



# **Aberdeenshire Joint Strategic Needs Assessment**

**Aberdeenshire Council  
Aberdeenshire Community Health Partnership  
NHS Grampian**

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**Written by:**

Marjorie Johnston, Specialist Registrar Public Health, NHS Grampian

Emmanuel Okpo, Consultant Public Health Medicine, NHS Grampian

**In collaboration with:**

Jillian Evans, Head of Health Intelligence, NHS Grampian

Nicola Beech, Health Intelligence, NHS Grampian

Peter MacLean, Health Intelligence, NHS Grampian

Patricia Maclachlan, Head of Community Care, Aberdeenshire Council

Bill Stokoe, Strategic Development Officer (Community Care), Aberdeenshire Council

Rieta Vilar, Joint Future Planning Manager, Aberdeenshire CHP

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# 1 Introduction

## 1.1 Context

The Scottish Government introduced the Reshaping Care for Older People Change Fund in order to facilitate a shift in services for older people away from institutional settings and towards primary and community settings. The aim is to shift the approach towards “*anticipatory care and preventative spend*”.<sup>1</sup> The primary driver for this is that, like many developed countries, Scotland has an ageing population. As a result, current ways of providing care are becoming unsustainable.<sup>1</sup>

The Change Fund guidance advises that local partnerships should prepare “Strategic Joint Commissioning Strategies” for the period 2012 to 2020. As the guidance states:

*“this will require involvement for all stakeholders across statutory, community, 3<sup>rd</sup> and independent sectors- users, carers, providers and commissioners of care coming together to agree long term service development and investment proposals”.*<sup>2</sup>

The Joint Improvement Team (JIT) was established to provide support and additional capacity to health and social care partnerships in Scotland, with the overall aim of assisting in delivering the most appropriate and effective health and social care services to those who need them.<sup>3</sup> The JIT are providing support materials with regards to the change fund and commissioning process. They have set out the commissioning process as follows (Figure 1). The needs assessment is part of the cycle and sits within the analysis stage.

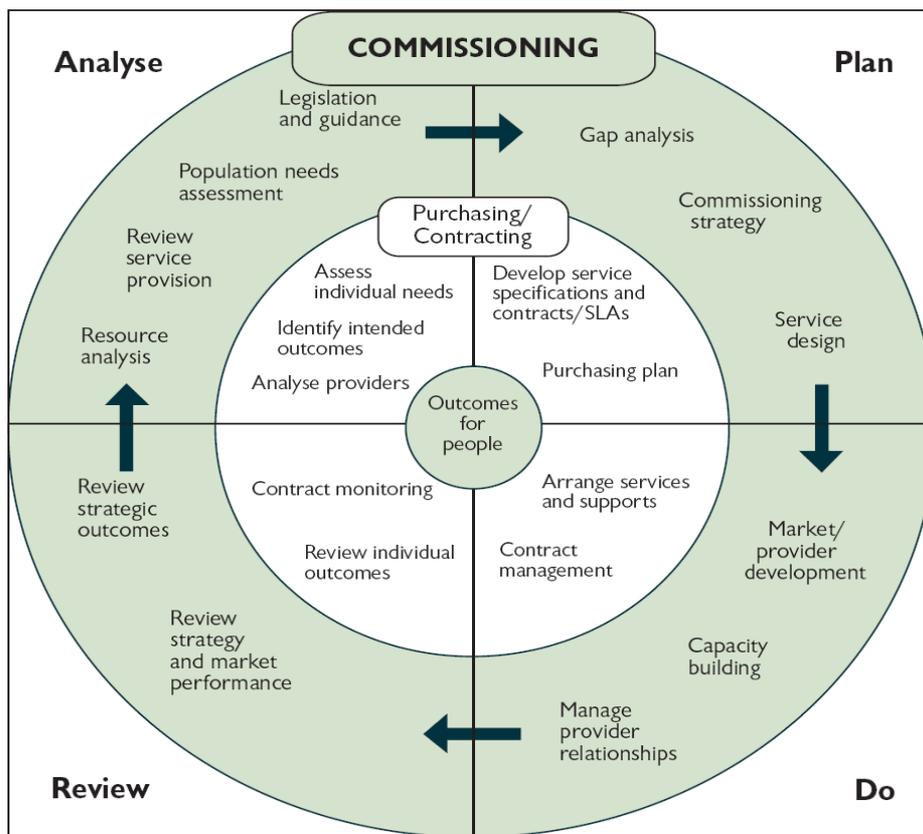


Figure 1: The Commissioning cycle <sup>4</sup>

## 1.2 What is a Joint Strategic Needs Assessment?

A joint strategic needs assessment (JSNA) can be defined as:

*“a systematic method for reviewing the health and wellbeing needs of a population, leading to agreed commissioning priorities that will improve health and wellbeing outcomes and reduce inequalities”.*<sup>5</sup>

A JSNA examines population need and does not aim to identify need at an individual level. In other words it can identify groups where needs are not being met.<sup>5</sup> The key features of the JSNA are that it involves partnership working with input from stakeholders (“joint”), it provides direction for decision making (“strategic”) and it identifies current and future health and wellbeing needs (“needs assessment”). As per

JIT guidance, the JSNA should be produced using relevant local and national data. This should cover demographic, social and health aspects. The forecasts of need should be short, medium and long term (around 1, 3 and 10 years respectively).<sup>4</sup>

The JIT guidance sets out the analysis stage of the commissioning cycle in the following steps:

- a) *“Shared understanding about the outcomes to be achieved in the future”*
- b) *“A comprehensive assessment of needs, preferences and intended outcomes”***
- c) *“Mapping and review of current service provision”*
- d) *“Analysis of the range of options for achieving agreed outcomes”*
- e) *“Analysis of the resources needed to support future commissioning”*
- f) *“Risk assessment”*<sup>4</sup>

The needs assessment (part b) thus informs the following steps. Therefore when current service provision has been mapped it can be reviewed against the needs identified in order to assess current and future unmet need.<sup>4</sup>

The layout of the needs assessment is based upon guidance from JIT, discussions with partners and previous JSNAs carried out in other areas.<sup>6,7</sup>

### 1.3 Data used and limitations

The most up to date and robust data available were used in this needs assessment. Local data were sourced where possible. In some circumstances there were no local data and data from a Grampian or Scottish level were used. Estimates were then made as to how these would reflect the local situation.

Population statistics were drawn from General Register Office for Scotland (GROS) reports. The most recent population estimates and projections were from 2010. The background data for these estimates came from the 2001 census. Data from the 2011

census are not yet available. Some statistical analysis may be available from July 2012 onwards. Due to the long time period between 2001 and 2010, there is likely a greater chance for error in the estimates. This can not be avoided. However it is recommended that estimates within this document be updated when the population estimates and projections from the 2011 census are available.

Survey data were used in a number of the sections. As surveys only include a sample of the population, they are prone to a number of errors. Surveys often under-represent certain demographic groups such as young men who are more likely not to participate.<sup>8</sup> This is selection bias and could lead to results which differ systematically from the truth. Many of the national surveys only interview private households, thus individuals such as students, those in temporary accommodation and the military will generally not be included. There may be errors in the way people respond to questions, either deliberately (for example under-stating alcohol consumption due to social desirability bias)<sup>9</sup> or by accident (for example genuinely underestimating how many units of alcohol they are actually consuming). In the Scottish Health Survey for example, people are asked to self-report if they have ever had a condition such as stroke. As this is subjective it can be prone to error.<sup>10</sup>

The Scottish Household Survey (SHoS) and the Scottish Health Survey (SHS) both take steps to reduce the risk of error, however the potential for error must be borne in mind when examining the results.

#### 1.4 Layout

This report begins by describing the demography of Aberdeenshire, including population projections. It then goes on to describe the social, environmental and economical determinants of health, followed by the behavioural determinants of health and then finishes by describing a number of health conditions of importance within the older

population. Each section contains a short summary and some pointers for the partnership to consider. Many of the tables of data are in the Appendix, in order to facilitate the flow of the report.

## 2 Demography

### 2.1 Current population

The most recent population estimates put the population of Aberdeenshire at 247,600 in 2011. There were 41,095 people aged 65 or over (16.6%) and 5,143 people aged 85 or older (2.1%). The proportion of the population aged over 65 appears to be slightly less than that at a national level (19.1%) but the proportion aged over 85 is comparable (2.1%). The proportions are higher than that estimated in Aberdeen City (14.7% and 1.9%). Women make up 54.1% of those aged over 65 in comparison to 57.1% in Scotland.<sup>11</sup>

In 2011 there were 240,416 people registered with a GP. There were 39,821 people aged over 65 registered. This compares to an estimated population of 41,095. The reason for the difference could be due to error in the population estimate from GROS or reflect the fact a certain number of people are not registered with their GP or are registered within Aberdeen City. There were almost 2,000 *more* elderly people registered with a GP in Aberdeen City compared to the GROS estimate for Aberdeen City for example.

The most recent GP registration data by zones within Aberdeenshire are demonstrated below (Table 1).

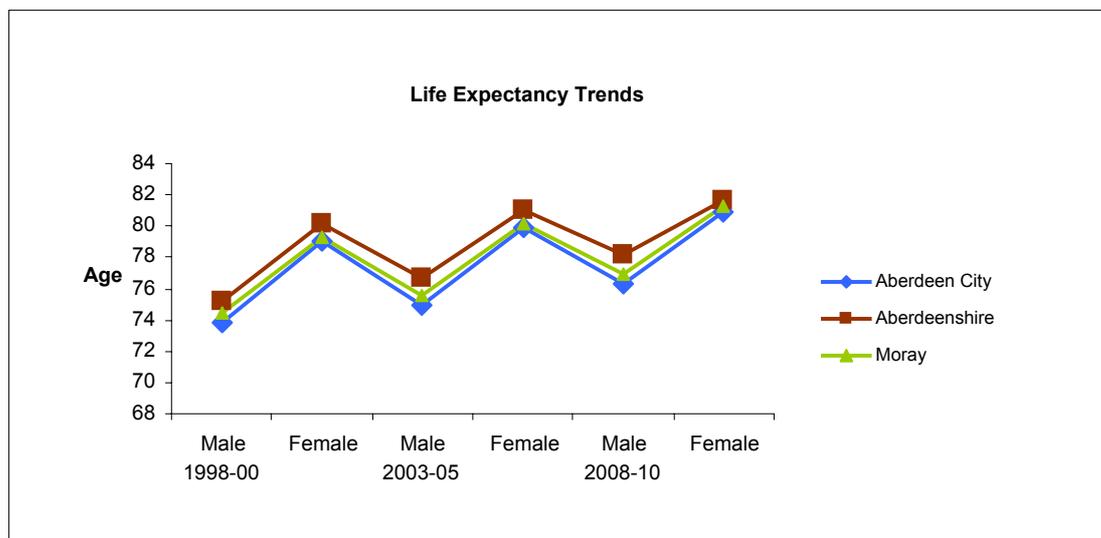
**Table 1: Practice registrations as of April 2012, Aberdeenshire, Source PSD GP Practice Registrations, NHS Grampian Health Intelligence**

<b>Locality</b>	<b>0-64 (%)</b>	<b>65-74 (%)</b>	<b>&gt;75 (%)</b>	<b>Total</b>
Banff and Buchan	28713 (80.9)	3760 (10.6)	3015 (8.5)	35488
Buchan	35202 (82.9)	4219 (9.9)	3047 (7.2)	42468
Formartine	31979 (84.0)	3478 (9.1)	2628 (6.9)	38085
Garioch	95894 (82.6)	11457 (9.9)	8690 (7.5)	116041
Kincardine and Mearns	33234 (84.9)	3503 (8.9)	2416 (6.2)	39153
Marr	30325 (79.9)	3982 (10.5)	3670 (9.7)	37977

These are from 2012 so numbers may not exactly amount to the total from 2011. However, using the proportions, it can be seen that areas are broadly comparable in terms of the spread of age groups in the population.

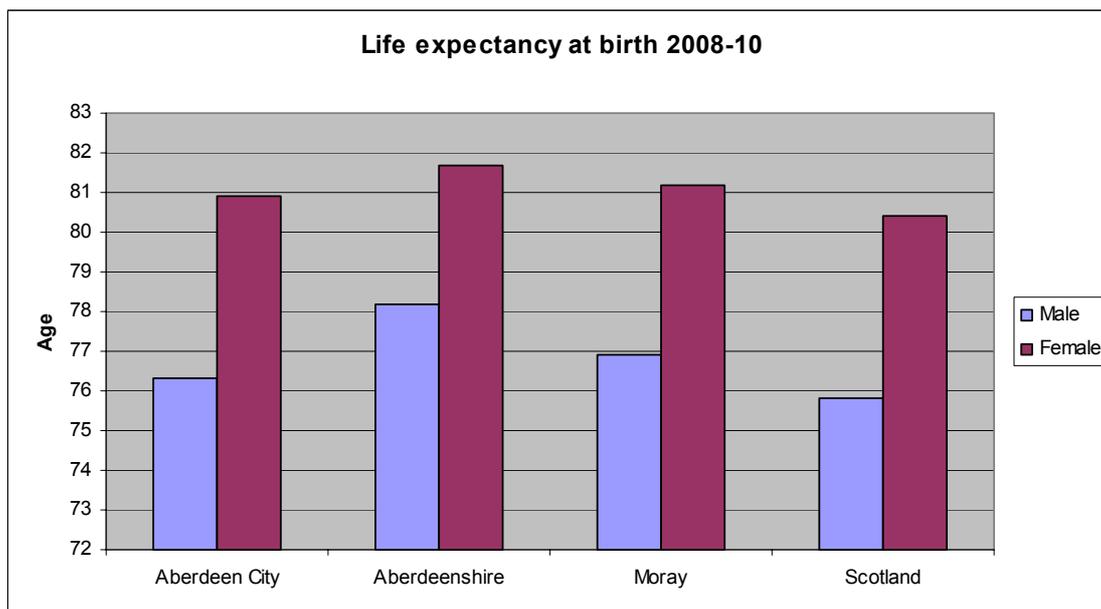
## 2.2 Life expectancy

Life expectancy (LE) at birth is increasing. Between 1998/00 and 2008/10, life expectancy has increased for both males and females. The gender gap has decreased (Figure 2). See Table 1 in Appendix.



**Figure 2: Life expectancy trends in Grampian areas**

In 2008-10 the male and female life expectancy in Aberdeenshire is higher than the Scottish average (Figure 3). It is also the highest in Grampian. (Table 2 in Appendix).



**Figure 3: Life expectancy at birth, Grampian areas and in Scotland**

Life expectancy at 65 is highest in Aberdeenshire for men compared to the other Grampian areas (Table 2). For women it is equal with Moray and higher than Aberdeen city.

**Table 2: Life expectancy at age 65 2008-10, Aberdeenshire compared to other areas**

	Male	Female
Aberdeen City	17	19.3
Aberdeenshire	17.9	19.9
Moray	17.7	19.9

It is important to be aware that whilst life expectancy is increasing, healthy life expectancy (HLE) is not doing so at the same rate. HLE is an estimate of how many years an individual may live in a 'healthy' state. This is a helpful measure as the health of a person, not solely longer life expectancy, impacts upon resource use.<sup>12</sup> These data are only at a local level, for the period of 1999-2003 (Table 3 and Figure 4).

