally increases.

Figure 3.9
Proportion of economically active population with a long term health problem or disability: by age band and sex^{1,2}, April to June 2011



1 The Labour Force Survey excludes most people living in communal establishments from its sample.
 2 Data is not seasonally adjusted.

Source: Labour Force Survey, Office for National Statistics

There are also changes over time. In April-June 2011, 42 per cent of economically active men and 43 per cent of women in the 55 to 59 age band reported having a long term health problem or disability, compared with 39 and 37 per cent two years earlier. In the 60 to 64 age band, 53 and 48 per cent of economically active men and women respectively reported long term health problems, up from 45 and 42 per cent in April-June 2009.

It would be interesting to explore whether people in the older age groups choose to continue working despite their long term health problems or disabilities, or whether their continued economic activity is due to necessity. Recently, some evidence on older people's reasons for continuing to

work and their motivations for leaving the labour force has begun to emerge^{15, 16}.

Table 3.10 illustrates the main health problems of economically active men and women over 60 years of age who report having a health problem that limits the kind of work that they can do. The main health problems or disabilities of men aged 60 to 64 and 65 to 69 in April-June 2011 related to the heart, blood pressure and the circulatory system, legs or feet, and back or neck. Women in these age bands were also likely to be affected by problems relating to their legs or feet, and back or neck, but they were less likely than men to have problems relating to the heart, blood pressure and the circulatory system. For people aged 70 and over, a much larger proportion of men than women are affected by problems relating to their heart, blood pressure or circulation and a much larger proportion of women than of men are affected by problems relating to legs or feet.

Table 3.10
Proportion of economically active population with a health problem or disability that limits the kind of work that they can do: by main health problem, age band and sex^{1,2}, April to June 2011

	60-64		65-69		70 and over	
	Men	Women	Men	Women	Men	Women
Heart, blood pressure, circulation	19	8	23	14	55	31
Legs or feet	20	19	18	17	17	38
Back or neck	16	19	14	21	1	4
Chest, breathing problems	10	9	11	5	7	10
Arms or hands	6	13	7	14	3	0
Diabetes	7	3	8	8	8	4

1 The Labour Force Survey excludes most people living in communal establishments from its sample.
 2 Data is not seasonally adjusted.

Source: Labour Force Survey, Office for National Statistics

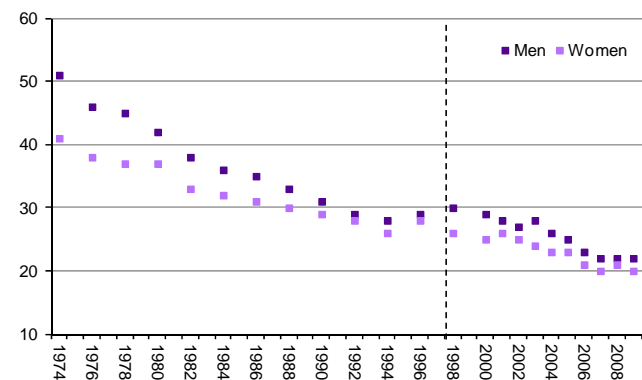
Although the evidence suggests that at present these are the main health barriers to older people who want to participate in the labour market, it is hard to say whether today's age-related health issues will be those experienced by older workers in future. It should also be noted that people in relatively good health may leave the labour market early to care for others with age-related health problems and disabilities. Due to increases in life expectancy, these people may require care for longer than in the past (see below: **Ageing and social care**).

Generational health uncertainties

As already discussed, there is a great deal of uncertainty about trends affecting older people in the UK. This makes it hard to predict life expectancy, healthy life expectancy and disability-free life expectancy of people around SPA, as well as the likelihood of labour market participation by older people. In particular, although we have evidence about current health problems, it is hard to predict the health of future generations of retired people and older workers. There has been much debate on the conditions which increase risk of disease in old age, such as smoking, obesity, alcohol consumption, high cholesterol levels, high blood pressure (hypertension) and diabetes. This section draws attention to two of these factors: smoking and obesity. For most of the others, we lack analyses of health indicators over time¹⁷, which would allow us to document the trends and to predict how such problems might affect future generations of older people. This is an area where more research needs to be done.