**Table 3: Life expectancy (LE) and healthy life expectancy (HLE) at birth in years, by Community Health Partnership (CHP) area in Scotland, 5-year period 1999-2003, Source: ScotPHO**

CHP	Males		Expected period in 'not healthy' health	Females		Expected period in 'not healthy' health
	LE	HLE	(LE-HLE)	LE	HLE	(LE-HLE)
Aberdeenshire	75.8	70.8	5.0	80.5	74.5	6.0
Moray	74.2	69.1	5.1	79.7	73.4	6.3
Aberdeen City	74.0	67.8	6.2	79.5	72.1	7.4
Scotland	73.3	66.3	7.0	78.7	70.2	8.5



**Figure 4: Healthy Life expectancy in Grampian areas and in Scotland, 1999-2003 combined**

Aberdeenshire has higher HLE for both males and females than other areas in Grampian and Scotland as a whole. It also has a lower expected period in “not healthy health”. This may reduce the impact of the higher increases in the older population projected (see later).

It is also known that lower life expectancy is associated with increasing deprivation. GROS provide an estimate of this but due to the manner in which the data was collected, GROS advise against comparison across areas. (Table 3 in Appendix.)

### 2.3 Population projections

In all areas and at all ages, the population is projected to increase over time.<sup>13</sup> This includes an increase in the older population. Table 4 and Figure 5 show this for Aberdeenshire. The increase in the older population is less due to net migration (which is known to mostly affect young people<sup>14</sup>) and more due to the increase in life expectancy described above.

The biggest increase by far is expected in the 75+ age group (130.7% in 2035 compared to 2010) whilst there is a negative increase in the 50-64 year old category (-5.1%). In all years compared to 2010, the rises in the over 65 age groups are higher than those in the 50 to 64 age groups. Overall, there will be a 96.3% increase in the population aged over 65 by 2035.

**Table 4: Projected populations by age Aberdeenshire**<sup>13</sup>

Age Groups	Population in 000s (% change from 2010)				
	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2035</b>
50-64	53.0	55.9 (5.5)	59.2 (11.7)	58.7 (10.8)	50.3 (-5.1)
65-74	22.1	27.4 (24.0)	30.9 (39.8)	32.1 (45.2)	37.2 (68.3)
75+	17.9	20.8 (16.2)	24.5 (36.9)	30.9 (72.6)	41.3 (130.7)

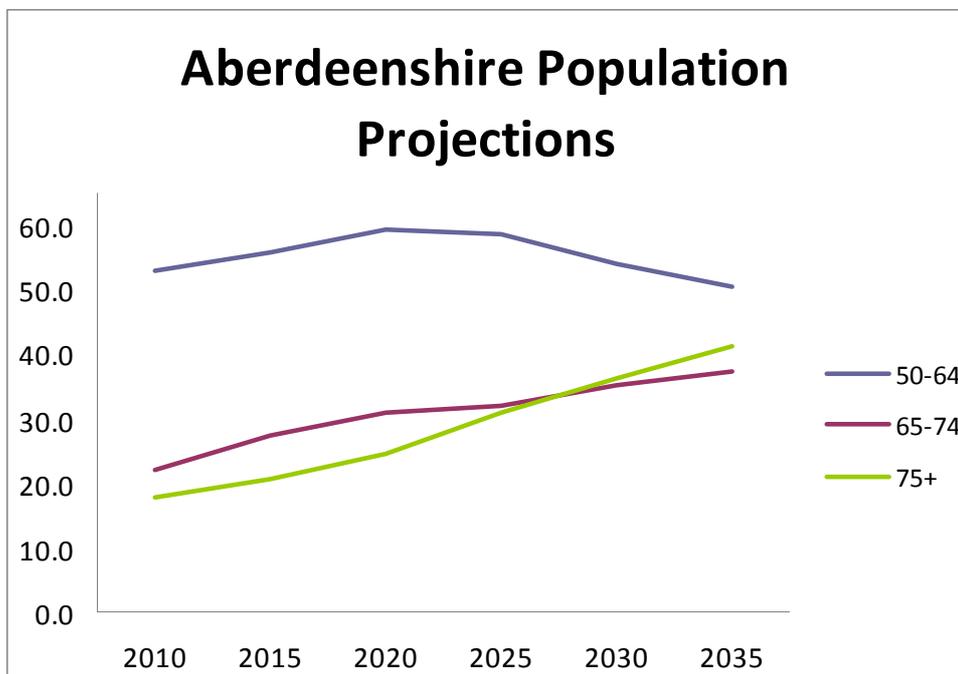


Figure 5: Population projections by age, Aberdeenshire <sup>13</sup>

The rise in the over 65 age groups is higher than that expected in Scotland as a whole (Table 5). The decrease in the 50 to 64 age group population is also greater at all years.

Table 5: Projected populations by age, Scotland <sup>13</sup>

Age Groups	Population in 000s (% change from 2010)				
	2010	2015	2020	2025	2035
50-64	1,017.7	1,072.3 (5.4)	1,128.5 (10.9)	1,099.5 (8.0)	1,001.8 (-1.6)
65-74	473.9	538.6 (13.7)	576.3 (21.6)	601.6 (26.9)	692.8 (46.2)
75+	405.6	447.2 (10.3)	498.5 (22.9)	588.9 (45.2)	737.9 (82.0)

#### 2.4 Population Dependency ratio

The population dependency ratio is the ratio of the population aged under 16 and over 65 (“dependents”) to the population aged 16-64 years (“working age”). This is a crude estimate as it does not take into account factors such as employment rates and retirement ages.<sup>15</sup>

The higher the dependency ratio (DR) the less working age population there is in comparison to “dependents”. This can have resource implications. The population dependency ratio has been calculated for Aberdeenshire using the most recent population projection data. The ratios are demonstrated in Table 6:

**Table 6: Current and projected population dependency ratios, Aberdeenshire compared to Scotland (calculated using data from GROS<sup>13</sup>)**

	2010	2015	2020	2025	2035
<b>Age Group</b>	Population Aberdeenshire (000s)				
Under 16	46.6	47.3	49.3	50.7	53.5
65+	40.0	48.2	55.4	63	78.5
Total “Dependents”	86.6	95.5	104.7	113.7	132.0
16-64 (“Working age”)	159.2	163.2	165	166.7	167.4
<b>Dependency Ratio</b>					
Dependency ratio Aberdeen City	<b>43.8</b>	<b>46.1</b>	<b>49.4</b>	<b>52.1</b>	<b>50.9</b>
Dependency ratio Aberdeenshire	<b>54.4</b>	<b>58.5</b>	<b>63.5</b>	<b>68.2</b>	<b>78.9</b>
Dependency ratio Scotland	<b>52.2</b>	<b>55.1</b>	<b>58.9</b>	<b>62.7</b>	<b>70.1</b>

Although the numbers of those aged less than 16 years in Aberdeenshire is projected to increase from 2015, this increase is far less than the increase in those aged 65 years and over. Thus it is clear that **the main reason for the increase in dependency ratio is due to the increase in those aged over 65.**

Additionally, the projected dependency ratio for Aberdeenshire in all years is higher than in Aberdeen City and in Scotland as a whole. **This increase in dependency ratio could potentially result in less people being available to informally care for those in the older population group. In addition there may also be resource implications due to a potential decrease in tax revenues combined with an increase in use of the public sector by older people.** Theoretically, this could be offset to some degree by older people choosing to work longer or the reduction in requirement for other services such as education due to a smaller under 16 population.<sup>15</sup> In Aberdeenshire, the higher healthy life expectancy could also mitigate some of this.

## 2.5 Ethnic Group

Up to date data on the ethnic make up of Aberdeenshire population is unavailable. The most recent data available is 11 years old (2001 census) and is therefore most likely an underestimate of the true picture of the ethnic composition of the population.

The proportion of black and minority ethnic (BME) groups is small (0.13%) compared to a national proportion of 0.52%. (See Table 4 in Appendix.) In addition, language line requests show that the most commonly requested languages are Polish, Russian, Lithuanian and Latvian. An increase in BME groups, particularly those from countries for which language line request is most common, suggests that **more resources may be required to provide the language line service.**

## 2.6 Geography of Aberdeenshire

It may be thought that there are increased staff travel time costs, for example for District Nurses, due to the distances which may be travelled in a rural area. However, work being carried out at a local level suggests that travel time for staff within Aberdeenshire takes up the same proportion of time as within Aberdeen City.<sup>16</sup> This may be due to the fact that although the distances may be less within Aberdeen City, staff require to travel at reduced speeds within a city as compared to rural roads.

## 2.7 Summary

- In 2011 the population of Aberdeenshire was estimated by GROS to be 247,600. 16.6% (41,095) were aged 65 or over and 2.1% (5,143) were aged 85 or older. The proportion of aged over 65 is slightly less than that at a national level (19.1%) but the proportion aged over 85 is comparable (2.1%).
- There are slightly more women than men aged over 65 (54.1%).
- In 2011 there were 240,416 people registered with a GP, 39,821 of these were aged over 65. This figure could be smaller due to error in the population estimate from GROS or reflect the fact a certain number of people are not registered with their GP or are registered within Aberdeen City.
- There appears to be no significant differences between GP registration zones with regards to the proportion of people aged over 65 living in these zones.
- Aberdeenshire has a higher life expectancy and healthy life expectancy than other areas and Scotland. This is higher for women than for men.
- The number of people aged 65 – 74 years is expected to continue growing at an increasing rate from 22,100 in 2010 to 27,400 by 2015 and to more than 37,000 by 2035. This represents an increase of 24% and 68.3% from 2010 estimates respectively.
- Similarly, the number of people aged 75 years and over is expected to grow an increasing rate from 17,900 in 2010 to 20,800 by 2015 and 41,300 by 2035. This represents an increase of 16.2% and 130.7% from 2010 estimates respectively.
- The population aged 50-64 is expected to increase by only 5.5% by 2015 and to actually decrease by 5.1% overall by 2035.
- A disproportionate increase in the number of young people in comparison to older people could potentially result in less people available to informally care for those aged 65 years and over and a decrease in tax revenue combined with an increased use of the public sector.
- Up to date data regarding the ethnic make-up of Aberdeenshire is unavailable and data from the 2001 census is likely an underestimate. This data suggests that

the proportion of black and minority ethnic groups is smaller than the national average (0.13% versus 0.52%). Language line requests show the most commonly requested languages are Polish, Russian, Lithuanian and Latvian.

- Despite the rural nature of Aberdeenshire, local data suggests that travel time for staff within Aberdeenshire takes up the same proportion of time as within Aberdeen City.

#### *What does the partnership need to consider?*

- The partnership should ensure that services take into consideration the potential increase in population of those aged 65 years and over. This may be increasingly difficult as the working age population is not projected to increase to the same degree.
- As older people are more likely to have more complex needs, the partnership should ensure that services provided are able to cope with these needs as the population increases.
- Women have a higher life expectancy than men. Older women have specific health needs that differ from men, and services provided may need to take into account that there will be more older women than older men.

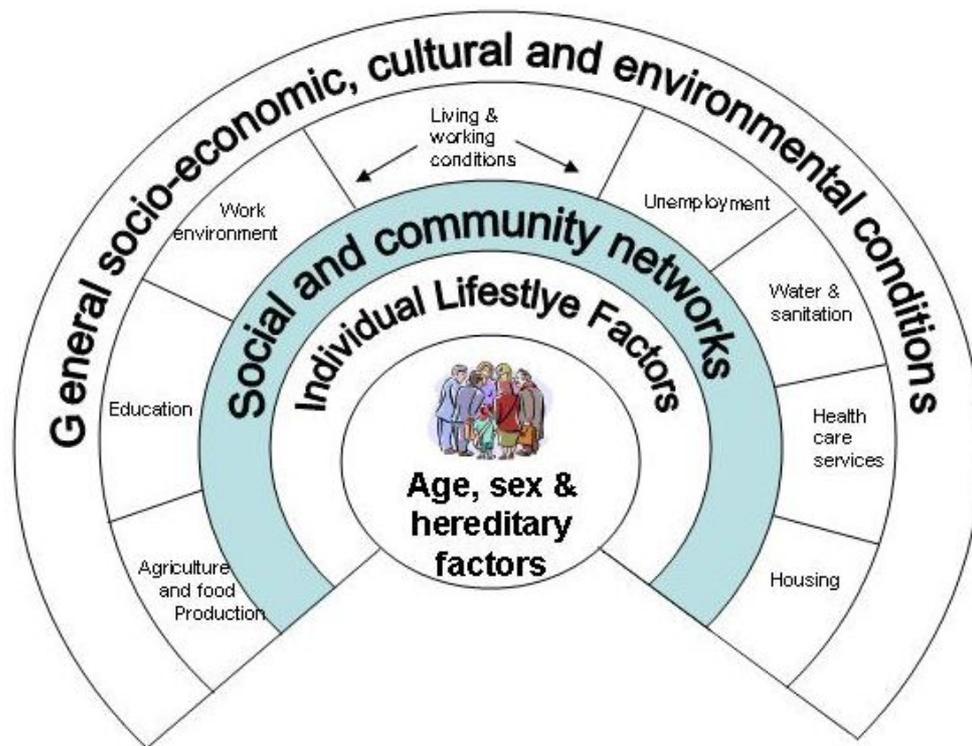
### 3 Social, environmental and economical determinants of health

The health and well-being of individuals and communities is affected by a wide range of factors. Some of these factors may be controlled by an individual to a certain extent (for example behaviours such as exercise), whilst others may be outside an individual's control (for example their surrounding environment). However, the factors are closely linked, for example an individual may not exercise due to the constraints of the environment around them.<sup>17</sup>

These factors are the determinants of health. They are important because, as stated by the World Health Organisation:

*“factors such as where we live, the state of our environment, genetics, our income and education level, and our relationships with friends and family all have considerable impacts on health, whereas the more commonly considered factors such as access and use of health care services often have less of an impact.”*<sup>18</sup>

Awareness of how individuals may not have control over many of these factors is also important as it means that *“blaming individuals for having poor health or crediting them for good health is inappropriate”*.<sup>18</sup> The Dahlgren and Whitehead (1991) 'Policy Rainbow' model describes factors which influence an individual's potential for health either positively or negatively (Figure 6).<sup>17</sup>



**Figure 6: A Social Model of Health (Dahlgren & Whitehead, 1991)**<sup>17</sup>

This section will concentrate upon the social, environmental and economical determinants of health and wellbeing, in other words the circumstances in which people live, work and retire. These are often called the “causes of the causes” of ill-health.<sup>19</sup> The next section will examine the behavioural determinants of health and wellbeing.

### 3.1 Housing

The type of accommodation and where people live can contribute to health, social wellbeing and quality of life and the ability to be independent. For instance, houses that have poor energy-efficiency and thermal conditions can impact on flu, heart disease, stroke and respiratory illness. Similarly houses that are in a state of disrepair may increase the risk of falls and accidents.

#### **3.1.1 Number of households**

Housing estimate statistics are drawn from Council Tax administrative data sources. In these statistics a “dwelling” refers to the accommodation (e.g. a house or a flat) and a “household” refers to the people living together in a dwelling. Therefore the number of dwellings can be higher than the number of households as some dwellings may be second homes or vacant.<sup>20</sup>

In Aberdeenshire in 2010 there were 103,770 households, this was an increase of 6.5% since 2005 (Table 7). This rise was higher than in other Grampian areas and the Scottish average.

**Table 7: Households in Grampian Local Authorities and Scotland, 2010, Source GROS<sup>20</sup>**

Local authority	Number households (2010)	Change 2009-2010		Change 2005-2010	
		Number	%	Number	%
<b>Scotland</b>	<b>2,357,424</b>	<b>12,119</b>	<b>0.5%</b>	<b>86,071</b>	<b>3.8%</b>
Aberdeen City	103,677	239	0.2%	4,408	4.4%
Aberdeenshire	103,770	1,144	1.1%	6,369	6.5%
Moray	39,207	253	0.7%	1,723	4.6%

The “Aberdeen City and Shire Housing Need and Demand Assessment” suggests that Aberdeen City and Aberdeenshire require an additional 2,189 dwellings by 2033. However, the report estimates that **over the next ten years there will be an average annual shortfall of 830 affordable dwellings in the two Local Authorities.** This is driven by an increase in the population and a trend for decreasing household size. The report

also recommends that there is a requirement for smaller properties due to the increase in younger and older single person households and older couple households.<sup>21</sup>

### **3.1.2 Housing Tenure**

The household tenure within Aberdeenshire is drawn from the Scottish Household Survey. (See Table 5 in Appendix). The proportion of owner occupied households overall is higher than the Scottish average. Older smaller households are more likely to be owner occupied than other household types and this is higher than the Scottish average. Single pensioner households are the least likely to be owner occupied and this figure is lower than the Scottish average.<sup>a</sup>

### **3.1.3 Living Alone**

The proportion of single pensioners in Aberdeenshire is 12% (Table 8).<sup>22</sup> This is comparable with the Scottish average. The fact an individual lives alone could imply they are more independent and may be what a significant proportion of older people prefer to do. However, living alone can increase the risk of loneliness and isolation and so methods of reducing the risk of this occurring should be considered. This may be achieved for example, through partnership with third sector and voluntary organisations.

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<sup>a</sup> A **single pensioner** household contains one adult of pensionable age and no children. Pensionable age is 60 for women and 65 for men. An **older smaller** household contains one adult of working age and one of pensionable age and no children, or two adults of pensionable age and no children.<sup>22</sup>

**Table 8: Proportion of single pensioner household within Grampian and Scotland**

<b>Local Authority</b>	<b>Proportion of single pensioner households</b>
Aberdeen City	13%
Aberdeenshire	12%
Moray	15%
Scotland	14%

### **3.1.4 Fuel Poverty**

The Scottish Government uses the following definition of fuel poverty:

*“A household is in fuel poverty if, in order to maintain a satisfactory heating regime, it would be required to spend more than 10% of its income (including Housing Benefit or Income Support for Mortgage Interest) on all household fuel use.”<sup>23</sup>*

Extreme fuel poverty is where a household spends over 20% of its income on all household fuel.<sup>23</sup> Fuel poverty is associated with increased likelihood of ill health particularly due to exacerbation from diseases such as influenza, heart disease and other respiratory diseases. Aberdeenshire has a higher proportion of fuel poor households than Aberdeen city (Table 9).<sup>24</sup>

**Table 9: Percentage of fuel poor Households in Grampian and Scotland September 2011**

<b>Area</b>	<b>% households fuel poor</b>	<b>% change 2008-10 to 2011</b>
Aberdeen City	26.4	1.9
Aberdeenshire	34.3	3.4
Moray	37.5	0.8
Scotland	35.0	1.6

The figure is slightly lower than the Scottish average, however as the data are sourced from a survey it would not be appropriate to draw concrete conclusions from differences between areas. Fuel poor households make up more than one third of households. Since 2008-10 there has been an increase in the proportion of fuel poor households in all areas, the biggest increase appears to be in Aberdeenshire.

At a national level, households containing older adults are more likely to be fuel poor and extreme fuel poor. For example 55% of single pensioner households are fuel poor compared to just 6% of small family households. (See Table 6 in Appendix).

### 3.2 Crime

There are many potential aspects of crime which could be covered in this section. It was not within the scope of this needs assessment to examine crime in detail. Instead this section will look at the perception of crime within Aberdeenshire using the Scottish Household Survey. This can indicate whether crime (actual or perceived) is having an impact on individual's lives. The Scottish Crime and Justice Survey was not used because it did not have data at a Local Authority level. The data from the SHoS are shown below (Table 10).

**Table 10: Perception of safety when walking alone in their neighbourhood or at home alone at night, by age, 2009/10. Source Scottish Household Survey**

	% within each age group feeling very/ a bit unsafe						
	16 to 24	25 to 34	35 to 44	45 to 59	60 to 74	75 plus	All
<b><i>Walking alone</i></b>							
<b>Aberdeen City</b>	33	25	22	21	35	35	28
<b>Aberdeenshire</b>	*	8	7	9	15	21	11
<b>Moray</b>	*	*	24	18	17	*	17
<b>Scotland</b>	21	19	17	19	24	30	21
<b><i>At Home</i></b>							
<b>Aberdeen City</b>	7	4	4	3	3	0	4
<b>Aberdeenshire</b>	*	1	1	1	1	2	1
<b>Moray</b>	*	*	3	3	2	*	3
<b>Scotland</b>	4	3	3	2	2	2	3

\* = base too small to calculate figure

Note the alternative answers in the survey were "Very/Fairly Safe" and "Don't Know". "Don't Know" answers were generally few.

Due to the small numbers involved, caution must be taken when interpreting the above figures. In all areas those in the groups aged over 60 have a higher proportion feeling very or a bit unsafe when walking alone at night.<sup>25</sup> In Aberdeenshire this is lower than

in other areas, however there is still a higher percentage in the older age groups compared to the younger age groups. The perception of safety is important as it can impact upon social isolation if older groups are less willing to leave their house. The numbers regarding being at home alone are quite small and so it is difficult to draw any specific conclusions.

### 3.3 Wealth and income

#### **3.3.1 Economy and benefits**

In 2009/10 the Scottish Household Survey employment data for working age people suggests Aberdeenshire has a higher employment compared to the Scottish average (74% vs. 65% respectively).<sup>26</sup>

Scottish Neighbourhood Statistics give additional information regarding the economy, drawn from a number of sources. The median house price in 2010 was sourced from the Registers of Scotland. In Aberdeenshire it was £185,000 which was higher than the Grampian average (£163,000) and the Scottish average (£135,000).<sup>27</sup>

The percentage of the population at all ages up to pensionable age seeking benefits is lower in Aberdeenshire than in Grampian and Scotland as a whole (Table 7 in Appendix).

11.1% of the population of Aberdeenshire aged 60 or over claim guaranteed pension credits compared to 12.4% in Grampian and 17.7% in Scotland as a whole in 2010. The guaranteed credit provides financial help to those aged 60 or over whose income is below a certain level.<sup>27</sup> Therefore it is a useful indicator of the financial health of older people in an area.

#### **3.3.2 Deprivation**

Using the SIMD, Aberdeenshire is one of the least deprived areas in Scotland in that it has most of its datazones in the least deprived SIMD ranks. The least deprived datazone in Scotland is in Banchory in Aberdeenshire.<sup>28,29</sup>

For both income and employment deprivation indicators, Aberdeenshire performs better than Scotland as a whole. Using the latest Scottish Index of Multiple Deprivation (SIMD) figures from 2009, 8% of the total population in Aberdeenshire are income deprived compared to 11% in each of Aberdeen City and Moray, and 16% at a Scottish

level. 7% of the population are employment deprived compared to 9% in each of Aberdeen City and Moray and 13% at a Scottish level.<sup>27</sup>

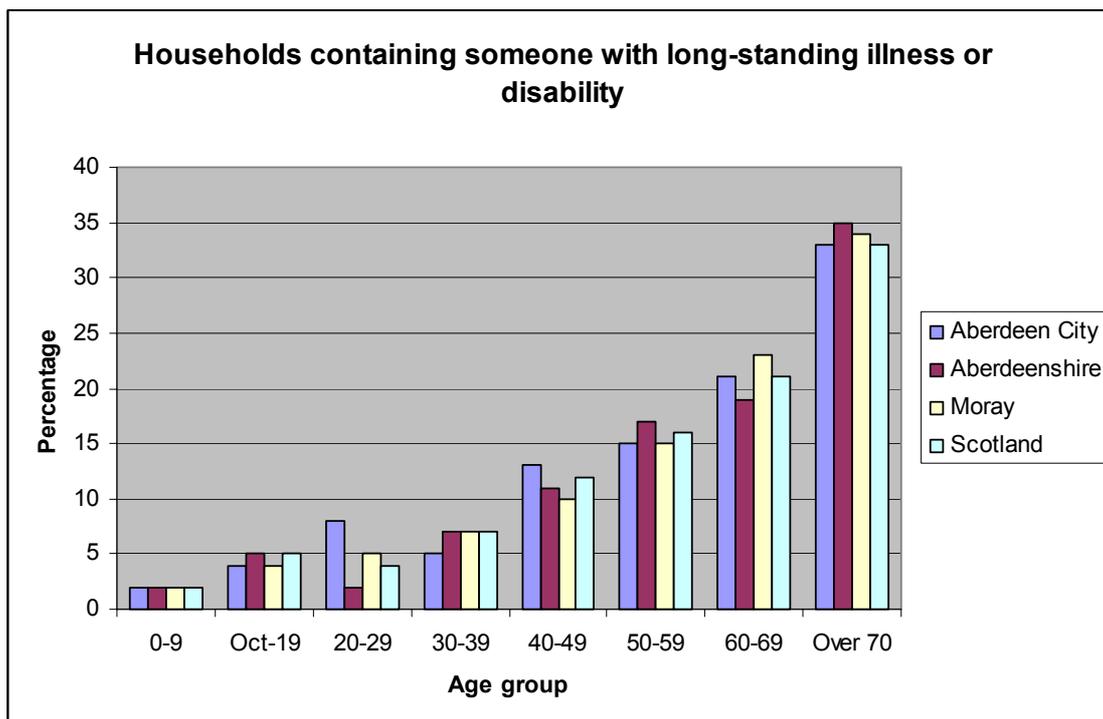
However, there are areas of deprivation, with deprivation tending to be concentrated in parts of Fraserburgh and Peterhead. Educational, skills and training deprivation have worsened over time, especially in some datazones within Fraserburgh and Peterhead. There were also a high number of datazones across Aberdeenshire in the most deprived 5% of Scotland for the indicator “geographical access to services”, which reflects the rurality of Aberdeenshire.<sup>29</sup>

### 3.4 Care needs

#### **3.4.1 Demography**

In Aberdeenshire, older smaller and single pensioner households are more likely to receive care. For example 17% of single pensioner households receive care compared to 8% of single adult households. The figures are lower than the Scottish average and in other Grampian areas (Table 8 in appendix).

This is not shown by age, however the older age groups have increasing proportions of individuals who have a long standing illness or disability, suggesting care needs are higher in the elderly (Figure 7). Table 9 in appendix).



**Figure 7: Households containing someone with a long-standing illness or disability**

Aberdeenshire has a slightly lower proportion of households in which someone aged between 60-69 has a long-standing illness or disability as compared with the Scottish average (19%). It is lower than both Aberdeen City and Moray for this age group (21% and 23% respectively). However, the opposite picture is seen with the over 70 age group, in which Aberdeenshire has the highest proportion (35% compared to 33% in Aberdeen City for example).

The differences are small and could be due to chance. However, this may also reflect the longer life expectancy in Aberdeenshire and the fact there may be more “older old” people within the over 70 category. This higher population of people aged over 80 and over 90 may be more likely to have disabling age-related conditions such as dementia and stroke.

The rate per 1,000 population of adults with learning disabilities is higher in Aberdeenshire than in Aberdeen City, Moray and Scotland as a whole. There was an

increase in rate of 1 per 1,000 population between 2007 and 2008 which was less than the increase in Aberdeen City. (Table 10 in Appendix).

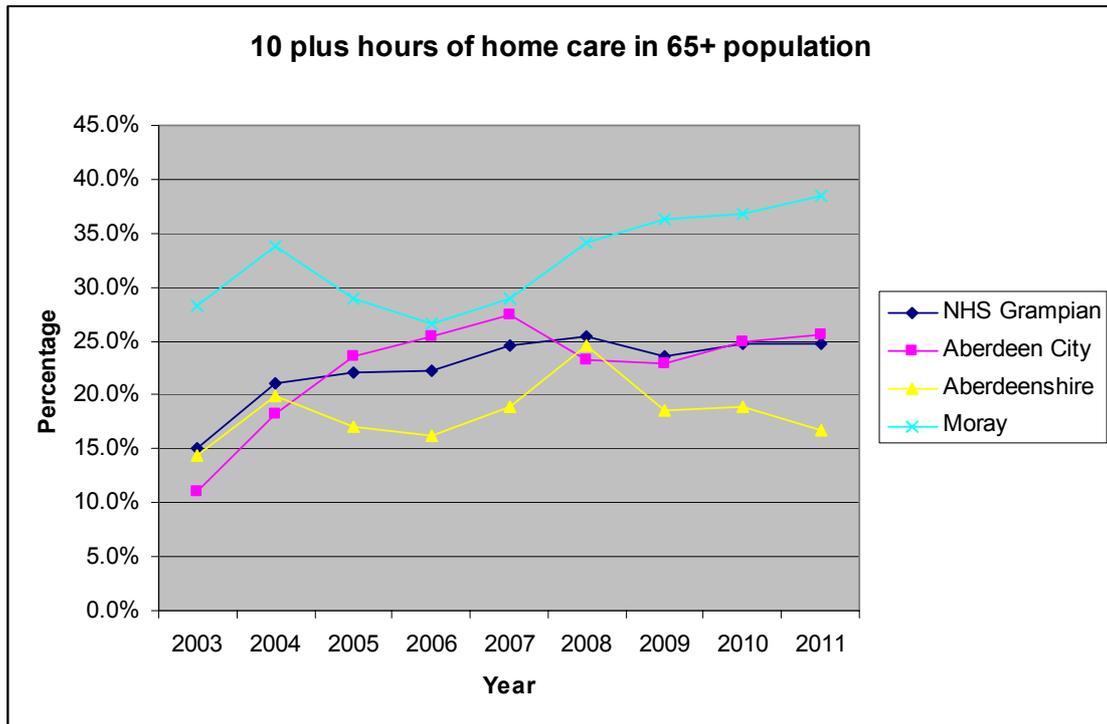
In 2010, there were 845 people registered blind or partially sighted in Aberdeenshire (Table 11 in appendix). The rate of visually impaired persons per 1,000 population is the lowest amongst all Scottish Local Authorities (equal with Shetland).

For these latter aspects, there may not necessarily be a care need as the degree of impairment is not being considered. However, these are still useful factors to assess care need along with others such as numbers receiving care.

### 3.5 Home Care

There has been a fluctuating trend in the percentage of the population in Aberdeenshire over 65 who are receiving 10 or more hours of home care. Overall, it appears to have been decreasing since 2008 (Figure 8).<sup>30</sup> (Table 12 in Appendix).

This may reflect the fact there are less people requiring care at home or that their needs are being met with alternative sources of care (e.g. care homes or assistance from unpaid carers).



**Figure 8: Percentage aged 65 plus receiving 10+ hrs of home care in NHS Grampian and local areas, 2003 to 2011**

In addition there has been potentially a downward trend since 2009 in the number of people receiving home care in Aberdeenshire (Figure 9).<sup>31</sup> (Table 13 in Appendix). Of note these figures will also include a small number of people aged under 65.