Figure 3.11
Adult cigarette smoking levels: by sex^{1,2,3}, 1974 to 2009

Great Britain
 Percentages



- 1 Figures for 1974 to 1998 are unweighted; figures for 1998 onwards are weighted.
- 2 2005 data includes last quarter of 2004/05 data due to survey change from financial year to calendar year.
- 3 Results from 2006 to 2009 include longitudinal data.

Source: General Lifestyle Survey, Office for National Statistics

The smoking of tobacco products is seen as the biggest single factor reducing life expectancy and has been identified as the prime cause of lung cancer and a major cause of heart disease¹⁸. Smoking can be related to rates of healthy life expectancy as well as life expectancy¹⁹. Figure 3.11 shows the percentage of adults smoking cigarettes in Great Britain, by sex, from 1974 to 2009. Smoking has declined significantly for both men and women over this period. In 2009, 22 per cent of men and 20 per cent of women smoked, compared with 51 per cent of men and

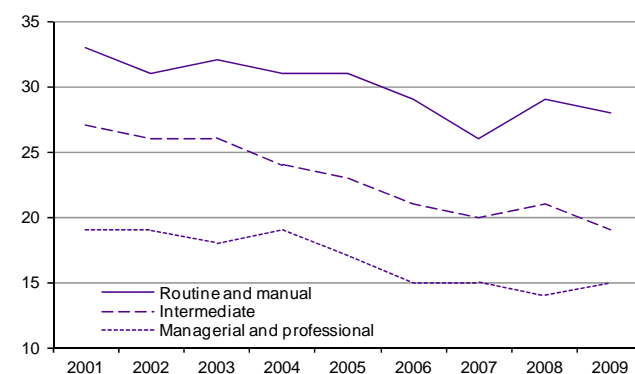
41 per cent of women in 1974. With continued campaigning to reduce the prevalence of smoking, a continuation in this downward trend might reasonably be expected.

Variations in smoking levels exist between birth cohorts and socio-economic backgrounds²⁰. Figure 3.12 shows, for England, trends in cigarette smoking for adults by household NS-SEC. There are clear differences between the classes. People from households classified as 'routine and manual' reported the highest levels of cigarette smoking in 2009, with 28 per cent of adults in such households smoking cigarettes. Adults from households classified as 'intermediate' reported lower levels of cigarette smoking (19 per cent) and those from 'managerial and professional' households still lower levels (15 per cent). Such differences mean that the negative health effects associated with cigarette smoking will disproportionately affect those from households with lower socio-economic status.

People from all socio-economic groups experienced a decline in cigarette smoking between 2001 and 2007. In 2008, there was a noticeable increase in the proportion of people in 'routine and manual' households smoking and a slight increase in smoking by people in 'intermediate' households (Figure 3.12). These proportions fell in 2009.

Figure 3.12
Adult cigarette smoking levels: by household NS-SEC^{1,2,3}, 2001 to 2009

England
 Percentages



- 1 Analysis based on the condensed version of NS-SEC, where 'routine and manual' comprises classes 5, 6 and 7, 'intermediate' comprises classes 3 and 4 and 'managerial and professional' comprises classes 1 and 2.
- 2 Results are weighted; for 2006 to 2009, they include longitudinal data.
- 3 2005 data includes last quarter of 2004/5 data due to survey change from financial year to calendar year.

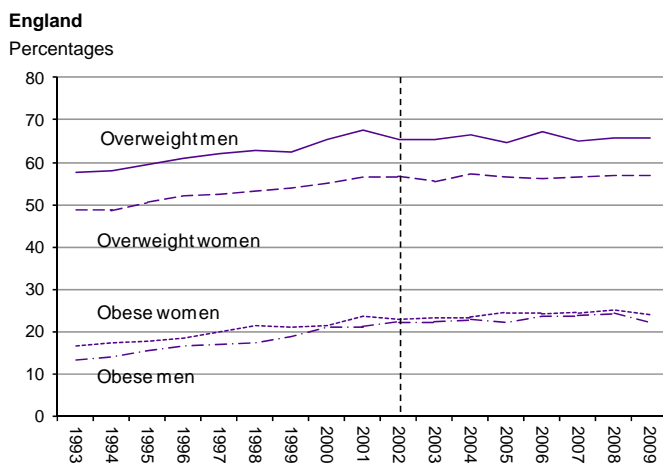
Source: General Lifestyle Survey, Office for National Statistics

The World Health Organization finds that individuals diagnosed as either obese or overweight are at increased risk of premature death and at greater risk from chronic

diseases including cardiovascular disease (heart disease and stroke), diabetes, musculoskeletal disorders such as osteoarthritis, and certain forms of cancer. The key causes of obesity and being overweight are related to factors such as the increased consumption of energy-dense foods high in saturated fats and sugars, reduced physical activity exaggerated by changes in modes of transportation, urbanisation and the increasingly sedentary nature of contemporary working practices²¹.

Figure 3.13 shows the proportion of overweight and obese men and women in England between 1993 and 2009. Overweight and obesity levels have shown an increase for both men and women over this period. In 1993, 57.6 per cent of men and 48.6 per cent of women were classified as overweight; by 2009, these figures had risen to 65.8 per cent and 56.7 per cent respectively. In 1993, 16.4 per cent of women were classified as obese; by 2009 this had risen to 23.9 per cent. For men, 13.2 per cent were recorded as obese in 1993; by 2009 this had risen to 22.1 per cent. There appears to have been a slight reduction in obesity levels for both men and women in 2009 compared with 2008, but it is too early to tell whether this will be confirmed as a change in trend.

Figure 3.13
Adult obesity and overweight levels: by sex^{1,2},
1993 to 2009



1 Adults are defined as obese if they have a Body Mass Index greater than 30 kg/m², and overweight if they have a Body Mass Index greater than 25 kg/m².

2 Data up to 2002 are unweighted, from 2003 onwards data have been weighted for non-response.

Source: Health Survey for England, Department of Health

Changes in individual behaviour patterns, such as smoking, and in the prevalence of conditions such as obesity, high cholesterol levels, hypertension and diabetes are likely to have an impact on the health of future generations of older

people. However, at present there remains much uncertainty about how these factors will affect the life expectancy, healthy life expectancy and fitness for work of older people. Research may provide answers to these questions in years to come.

Ageing and social care

This chapter has shown that life expectancy of older people is increasing but that a considerable proportion of retirement is spent in ill health or with a disability. A growing proportion of the population will be likely to require some form of care in later life. Therefore, policy attention is now focusing on the provision of formal and informal care²².

Currently, older people are expected to pay for formal social care when they require it and to fund this care out of their private savings or retirement income. An individual's lifetime contributions towards social care are currently limitless. In 2011, the Dilnot Commission made a number of recommendations about how formal care should be paid for in the future, suggesting that the amount that individuals are responsible for paying should be capped at around £35,000, with the state providing the rest, at an estimated cost of £1.7 billion per year²³. However, it is not yet clear whether these recommendations will be implemented.

Informal care (that which is provided by relatives and friends) is also an important part of care in later life. The increases in life expectancy outlined in this chapter are expected to increase demand for informal care as well as for formal care, while the supply of informal care is changing for other reasons. For example, more people may have to juggle paid work with unpaid caring responsibilities as more women work in mid-life and more people of both sexes work longer²⁴. Changes in demographic structure, such as people having fewer children, will also affect the availability of informal care for older people.