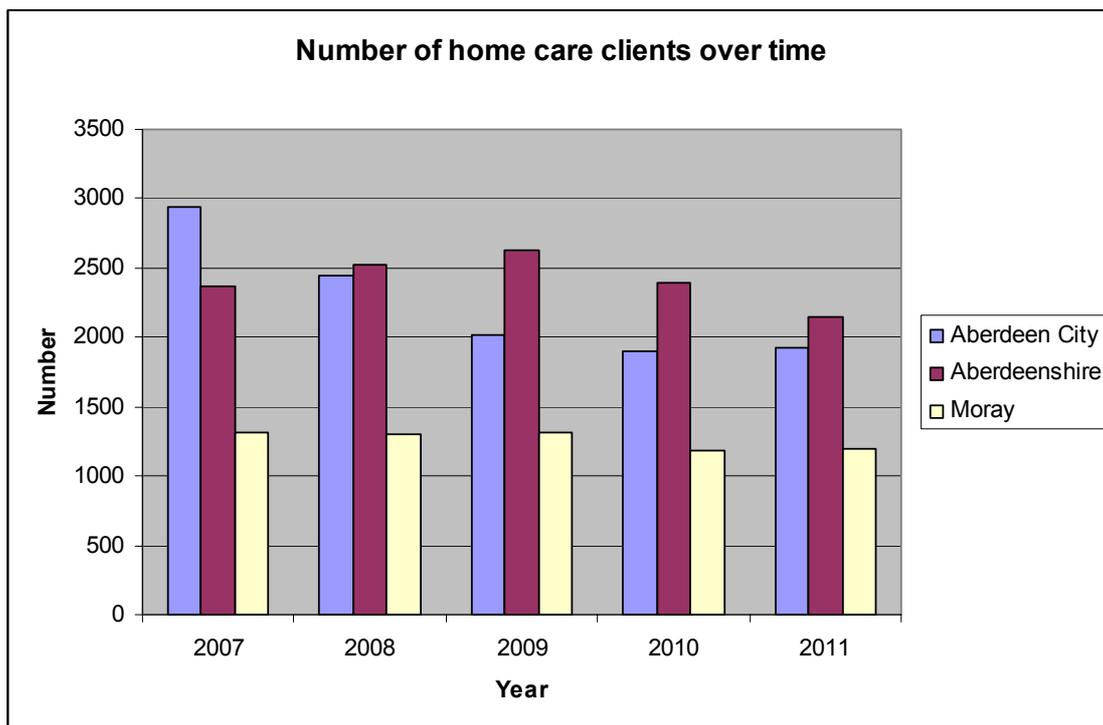


Figure 9: Total number of clients receiving home care, by Local Authority <sup>31</sup>

Telecare is “the remote or enhanced delivery of care services to people in their own home by means of telecommunications and computerised services”. This can include community alarms, sensors and monitoring equipment (e.g. linked pill dispensers and linked smoke detectors).<sup>30</sup>

The percentage of the over 75 population receiving a telecare package in Aberdeenshire is broadly comparable with other areas (Table 11).<sup>30</sup> Due to the small number involved and the lack of statistical tests, it is not possible to claim there is a true difference between areas. There are 2,002 clients aged 75 and over receiving a telecare package in Aberdeenshire.

Table 11: Number and percentage of over 75 population receiving a telecare package

Area	No. clients aged 75+	Population aged 75+	% 75+ population
Grampian	4,647	41,439	11.21%
Aberdeen City	1,503	15,888	9.46%
Aberdeenshire	2,002	17,925	11.17%
Moray	1,142	7,626	14.98%

### 3.6 Supported Housing and Care Homes

Data regarding housing for older people is drawn from a number of sources. Data for Local Authority owned housing is provided by councils on the S1B form, which now forms part of the Housing Statistics Annual Return. The Scottish Housing Regulator provides information about registered social landlords. Information on Care Homes for older people is drawn from the care home census.<sup>32</sup>

Some definitions follow. A general needs house is one provided with no special adaptations. Medium dependency housing will have some extra adaptations e.g. handrails, but will not have a warden service or community alarm. Sheltered housing will have adaptations and a warden and community alarm. Very sheltered housing will have all the features of sheltered housing and an additional level of care such as extra wardens, full-time carers and the provision of meals.<sup>32</sup>

The “Aberdeen City and Shire Housing Need and Demand Assessment” suggests that despite the increasing older population, there is evidence that there has not been any significant increase in the number of applications for specialist housing. This implies that the projected increase in older households over time will lead to more older people living in the private sector rather than in specialist housing. However, along with this, there will be increased demand for aids and adaptations which allow someone to remain in their own home, along with requests for home care services.<sup>21</sup>

Data is available regarding the provision of supported housing by Local Authorities and Housing Associations over time (Tables 14 – 16 in Appendix). However, it must be stated that this does not necessarily reflect demand. In Aberdeenshire, there is a decrease in the provision of medium dependency housing over time. This trend is steeper than that observed at a Scottish level.

The provision of Sheltered Housing is fairly static, with a slight decrease between 2008 and 2010, (although the figure in 2010 is higher than in 1996). This is fairly comparable

with the trend at a Scottish level. The provision of very sheltered housing has increased over time by almost three times in Aberdeenshire in 2010 compared to 1996. At a Scottish level however, it has increased by more than seven times as much.

The rates of older people supported in care homes is lower than in Aberdeen City but higher than Moray (Figure 10).

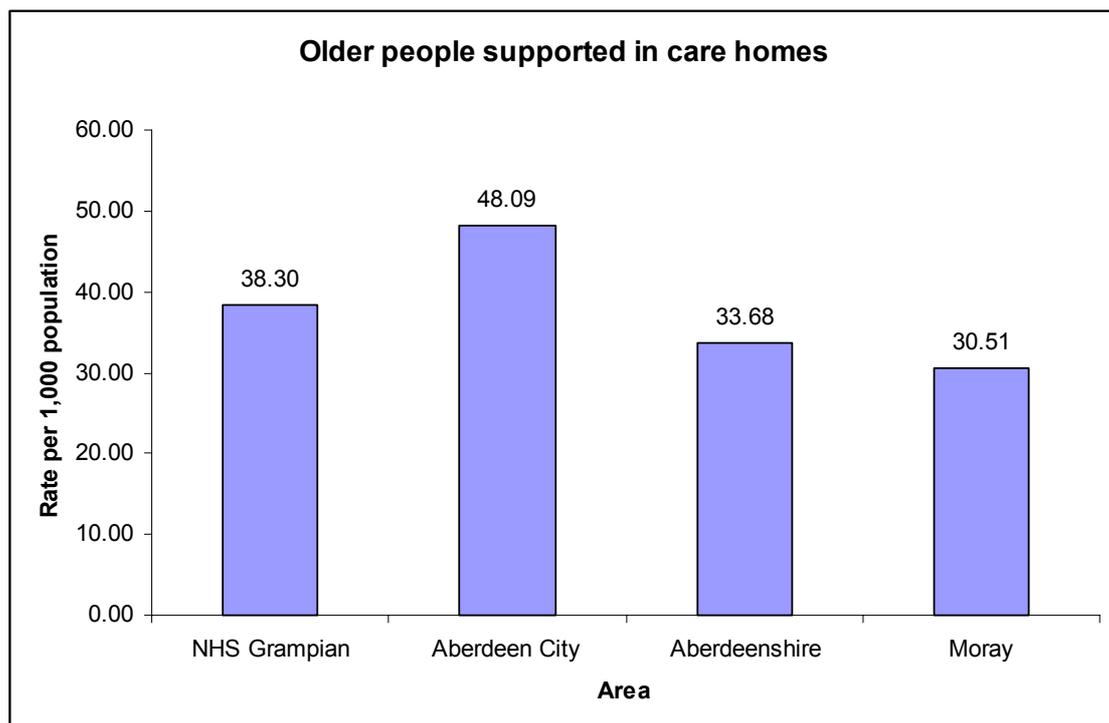


Figure 10: Rates of older people supported in care homes, 2010/11, Source: Scottish Government Health and Community Care datasets,<sup>30</sup>

In Aberdeenshire in 2011, 55.4% of older people in care homes have dementia (45.7% of this is medically diagnosed, 9.7% is not medically diagnosed).<sup>33</sup> This appears to have increased over time, although the trend is slightly skewed by the values in 2003 and 2007 (Figure 11).

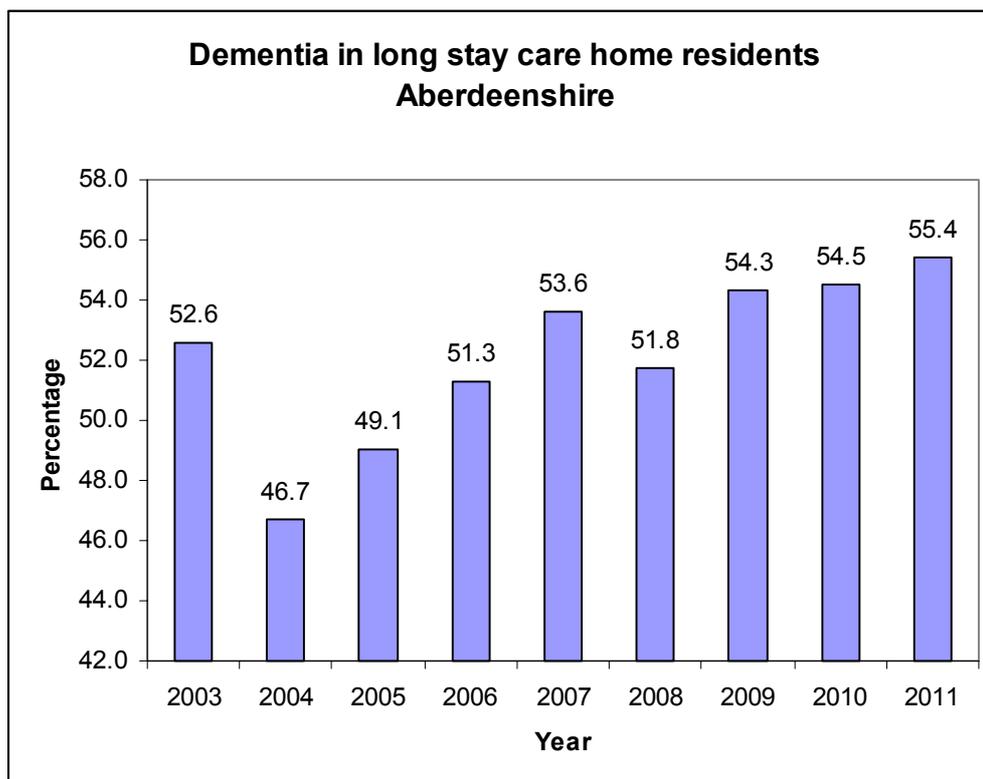


Figure 11: Proportion of older people with dementia in long stay care home residents, over time, Aberdeenshire<sup>33</sup>

### 3.7 Free Personal and Nursing Care

Free Personal and Nursing Care (FPNC) was introduced in Scotland in 2002. Those aged 65 and over are no longer charged for personal care services provided in their own home (although they can be charged, based on their financial status for other services such as help with shopping). People aged 65 or over in care homes can receive payment towards their personal and nursing care. The accommodation costs are subject to a financial assessment.<sup>30</sup>

The provision of FPNC by area in 2009/10 is shown below (Figure 12).

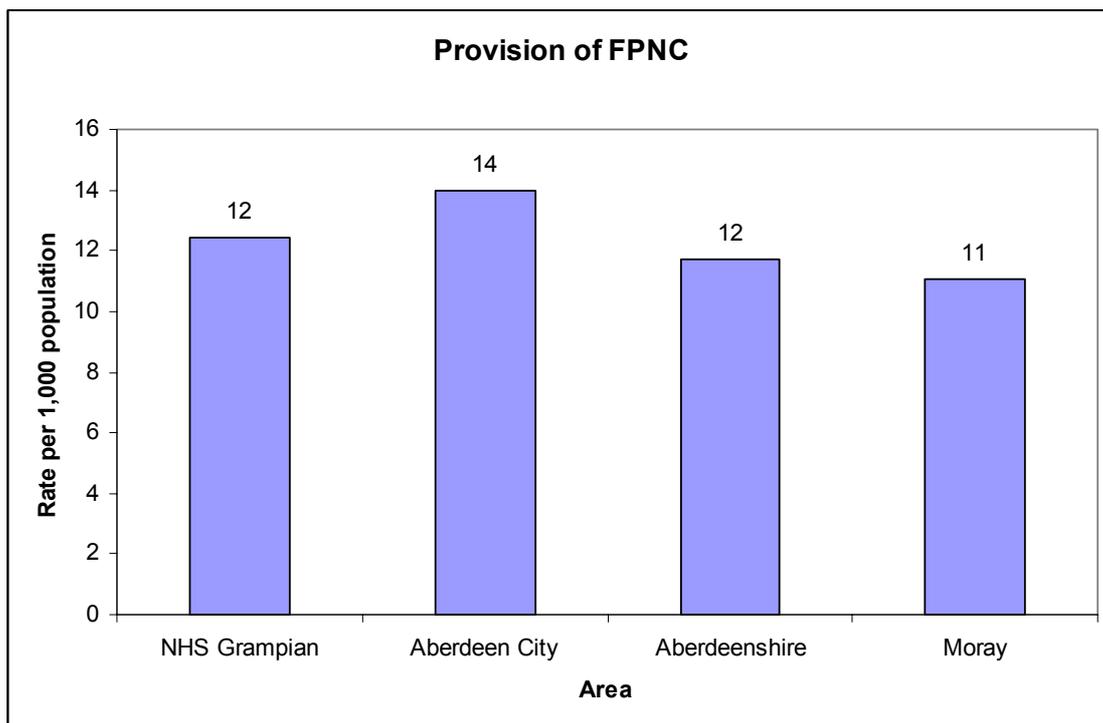


Figure 12: Provision of FPNC, 2009/10 (Note may include small amount of clients receiving care aged under 65)<sup>30</sup>

Due to the small number involved and the lack of statistical tests, it is not possible to claim there is a true difference between areas. However, Aberdeenshire appears to provide a slightly lower rate of FPNC than Aberdeen City. This could reflect the relatively affluent nature of Aberdeenshire, as described previously.

### 3.8 Unpaid Care

In Aberdeenshire in 2009/10, about 11% of adults of all ages provide unpaid care according to the Scottish Household Survey.<sup>25</sup> This is broadly comparable with the Scottish average of 12.5% (Table 17 in Appendix). The extent to which differences between areas are true or due to chance has not been assessed and so drawing conclusions would not be appropriate. This question has not been asked in previous surveys and so trend data are not available.

National level data demonstrates that older adults between 45 and 64 (i.e. of working age) are more likely to be carers (Table 18 in Appendix). These data are not available at a local level. As described previously, older people aged above 64 are more likely to require care. This is significant due to the projected rise in the population dependency ratio as there will be a decrease in the working age population compared to the older population. This is significant in Aberdeenshire as the projected increase in dependency ratio is large.

### ***3.8.1 Carer's Health and financial aspects***

Information regarding carer's health was not available at a local level, therefore national data have been used. Younger carers were less likely to report very good or good self-assessed health than non-carers of the same age. Carers aged over 65 reported better self-assessed health than non-carers of the same age. (See Table 19 in appendix).

On the Warwick-Edinburgh Mental Well-being Scale (WEMWBS) younger carers had lower mental wellbeing than those who were not carers (Table 20 in appendix). For male carers aged 65 and over there was higher reported mental well-being than in male non-carers in the same age group. There was not any major difference in mental wellbeing between female carers and non-carers over the age of 65.

This suggests that older carers can derive some benefit from caring. However it may depend on factors such as the support available to carers in local areas. There is also a financial impact of caring, especially if carers are not supported in accessing benefits available to them.<sup>34</sup>

The financial benefit to society from older people's caring activities should not be underestimated. A report compiled for the volunteer charity WRVS, estimated that at a UK level, informal care provided by older people was worth £34 billion in 2010. In

addition it was estimated that volunteering by older people is worth over £10 billion annually.<sup>35</sup>

### 3.9 Summary

- The number of households in Aberdeenshire in 2010 has increased by 6.5% from 2005 levels. This increase would be expected to continue in light of the projected rise in the size of the population.
- Local work suggests there will be an annual shortfall of affordable dwellings in both Aberdeenshire and Aberdeen City and there is a particular requirement for smaller properties due to the increase in older person households.
- 12% of pensioners live alone in Aberdeenshire. This proportion is likely to increase in line with the estimated increase in the numbers of those aged 65 years and over. This may have significant resource implications particularly around home care.
- 34.3% of households in Aberdeenshire are fuel poor and it is known households containing older adults are more likely to be fuel poor. Fuel poverty increases the risk of ill health.
- Estimates suggests a higher proportion of older people in comparison to younger people feel unsafe when walking alone at night.
- Aberdeenshire demonstrates favourable economic statistics. It has higher employment in comparison to the Scottish average and a lower proportion of the population seeking benefits.
- About 14.9% of the population of Aberdeenshire aged 60 years and over claim guaranteed pension credits (compared to 12.4% in Grampian and 17.7% in Scotland), and this is likely to rise with the projected increase in the older population.
- Aberdeenshire is one of the least deprived areas in Scotland, however there are areas of deprivation, particularly amongst parts of Fraserburgh and Peterhead.
- Households containing older people are more likely to receive care, but the figures are lower than the Scottish average.
- Aberdeenshire has a slightly lower proportion of people aged 60 to 69 with a long-standing illness or disability in comparison the Scottish average. However it

is higher than the Scottish average for the over 70 age group, which may be due to a longer life expectancy in Aberdeenshire meaning that there are more “older old” people within the over 70 category.

- There has been a fluctuating trend in the percentage of the population in Aberdeenshire over 65 who are receiving 10 or more hours of home care. Overall, it appears to have been decreasing since 2008. In addition there has been potentially a downward trend since 2009 in the number of people receiving home care in Aberdeenshire
- This may reflect the fact there are less people requiring care at home or that their needs are being met with alternative sources of care (e.g. care homes or assistance from unpaid carers).
- About 11.17% of people aged 75 years and over in Aberdeenshire receive a telecare package.
- Despite the increasing older population, there has not been any significant increase in the number of applications for specialist housing. This implies that the projected increase in older households over time will lead to more older people living in the private sector rather than in specialist housing.
- The rates of older people supported in care homes is 33.68 per 1000 population, which lower than in Aberdeen City, and higher than Moray.
- In Aberdeenshire in 2011, 55.4% of older people in care homes have dementia. This appears to have increased over time.
- Approximately 12 per 1,000 population aged 65 years and over receive free personal and nursing care (FPNC) in Aberdeenshire.
- About 11% of adults of all age groups provide unpaid care in Aberdeenshire and national data suggest that older adults are more likely to be carers.
- Available national data suggests that younger carers have a lower mental wellbeing compared to non carers in the same age group and older carers have a higher mental wellbeing compared non carers in the same age group.

- Older people's caring activities likely provide a significant financial benefit to society. One report estimated that, at a national level, informal care provided by older people was worth £34 billion in 2010.

#### *What does the partnership need to consider?*

- The partnership should ensure that the identified need for more housing particularly of smaller properties in Aberdeenshire is carefully and continuously monitored to ensure that the right housing is provided to meet the needs of older people in Aberdeenshire.
- The current emphasis on supporting people in their own homes and delaying/preventing unscheduled admission will require significant resources. There needs to be consideration that older people living alone may be vulnerable to loneliness and feeling isolated.
- The partnership should ensure that appropriate advice and support including information is provided to households who may be at risk of fuel poverty, particularly single pensioners living alone.
- The partnership should ensure that services are in place that supports activities with older people to reduce fear of being unsafe when walking home alone at night.
- The partnership should ensure that there is increasing support/services for carers of older people and carers who are older people themselves, particularly those carers looking after someone suffering from long term health problems or parents of learning disabled adults.

## **4 Behavioural Determinants of health**

As was described in the previous section, people may not have full control over the factors which influence health. Thus the factors in this section are influenced by those described in the previous section.

### **4.1 Tobacco smoking**

#### **4.1.1 *Introduction***

Tobacco smoking can lead to a range of conditions. The majority of cases of lung cancer and chronic obstructive pulmonary disease (COPD) arise due to smoking. It is also implicated (along with further risk factors) in the development of other cancers (such as cancer of the bladder and pancreas), ischaemic heart disease, stroke and vascular dementia.<sup>36</sup> When looking at risk factors for death, tobacco smoking is the leading risk factor in high income countries according to the World Health Organisation.<sup>37</sup>

The prevalence of smoking is less in older people and this is likely due to the high rate of premature death in smokers. However, older smokers are also at a higher risk than those who do not smoke of developing the conditions described above. As those most susceptible to smoking will have died before reaching older age, the relative effects of smoking on health is lower in older adults. However, the absolute effects are larger as the risk of developing conditions such as cancer increase with age as well as with smoking.<sup>38</sup>

#### **4.1.2 *Prevalence by area***

The Quality & Outcomes Framework (QOF) is part of the General Medical Services contract. The purpose of the QOF is to assess a general practice's achievement against a set of evidence-based indicators. Payments are made to practices depending how they

meet the indicators. QOF data are a useful source of prevalence data for a number of conditions, but do not have a breakdown of prevalence by age.<sup>39</sup>

QOF prevalence figures suggest that the overall smoking prevalence in Aberdeenshire (16+ years) is lower than in Moray and slightly lower than in Scotland as a whole, but higher than Aberdeen City (Figure 13). Care must be taken when interpreting QOF smoking data as smoking status is only recorded when an individual has a certain long-term condition such as stroke or diabetes.

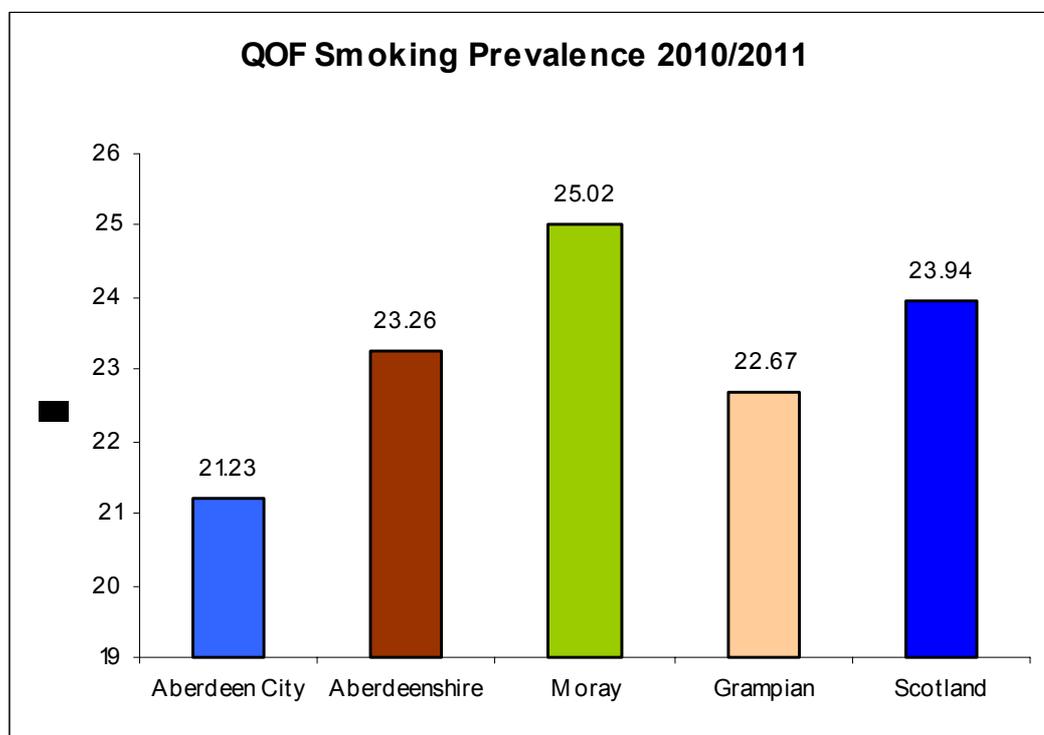


Figure 13: Smoking prevalence by area and in Scotland, using QOF data, 2010/11

The most recent SHoS figures (which are used by ScotPHO in their CHP profiles) are from 2009/10 and suggest smoking prevalence in Aberdeenshire is lower than the Scottish average and other Grampian areas (Figure 14).

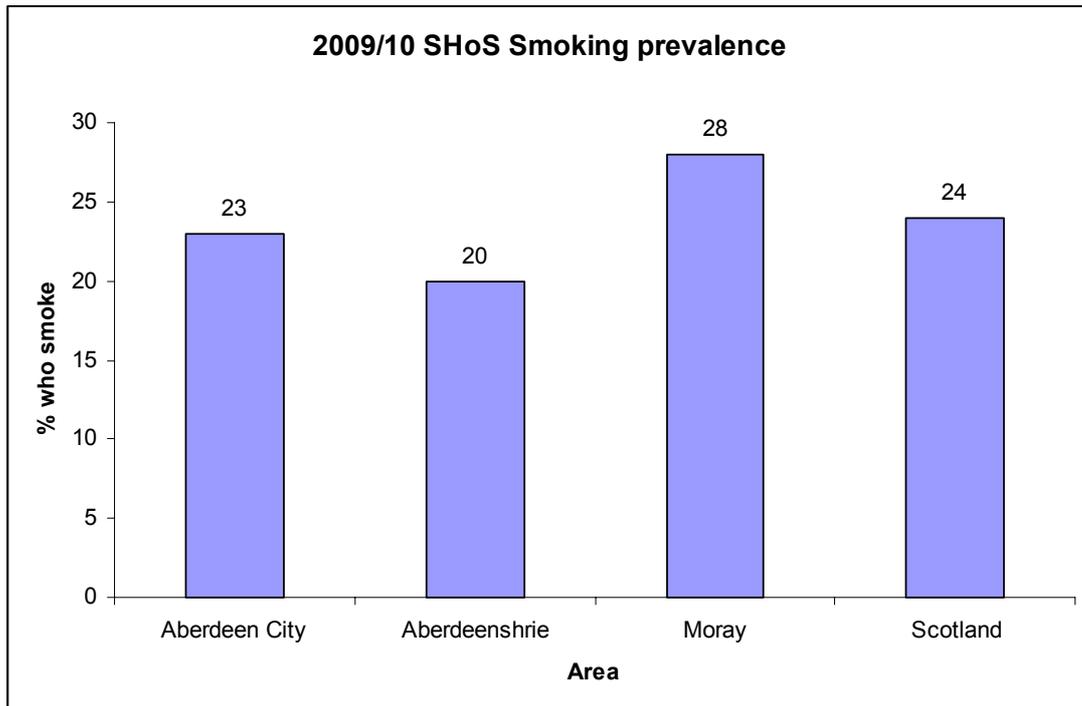


Figure 14: Smoking prevalence by area and in Scotland, using SHoS data, 2009/10

#### 4.1.3 Prevalence by age

Data regarding smoking by age at a Local Authority level are based on fairly small numbers from the Scottish Household Survey and so are not useful. The general trend at a national level is for a decreasing prevalence of smoking by age, although this could be explained by smokers dying earlier.<sup>22</sup>

#### 4.1.4 Prevalence over time

Smoking trend data suggest that smoking prevalence may be slowly decreasing (Figure 15).

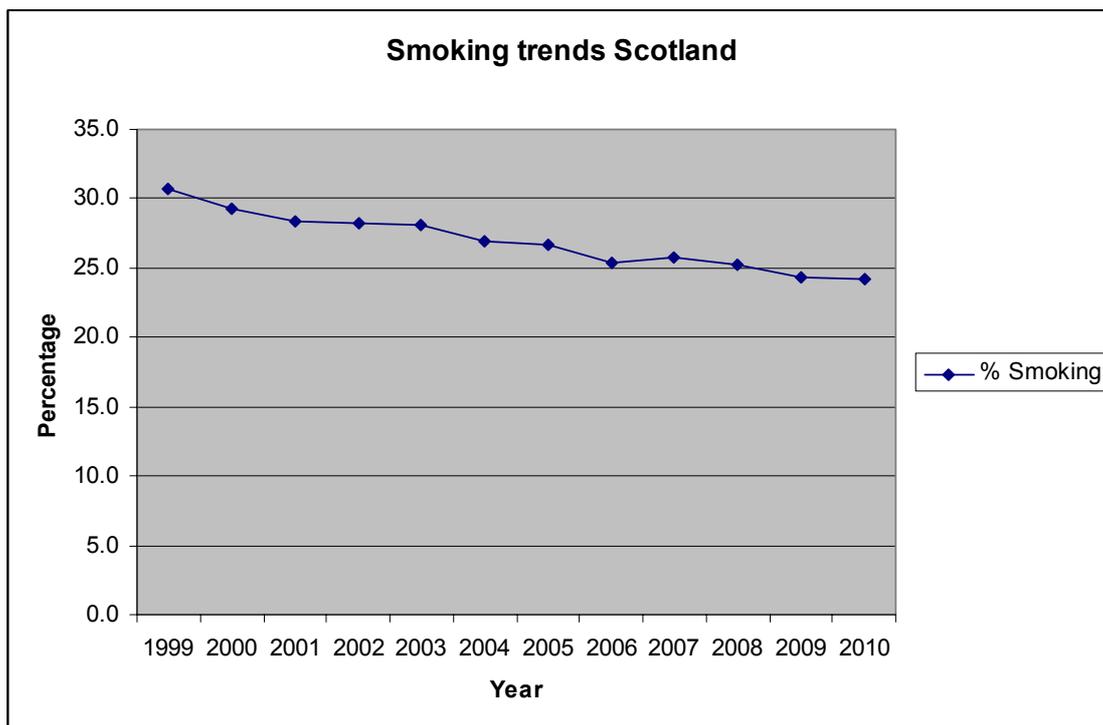


Figure 15: Smoking prevalence by year, Scotland, SHoS<sup>40</sup>

Smoking is also strongly associated with deprivation and, whilst smoking prevalence has fallen in deprived areas over a number of years, it has decreased more slowly than in Scotland as a whole.<sup>41</sup>

## 4.2 Alcohol

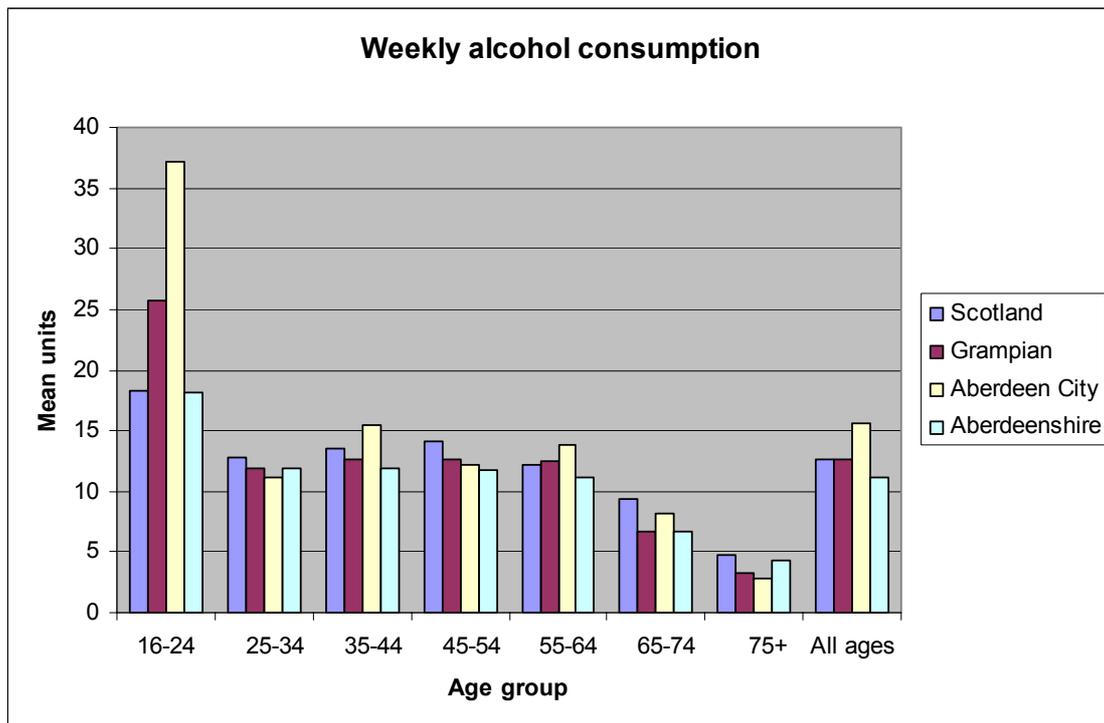
### **4.2.1 Introduction**

Alcohol misuse can lead to a wide range of health and social harms. It is causally linked to many different cancers (for example liver, breast and oesophagus) and is a risk factor for conditions such as high blood pressure, obesity, depression and stroke.<sup>42</sup> “Hazardous drinking” describes alcohol consumption which increases an individual’s risk of harm, whilst “harmful drinking” is that which currently causes harm to health.<sup>43</sup>

The evidence surrounding whether moderate alcohol intake is protective against coronary heart disease should be treated with caution, and should not be a reason to increase alcohol consumption. Alcohol misuse in the elderly can occur as a result of loss of a spouse, isolation or chronic illness. The impacts can be greater due to physiological changes meaning blood alcohol levels are greater with the same intake, as well as an increased likelihood of interactions with the medications an older person may be taking.<sup>38,44,45</sup>

### **4.2.2 Alcohol consumption by age**

Scottish Health Survey data from 2008 and 2009 have been combined to produce an estimate of alcohol consumption at a Local Authority level. Due to the small numbers in some of the samples, the results must be used with a degree of caution. The results suggest that alcohol consumption at all ages is on average lowest in Aberdeenshire compared to Aberdeen City, the Grampian and Scottish averages (Figure 16). (Table 21 in appendix). Of note, small sample numbers in the 16 to 24 age group for Aberdeen City may partially explain that result.