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- 1 Pensions Commission (2004), Chapter 2 (see **Sources and further reading**).
- 2 For the Chancellor's 2011 Autumn Statement, see www.hm-treasury.gov.uk/as2011_index.htm; for the April 2011 Green Paper, see: www.dwp.gov.uk/consultations/2011/state-pension-21st-century.shtml
- 3 The GLF and the CHS are used to estimate health expectancy for the private household population of the UK. The Census is used to estimate health expectancy for the UK population resident in communal establishments. Before 2008, the GLF was known as the General Household Survey (GHS).
- 4 The methodology for calculating healthy life expectancy changed in 2007, due to European requirements (see Smith and White 2009 and Smith, Olatunde and White 2010 in **Sources and further reading**). Previously, the general health question counted those with self-reported health as being 'fairly good' or 'good' (on a 3 point scale) as being in good health, but this has now been withdrawn from ONS's household surveys. Estimates of healthy life expectancy are now based on the general health question used in the Minimum European Health Module of the European Statistics on Income and Living Conditions (EU-SILC). This means that only those with self-reported health as being 'very good' or 'good' (on a 5 point scale) are considered to be in good health.
- 5 See Jagger (1999) in **Sources and further reading**.
- 6 The 5 point scale question which is used to define healthy life expectancy in the General Lifestyle Survey (GLF) for Great Britain and the Continuous Household Survey (CHS) of Northern Ireland is "How is your health in general? Is it very good, good, fair, bad or very bad?". The 3 point scale question which is used to define healthy life expectancy in the 2001 Census (and in ONS household surveys before the 2007 methodology change, see above) is "Over the last 12 months, would you say your health has on the whole been good, fairly good or not good?" For disability-free life expectancy, the GLF and CHS ask: "Do you have any longstanding illness, disability or infirmity? (By longstanding I mean anything that has troubled you over a period of time or that is likely to affect you over a period of time)". If 'Yes': a) "What is the matter with you?" and b) "Does this illness or disability (do any of these illnesses or disabilities) limit your activities in any way?" The 2001 Census asks: "Do you have any long-term illness, health problem or disability which limits your daily activities or the work you can do?" The meanings attached by respondents to the categories may change over time due to medical advances.
- 7 Age 65 is used as a reference point for this analysis. However, some people retire before this age and others retire after it (see *Pension Trends* Chapter 4).
- 8 Details of NS-SEC are available at: www.ons.gov.uk/ons/guide-method/classifications/current-standard-classifications/soc2010/soc2010-volume-3-ns-sec--rebased-on-soc2010--user-manual/index.html
- 9 For more information about how individuals were assigned to an NS-SEC class in this analysis, see: Office for National Statistics, *Health Statistics Quarterly* No. 49 (**Sources and further reading**).
- 10 Possible reasons for this volatility include: (i) Changes in female employment patterns over time; (ii) changes in the classification of occupations; (iii) changes in family structures; (iv) the use of spouse's occupation as a proxy for women who had no occupation recorded; (v) the relative elasticity of female employment rates, which may make the analysis based on women's occupations in the Longitudinal Study more prone to selection effects than men's occupations; and (vi) patterns in women's health are likely to be more strongly affected than men's health by non-occupational factors.
- 11 Pensions Commission (2005), Chapter 8 (see **Sources and further reading**).
- 12 Life expectancy estimates by local area in the UK are available at: www.ons.gov.uk/ons/publications/all-releases.html?definition=tcm%3A77-22483
- 13 See Smith, M.P. Olatunde, O. and White, C. (2011) in **Sources and further reading**.
- 14 The questions in the Labour Force Survey relating to health, disability and work are: 1) "Do you have any health problems or disabilities that you expect will last for more than a year?" 2) "Does this health problem affect the kind of paid work that you might do?" and 3) "Which of these is your main health problem/disability?"
- 15 See Chapter 2 in Banks, Lessof, Nazroo, Rogers, Stafford and Steptoe (eds) (2010) in **Sources and further reading**.
- 16 See Dini (2010) in **Sources and further reading**.
- 17 However, the GLF presents results on alcohol consumption since 1992 at www.ons.gov.uk/ons/rel/ghs/general-lifestyle-survey/2009-report/index.html
- 18 Smoking Kills: A White Paper on Tobacco (1998) HMSO: London. Available at: www.archive.official-documents.co.uk/document/cm41/4177/4177.htm
- 19 See Bronnum-Hansen and Juel (2004) in **Sources and further reading**.
- 20 See Davy (2007) and Evandrou and Falkingham (2002) in **Sources and further reading**.
- 21 World Health Organization Fact sheet N°311 March 2011, Available at: www.who.int/mediacentre/factsheets/fs311/en/
- 22 Care Quality Commission (2011) in **Sources and further reading**.
- 23 Dilnot Commission (2011) in **Sources and further reading**. This figure is not a National Statistic.
- 24 See Vlachantoni *et al* (2011) in **Sources and further reading**.

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