**Figure 16: Estimated usual weekly alcohol consumption (mean units)**

The trend in all areas is for decreasing alcohol consumption by age. However, this may change in the future if current alcohol consumption patterns in the younger age groups are maintained with ageing.

Older people are also less likely to binge drink (i.e. drink more than 8 units a day for men or more than 6 units for women) and the mean units consumed on their heaviest drinking day in a week is less. (Table 22 in appendix) Again some caution needs to be taken when comparing areas due to the relatively small sample size.

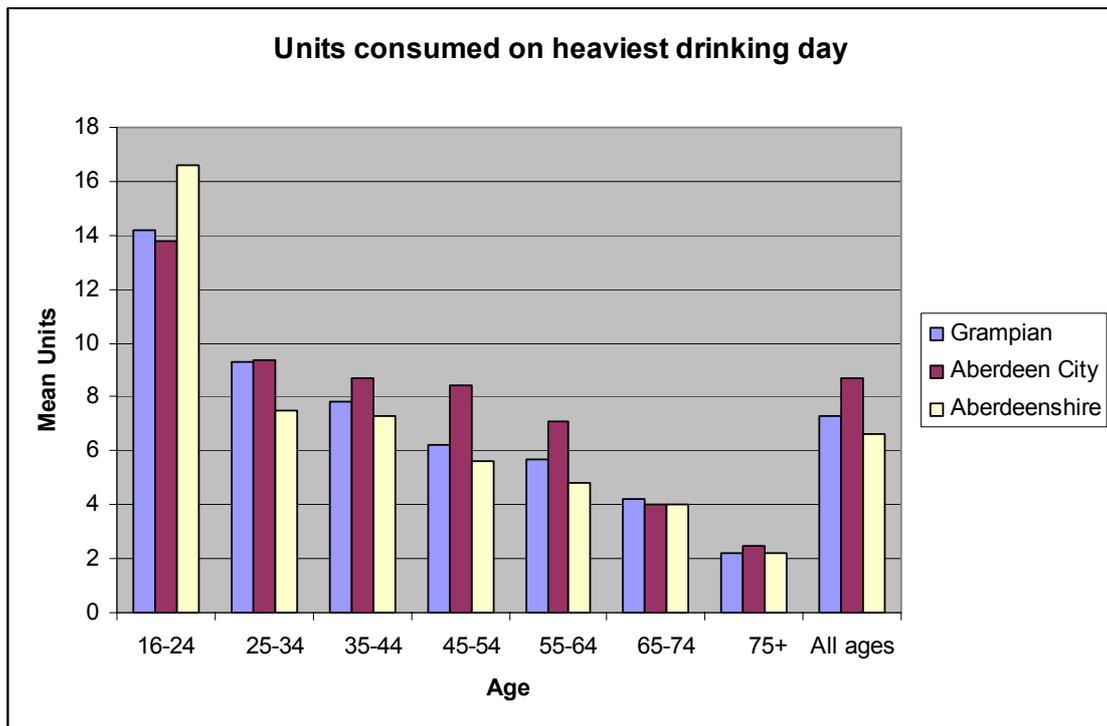


Figure 17: Units consumed on heaviest drinking day (mean units)

#### 4.2.3 Alcohol consumption over time

Alcohol sales in Scotland have, in general, slightly increased since 2005. Sales in the on-trade sector have decreased whilst the off-trade has increased more markedly (Figure 18).

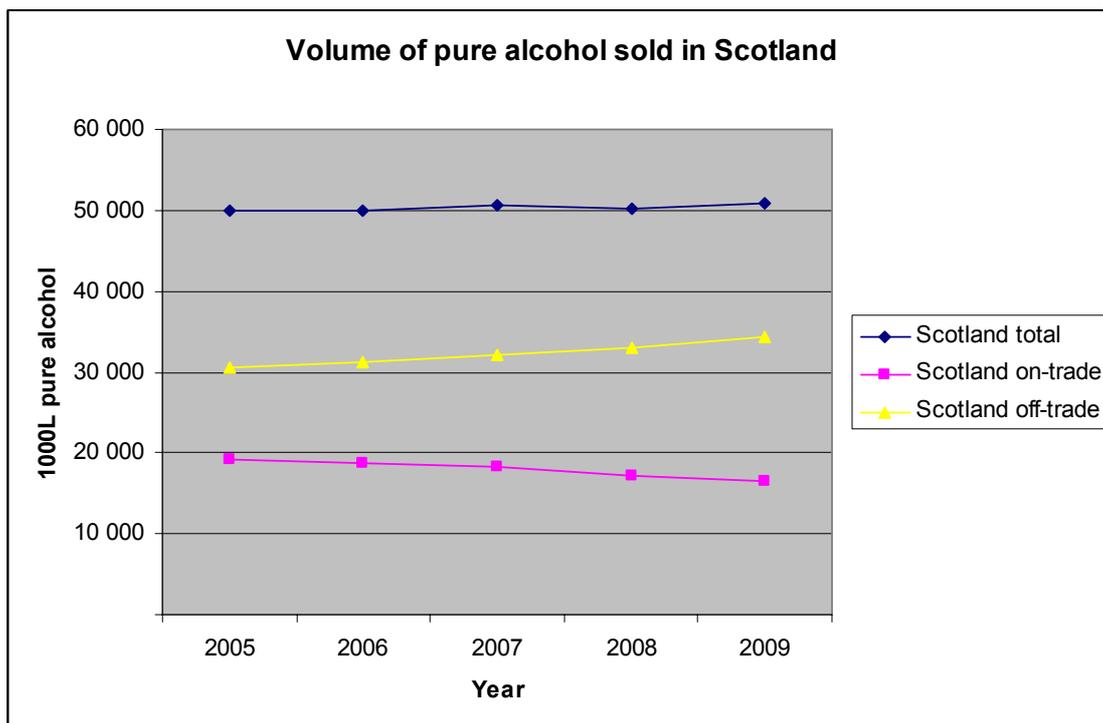
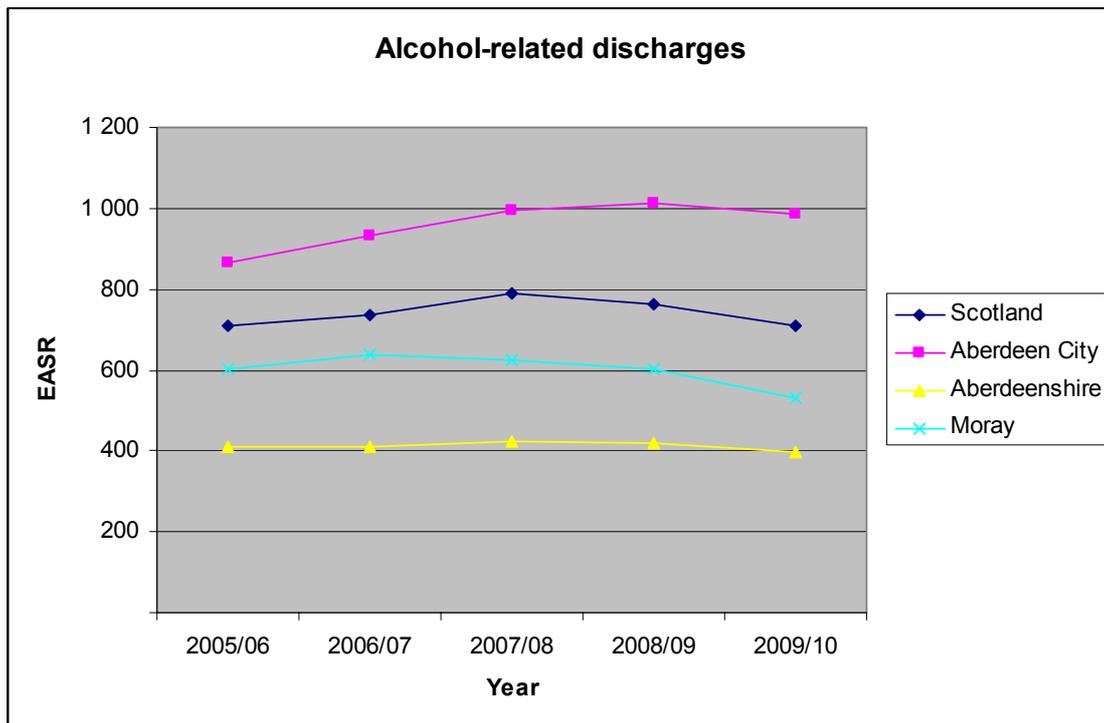


Figure 18: Volume of pure alcohol sold in Scotland on-trade, off-trade and combined, 2005 – 2009, Source: NHS Health Scotland <sup>46</sup>

Self-reported data from the Scottish Health Survey suggests alcohol consumption is decreasing. However, surveys are known to underestimate the true volume of alcohol consumption.<sup>9</sup> Therefore, there may be higher consumption amongst some groups than is reported.

#### 4.2.4 Alcohol consumption and harm

The rate of alcohol-related hospital discharges varies between areas. Aberdeenshire has a lower European Age Standardised Rate (EASR) per 100,000 population than Aberdeen City and Moray, as well as being lower than the Scottish average (Figure 19).<sup>46</sup> (Table 23 in appendix). The 5 year trend indicates alcohol-related discharges are at a national level static. In Aberdeenshire they may be decreasing. However, longer trend data are required to assess whether discharges will continue to decrease. Consumption data suggest they will not.



**Figure 19: General acute inpatient and day case discharges with an alcohol-related diagnosis in any position: 2005/06-2009/10**

Examining the data by age at a national level also suggests a higher rate of alcohol related discharges in the middle-aged age groups (Figure 20). (Table 24 in appendix).

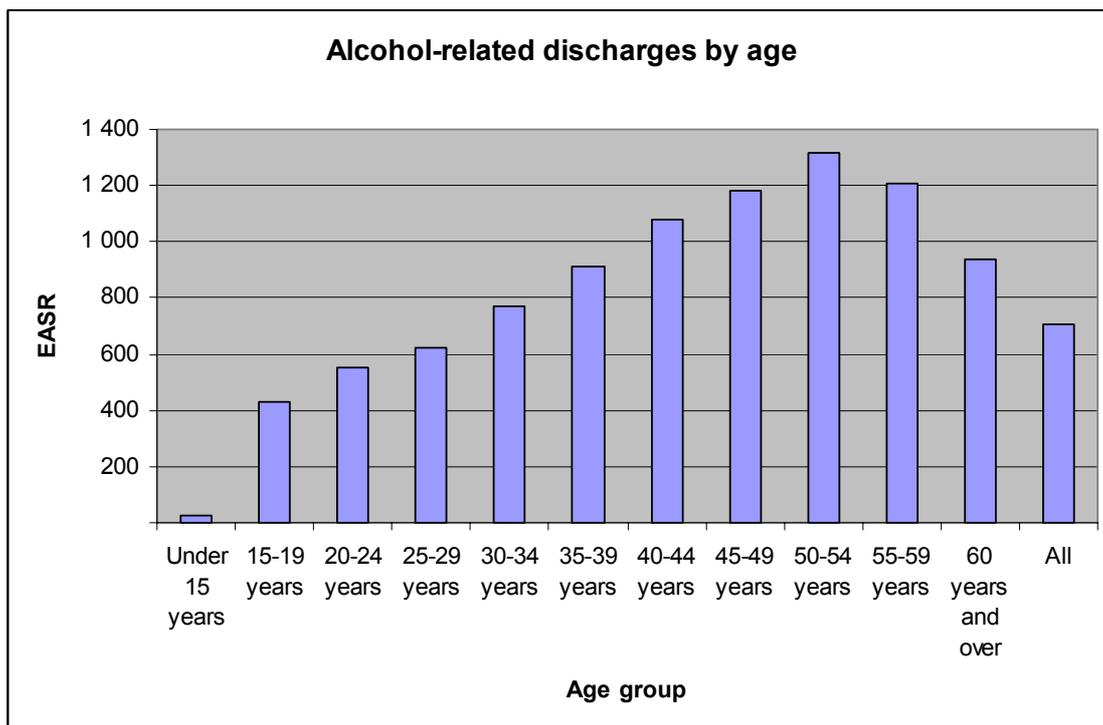


Figure 20: General acute inpatient and day case discharges (EASR) Scotland, with an alcohol-related diagnosis in any position, 2009/10,<sup>46</sup>

This appears to contradict the survey data on alcohol consumption by age and could point to higher consumption within these age groups.

There were 4452 alcohol-related discharges in 2,444 Grampian residents in 2010/11. The highest number of episodes originated from Aberdeen City CHP (about twice as many as from Aberdeenshire despite there not being a large difference in population). (Table 25 in appendix)

There is a also marked difference in discharge rates between the most and least deprived people in Scotland (Figure 21).

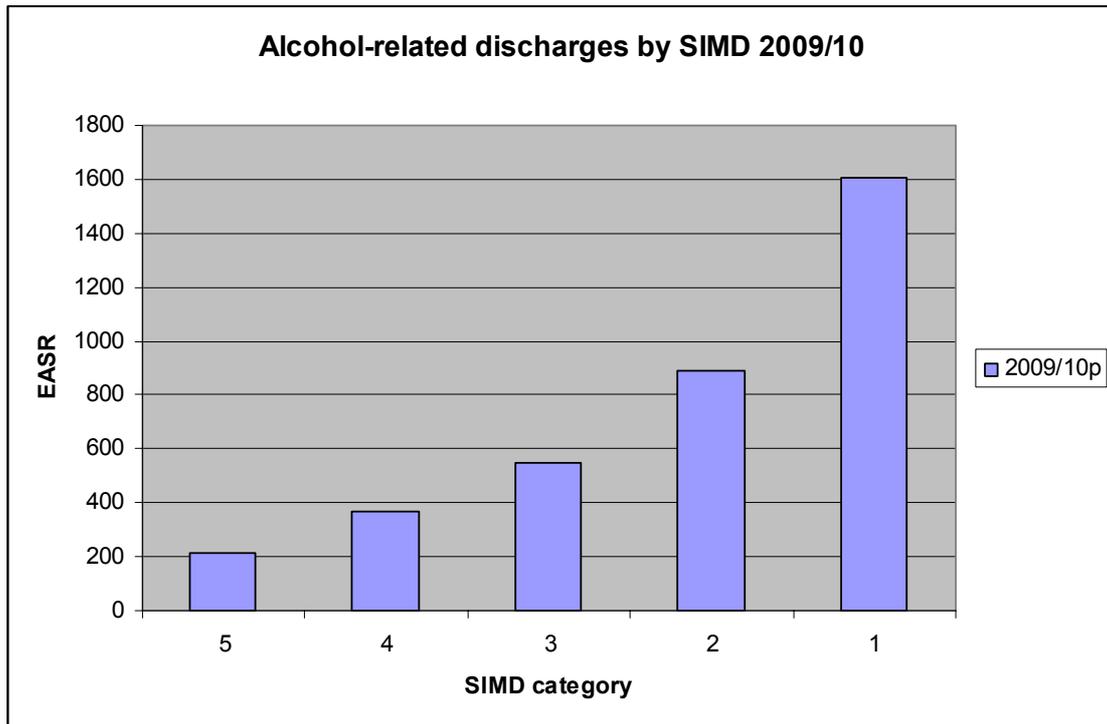


Figure 21: General acute inpatient and day case discharges with an alcohol-related diagnosis in any position; deprivation category, 2009/10 (Source: ISD Scotland, <sup>46</sup>)

High alcohol consumption does not show a clear association with increasing deprivation. A large proportion of those in the most deprived areas and with lower incomes do not drink at all. More of those in less deprived areas drink at hazardous levels every week. For those drinking harmfully, slightly more men (but not women) in deprived areas drink at this level than in less deprived areas. When examining harmful consumption by income, those with lower incomes who do drink harmfully, drink at a much higher level than those with higher incomes who drink harmfully.<sup>43</sup>

### 4.3 Diet, exercise and obesity

#### **4.3.1 Introduction**

Overweight and obesity are terms which describe having “*abnormal or excessive fat accumulation that presents a risk to health*”.<sup>47</sup> Obesity results from energy intake being higher than energy usage by the body. Overweight and obesity are thought to have increased in recent years due to poor diet and reduced physical activity.<sup>48</sup>

One measure of overweight and obesity is the body mass index (BMI). This is a person’s weight (in kilograms) divided by the square of their height (in metres). An individual with a BMI of 25 or more is termed overweight and someone with a BMI of 30 or more is defined as being obese.<sup>47</sup>

BMI is a useful indicator of overweight and obesity, however it is also a crude marker in that it does not take into account important factors such as where an individual stores their body fat. This is important because the distribution of body fat can affect an individual’s risk of certain health conditions. For example “central obesity” (where fat is stored around abdominal organs) is associated with conditions such as Type 2 Diabetes and Ischaemic Heart disease.<sup>38</sup>

Being overweight or obese increases the risk of disease and mortality. Conditions such as Type 2 Diabetes, high blood cholesterol and high blood pressure are more likely. These factors also increase the risk of vascular disease such as ischaemic heart disease and stroke. Musculoskeletal disorders such as osteoarthritis in the joints and respiratory problems like obstructive sleep apnoea are more common. There is an increased risk of certain cancers such as colorectal, breast and endometrial cancer.<sup>38,48</sup>

Diet is implicated in the development of overweight and obesity. However poor diet also has other effects, even in those not classified as overweight or obese. The low consumption of fruit and vegetables, and high intake of salt, sugar and saturated fat

leads to an increased risk of cardiovascular disease, certain cancers, Type 2 Diabetes and high blood pressure.<sup>10</sup>

Older people are more vulnerable to malnutrition. The reasons for this include social factors (for example poverty and loneliness), psychological factors (for example depression) and changed physiology with ageing (for example older people may need increased protein intake to maintain skeletal muscle).<sup>38</sup>

Reduced physical activity is also associated with a range of conditions such as Type 2 diabetes, hypertension and cardiovascular disease, with or without associated overweight and obesity. Physical activity can also have benefits such as maintaining mental wellbeing and reducing anxiety and depression.<sup>38</sup>

#### **4.3.2 Diet**

The Scottish Health Survey uses the dietary quality index (DQI) as a way of summarising information collected on eating habits. The DQI ranges from 0 to 100, with higher DQI scores indicating diets better matched to dietary recommendations. All of the DQI results are based on combined 2008 and 2010 datasets as dietary questions are only asked every second year in the Scottish Health Survey.<sup>49</sup>

There are no data at a Local Authority or Health Board level. At a national level, mean DQI scores tend to increase with age up until the age group of 75 and over where they decrease slightly (Figure 22). (Table 26 in appendix).

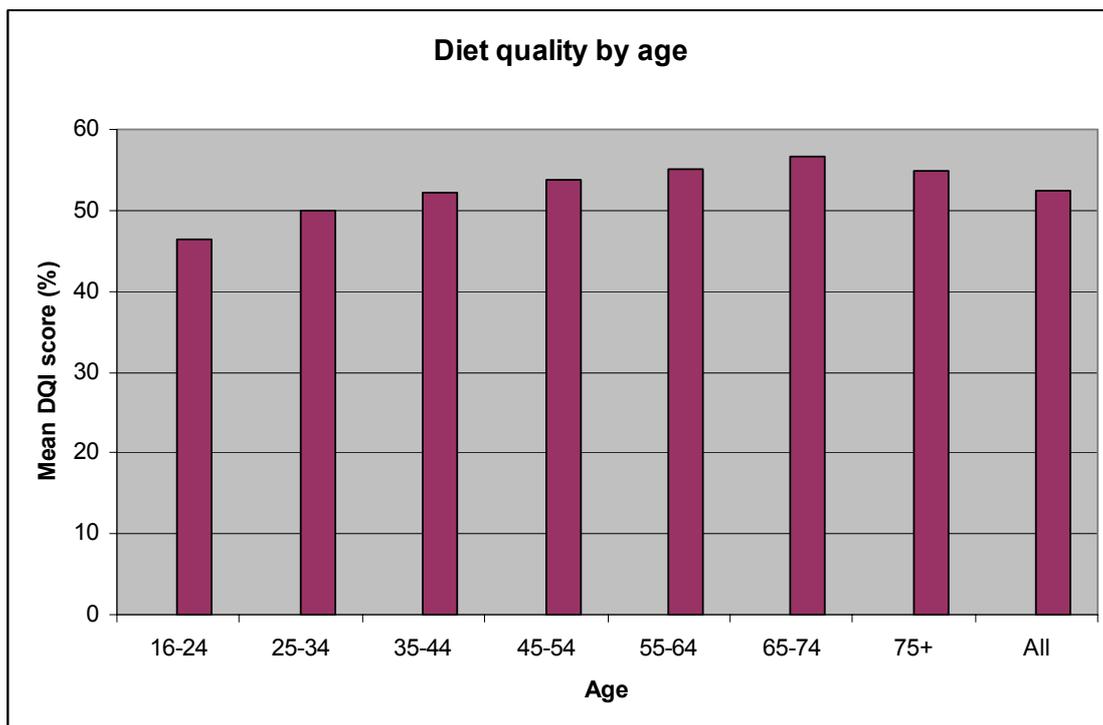


Figure 22: Dietary quality as per dietary quality index (DQI) by age in Scotland, 2008 and 2010 data combined. Source: Scottish Health Survey<sup>49</sup>

There is also an association between low mean DQI score and those living in the most deprived areas (Table 27 in appendix). With relevance to obesity, there is an association between low mean DQI scores and low levels of physical activity (Table 28 in appendix).

#### 4.3.3 Physical Activity

There were no local sources of physical activity data and so Scottish Health Survey data were once again used. The physical activity categories are: “meets recommendations” (30 minutes or more of moderate or vigorous activity on at least 5 days a week), “some activity” (30 minutes or more on 1 to 4 days a week) and “low activity” (fewer than 30 minutes a week).<sup>38</sup> As can be seen more people fall into the “low activity” category as they age (Figure 23). (Table 29 in appendix).

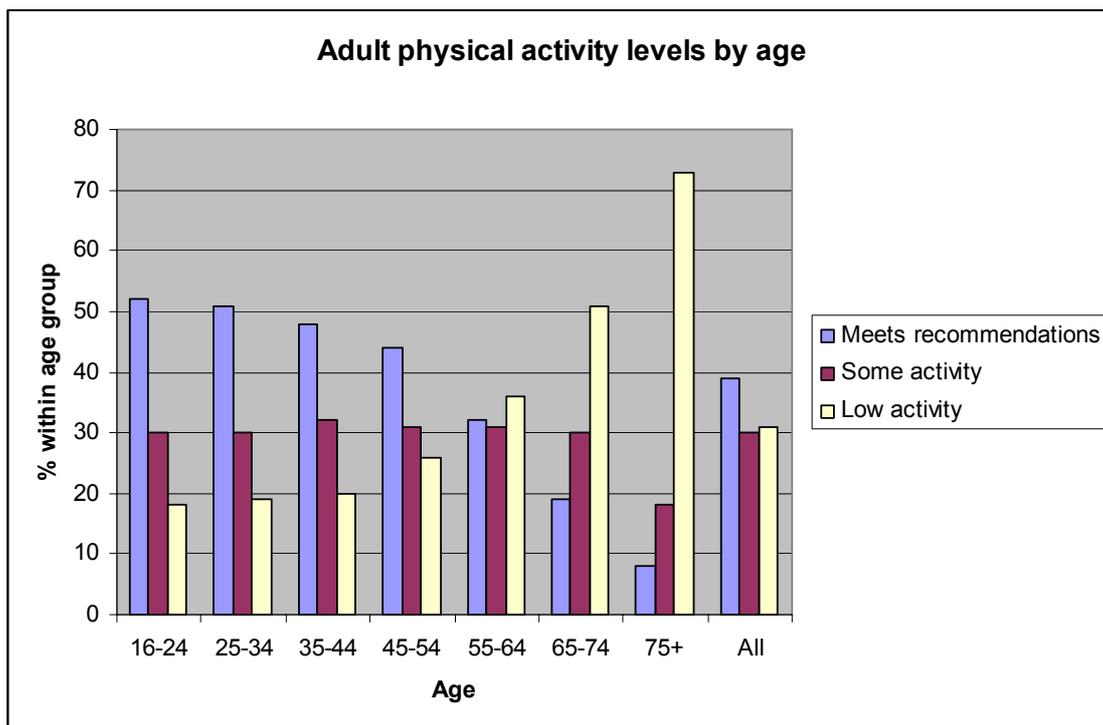


Figure 23: Adult physical activity levels by age, Scotland, 2010. Source Scottish Health Survey,<sup>10</sup>

#### 4.3.4 Obesity

The Scottish Health Survey gives data on body mass index (BMI) at a national level. The prevalence of obesity is increasing at a national level. Mean BMI has increased from 25.8 in 1995 to 27.4 in 2010.<sup>10</sup>

The prevalence of obesity in the Scottish Health Survey increases by age until late middle-age. It is 13.3% in those aged 16-24 and 38.3% in those aged 55-64. The prevalence in the two oldest age groups is sequentially lower (33.0% in those aged 65-74 and 29.9% in those aged 75 and over).<sup>10</sup>

As can be seen in Figure 24, mean BMI increases with age until a peak in those aged 55 - 64. It then declines. (Table 30 in appendix).

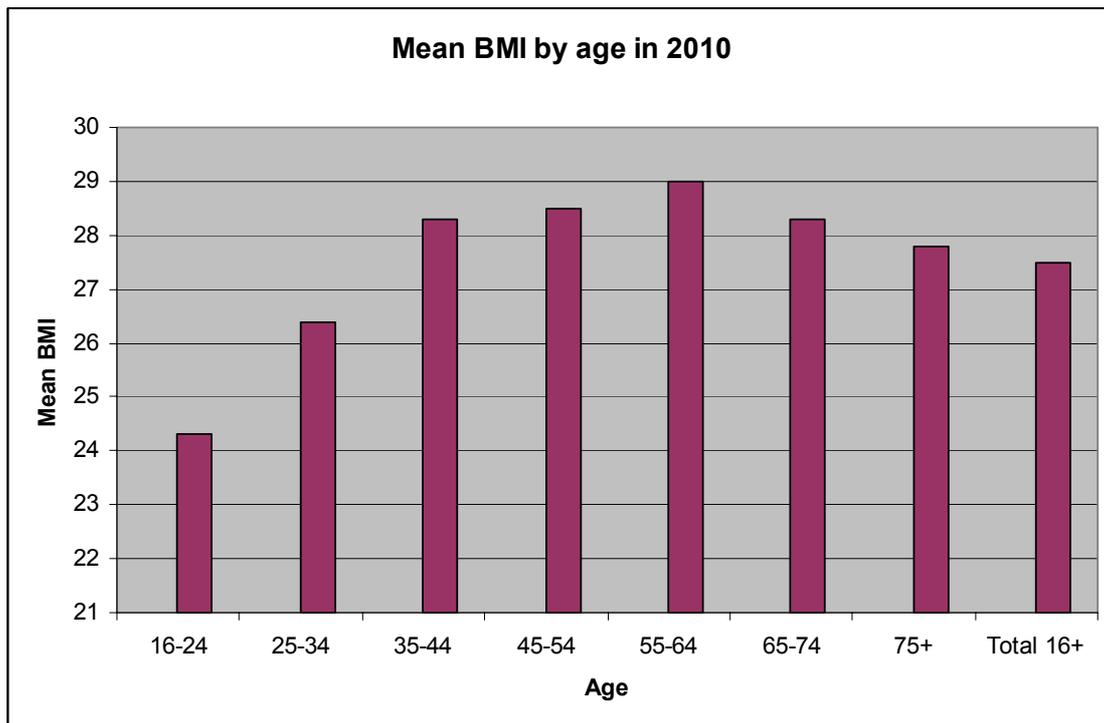


Figure 24: Mean BMI by age, all adults, 2010<sup>10</sup>

#### 4.4 Summary

- Tobacco smoking is associated with an increased risk of, and an exacerbation of many diseases particularly respiratory illnesses such as COPD and lung cancer.
- QOF data suggest that the prevalence of smoking in all age groups in Aberdeenshire in 2010/11 was 23.26%, which was higher than Aberdeen City (21.23%) and lower than Moray (25.02%). However, SHoS data suggest smoking prevalence is 20% in Aberdeenshire, which is lower than Aberdeen City, Moray and the Scottish average.
- Smoking prevalence at all age groups nationally may be decreasing over time and there may be a corresponding decrease in rates of COPD and lung cancer in the future.
- Alcohol misuse is linked to many cancers and is a risk factor for high blood pressure, obesity, depression, stroke and coronary heart disease.
- Alcohol misuse in elderly is associated with an increased risk of falls, poor memory and harmful interaction with medication.
- Alcohol consumption is currently lower in older people in comparison to the younger population. However, alcohol consumption appears to be increasing over time and may increase in older people if the current population aged less than 65 maintain their drinking habits.
- Aberdeenshire has a lower rate of alcohol-related discharges than Aberdeen City and Moray. The trend appears to show a decline in discharges within Aberdeenshire, but this may not continue in light of alcohol consumption data. In 2010 approximately 400 per 100,000 population were discharged due to an alcohol related illness in Aberdeenshire.
- Poor diet, lack of exercise and obesity are associated with an increased risk of stroke, coronary heart disease, Type 2 Diabetes and certain cancers. Physical activity can also have benefits such as improving mental wellbeing.
- Survey evidence (at a national level) suggests dietary quality may increase slightly with age until the age group of those over 75 when it may decrease

slightly. Physical activity levels appear to decrease with age and obesity increases with age up until those aged over 65 where it is lower.

*What does the partnership need to consider?*

- Partnerships should promote new methods of supporting older people to quit smoking.
- Ensure that there are links between smoking cessation services and services providing support for individuals and groups with long-term conditions.
- Be aware that alcohol misuse may be increasing amongst the elderly and there may be an impact of current alcohol consumption patterns amongst all age groups upon future resource use (as health conditions due to alcohol misuse develop later in life).
- Support may be needed to maintain diet quality with age and promote physical activity levels. Both these factors will reduce the prevalence of obesity and may also aid in improving wellbeing.
- Be aware that the poor diet, lack of exercise and obesity levels amongst the working age adult population may lead to increased resource use in the future as health conditions develop.

## 5 Health Conditions

### 5.1 Introduction

As has been described earlier, an individual's health is affected by a number of factors. This includes the social, environmental, economical and behavioural factors described previously. In addition there are a number of non-modifiable factors affecting health such as genetic make-up, age and ethnic background. All these combine to impact upon an individual's health and wellbeing.

It is not solely the overall health of a population which is important, but inequalities in health. It is well-known that health follows a social gradient, with those who are poorer suffering worse health and health outcomes.<sup>19</sup> This does not solely relate to being poor in terms of income but a combination of factors such as housing, crime levels, educational attainment and employment. Factors such as these are used to produce the Scottish Index of Multiple Deprivation.<sup>28</sup> Those who live in deprived communities are known to have a higher risk of poorer health and premature mortality.<sup>50</sup> This needs assessment will not be examining deprivation in Aberdeenshire, however the above is important to consider when putting in place preventative measures and services.

The choice of which health conditions to include in this section was based upon a number of factors. These included: a strong link to ageing, high morbidity and/or mortality, whether they are preventable and their burden upon health, social care, and unpaid carers. The choice of conditions was also based upon discussion with partners.

The conditions included in this section are: Mental Health (Dementia, Depression and Wellbeing), Stroke, Coronary Heart Disease, COPD, Diabetes and Cancer.

The approach in each section was to calculate the current numbers with a condition, using the best available estimates of prevalence. In a number of sections this involved using an estimate of the prevalence in the over 65 population. In these sections the prevalence was applied to the current number of people aged over 65 to estimate how

many people have a particular condition. In addition to this, an estimate was made as to how many would have that condition in 2035. In Aberdeenshire, there will be a 96.3% increase in the population aged over 65 by 2035 and so based upon age alone, the condition in question is predicted to increase by the same proportion. The drawback to this method is that it does not take into account other factors such as the increase in alcohol consumption and obesity.

QOF data are not available by age. However, for conditions felt to be age-related (in this case dementia and stroke) it was felt to be a valid proxy for the number of adults aged over 65 with a condition. There is a projected increase in the total population within Aberdeenshire of 21.9% by 2035, and so in these cases the condition in question is predicted to increase by this same proportion. Again, this does not take into the fact a number of risk factors are also likely to increase. In addition it does not take into account the impact of the disproportionate increase in the over 65 population in relation to the under 65 population, and so these age-related conditions are likely underestimated in the projections.

GP consultation figures are recorded using Practice Team Information (PTI) statistics. PTI data are drawn from a sample of General Practices in Scotland and gather information about consultations between patients and GPs or Practice Nurses. As PTI data estimates the rate of people consulting about a particular condition, they should not be used to estimate prevalence of conditions within the population. This is because only active problems are recorded and not any underlying chronic conditions a person may have (for example a person with dementia presenting with a cold will only have the cold recorded as the reason for the consultation).<sup>51,52</sup> For this reason it is not appropriate to use PTI data to assess whether there is unmet need for a particular condition.

Additionally, as PTI used only a selected number of practices, there is insufficient regional coverage to provide an estimate of consultations for any area smaller than Scotland as a whole. Thus applying PTI estimates to local populations should be used

with a degree of caution to take into account differences in GP practice make-up, GP work practices and population characteristics. PTI data are standardised for age, gender and deprivation which is fairly comprehensive but other local factors may impact.<sup>52</sup>

Hospital admission data from 2009 with regards to the over 65 population were provided and these were used to estimate current and future health service use. These data are coded using ICD-10 descriptors and the author's judgement was used as to which codes to include for each condition. Elective and emergency admissions are presented where relevant.

## 5.2 Mental Health and wellbeing

This section will cover dementia and depression, as well as a discussion of wellbeing in older people.

### **5.2.1 Dementia**

#### **Background**

The significance of dementia should not be underestimated. Alzheimer's and other dementias are collectively the sixth highest cause of death and fourth highest cause of burden of disease in high income countries according to the WHO.<sup>53</sup> Alzheimer's Disease International (which is the international federation of Alzheimer associations around the world) termed it as being "*among[st] the most significant social, health and economic crises of the 21st century*".<sup>54</sup> This is due to the cost of caring for dementia (to healthcare, social care and to friends and relatives) as well as the projected drastic increase in the number of affected individuals due to an ageing population.

Dementia is:

*"a term used to refer to a variety of illnesses and conditions which result in a global impairment of brain function and a decline in intellectual functioning, personality changes and behaviour problems which disrupt independent living skills and social relationships".<sup>55</sup>*

The different types of dementia include Alzheimer's disease, Vascular dementia, Lewy body disease and alcohol related brain damage (ARBD).<sup>55</sup> Alzheimer's disease is the most common form of dementia, followed by vascular dementia. These two forms of dementia make up around 75% of all diagnoses of dementia.<sup>56</sup>

Usually, the main symptom of dementia is progressive memory loss. In addition, people may increasingly struggle to reason and make decisions and can have personality changes. These changes mean that as the disease progresses, affected individuals

require increasing care. This can become increasingly challenging if individuals stop recognising family and carers and require help with more activities of daily living such as dressing and eating.<sup>56</sup>

The risk factors for dementia vary depending on which type of dementia is being considered. Increasing age is the predominant risk factor. Some conditions such as Down's syndrome and a family history of Alzheimer's can predispose someone to developing Alzheimer's disease. Vascular dementia has the same profile of risk factors as for other vascular disease (for example smoking, alcohol, hypertension, diabetes and obesity). Alcohol causes ARBD.<sup>56,57</sup>

There are no cures for dementia and care focuses around reducing the impact of the illness on the individual and achieving the best quality of life possible.<sup>56</sup> It is not possible to prevent the majority of cases of dementia, however steps can be taken to reduce the risk of vascular dementia and ARBD in particular by targeting the risk factors mentioned above. Additionally, there is some evidence that the risk of all forms of dementia can be reduced by being mentally and physically active.<sup>58</sup>

A significant issue in the management of dementia is its under-diagnosis. Evidence in the literature suggests it is substantial and a systematic review estimated around 50% of patients in primary care aged over 65 were not diagnosed as having dementia by their primary care physician.<sup>59</sup> A recent study found that just under half of the expected numbers of patients with dementia are recorded in GP dementia registers.<sup>60</sup>

### ***Prevalence***

It is difficult to make an estimate of the exact number of people with dementia in Scotland. Current estimates for 2012 produced by Alzheimer's Scotland are based upon European level data. GP recorded prevalence (QOF data) are not presented by age, but an assumption can be made that the figures represent the number of dementia cases in

the older population as the vast majority of dementia cases arise in the older population. Therefore this section uses data produced by Alzheimer’s Scotland and QOF data to give an indication of the prevalence of dementia, projected estimates and unmet need in Aberdeenshire.

In Europe, the prevalence of dementia in those aged 65-69 is 1.6%. This rises with age to 26.2% in those aged 85- 89 and 46.3% in those aged 95 and over.<sup>61</sup> In Scotland, it is estimated that there will be over 81,000 people aged 65 years and over with dementia in 2012.<sup>57</sup> Modelled prevalence using European data suggests that about 3,311 (3,191 in those aged 65 years and over, 120 in those aged less than 65 years) people in Aberdeenshire had dementia in 2010

Applying the 2010 dementia estimates to the GROS population figures for those aged 65 years and over in 2010 in Aberdeenshire, gives a prevalence of 8%.<sup>62,63</sup> This prevalence figure was applied to the population projections for Aberdeenshire (Table 12).

**Table 12: Estimated number of people with dementia, Aberdeenshire, 2010 to 2035, based upon European prevalence estimates**

Year	2010	2015	2020	2025	2035
Population aged 65+ (000s)	40	48.2	55.4	63	78.5
Estimated no. aged 65+ with dementia (000s)	3.2	3.9	4.4	5.0	6.3

These projections are likely an underestimate due to the size of the increase in the older old age groups (i.e. over 75) relative to the increase in the younger groups (i.e. 65 to 75).

The crude dementia prevalence rate per 1,000 registered patients estimated using QOF data is shown below (Table 13).

**Table 13: Crude dementia QOF prevalence per 1000 registered patients in Grampian areas**

	2008/09	2009/10	2010/11
Aberdeen City	6.2	6.5	7.0
Aberdeenshire	6.5	6.9	7.3
Moray	5.6	5.8	6.8

There appears to be a rising prevalence over time in all Grampian areas. This likely reflects the increase in the older age groups within the population and also potentially the increase in risk factors within the population.

The GP recorded prevalence in 2010/11 was applied to the GROS population projections (Table 14).

**Table 14: Estimated number of people with dementia in Aberdeenshire based upon QOF prevalence rates**

<b>Year</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2035</b>
Total	245,780	258,629	269,625	280,383	299,404
Estimated number with dementia	1794	1888	1968	2047	2186

As can be seen there are 1,406 fewer patients recorded by QOF than estimated using Alzheimer’s Scotland data. This is 44% of the estimated total. Allowing for some error in the Alzheimer Scotland data, this still suggests unmet need within the Aberdeenshire population. Meeting these needs may place a significant additional burden on a range of health and social care services for dementia. However, more timely diagnosis and early management could potentially decrease the burden on some services, for example through reducing unplanned admissions.

The results show that in 2035 the projected numbers with dementia in Aberdeenshire could range from 2,186 to 7,220 people. However, the true figure is likely higher than this as both estimates do not take into account the increase in the older old population, which has a higher prevalence of dementia.

***Current Service provision***

The GP/Practice Nurse consultation rate for dementia in Scotland appears to have risen slightly since 2004/05 (Table 15).

**Table 15: Dementia consultations in Scotland with a GP or practice nurse over time, rate per 1000 registered population, source PTI statistics, ISD**

Year	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
Consultation rate per 1000 population	6.4	5.5	5.6	6.0	6.2	6.7	6.7

Applying the 2009/10 consultation rate to the 2009/10 GP population amounts to 1,611 consultations in Aberdeenshire. If these increase by the same rates as the increase in dementia cases, there could be between 1,964 and 3,161 consultations annually by 2035.

### ***NHS Care***

The WHO ICD-10 code descriptions for dementia were in section F (Mental and behavioural disorders) and section G (Diseases of the nervous system). The number of bed days for general acute admissions in 2009 are presented below (Table 16).

**Table 16: Number of bed days for dementia, by primary diagnosis, 2009**

Number of bed days	Elective	Emergency	Total
Aberdeen City	64	6537	6601
Aberdeenshire	660	4592	5252
Moray	2178 *	3371	5549
Total	2902	14,500	17,402

\*Due to 2088 bed days in G31 ("Other Degenerative diseases")

If these numbers increase by the same rate as the increase in dementia cases, there could be between 6,402 and 10,304 bed days annually due to dementia in 2035. Between 805 and 1,295 would be elective bed days and 1,006 and 9,010 would be emergency bed days.

For Mental Health specialities (SMR04 data), there were 281 admissions for dementia in 2009/10. This could amount to between 343 and 552 admissions annually by 2035.

## **5.2.2 Depression**

### **Background**

Depression is the leading contributor to burden of disease in high-income countries according to the WHO.<sup>53</sup> Whilst the prevalence of depression in older adults may not be higher than that in younger adults, it is important as it is often under-recognised and therefore not treated adequately in the older age groups. Additionally, older people with depression have higher disability and poorer outcomes from illness. They are also more likely to die from suicide attempts than younger people. If recognised and treated, older people with depression can respond well to treatment.<sup>64,65</sup>

There are a number of risk factors for depression which are more common in the older population. These include bereavement, loneliness, a change in role and loss of social status (e.g. retirement and decrease in income), and being in institutional care. In addition, being female, chronic disease, pain, and organic brain disease such as dementia and stroke are risk factors.<sup>64,65</sup> The prevalence of depression is increased markedly in brain disorders such as dementia and may be around 30% in Alzheimer's (however it can be very difficult to diagnose co-depression in dementia).<sup>65</sup>

### **Prevalence**

There are no estimates of the prevalence of depression by age in the Scottish Household or Health Surveys. In the literature, the estimates for the prevalence of depression range from 4.6% to 9.3% in older adults.<sup>65</sup> The definition of older adults may not be the same in all studies and is assumed to be the over 65 population as per convention.<sup>65</sup>

The midpoint of this range will be used as an estimate of the prevalence (6.95%). This was applied to the population aged over 65 (Table 17).

**Table 17: Estimated number of people aged over 65 with depression, Aberdeenshire, 2010 to 2035, based upon estimate from the literature**

<b>Year</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2035</b>
Population aged 65+ (000s)	40	48.2	55.4	63	78.5
Estimated number with depression (000s)	2.78	3.35	3.85	4.38	5.46

QOF data are shown below (Table 18). However, as depression is not specifically age-related and QOF data are not available by age, it would not be appropriate to estimate the number of older people with depression in Aberdeenshire from these figures.

**Table 18: Crude depression prevalence per 1000 registered patients in Grampian areas**

	<b>2008/09</b>	<b>2009/10</b>	<b>2010/11</b>
Aberdeen City	74.3	87.5	92.5
Aberdeenshire	55.0	64.7	70.0
Moray	61.8	70.7	78.9

Depression prevalence appears to be increasing over time in all areas. Of note, the crude prevalence rate in Aberdeen City appears higher than in Aberdeenshire and Moray. It is not clear why this is, but could reflect factors such as the higher levels of deprivation within some areas of Aberdeen City.

### ***Current Service Provision***

#### *General Practice Consultations*

Table 19 shows the number of consultations in Scotland with a GP or practice nurse for depression.

**Table 19: No. of consultations per 1,000 registered patients with GP or Practice Nurse for Depression, 2009/10 (PTI statistics)**

	<b>65-74 years</b>	<b>75 years and over</b>	<b>All ages</b>
Males	27.4	26.5	<b>46.6</b>
Females	71.9	28.8	<b>90.7</b>
All	Not available	Not available	<b>68.8</b>

Although not shown in this table, depression consultation rates are higher in adults of both sexes aged between 25 and 64. The decrease in the over 65 age groups could reflect unmet need if the estimates of prevalence in older people are correct. This ties in with evidence which suggests depression in older people is under-diagnosed because it is either not recognised or older people do not seek help (perhaps for cultural reasons).<sup>64,65</sup>

Depression consultation rates are higher in women, this could reflect the fact that depression is commoner among women but also that men are even more likely not to present with depression. This is another potential area of unmet need.

These consultation rates were applied to the GP registered population. This amounts to 1,603 consultations in 2011. If consultation rates increase in the same manner as the number of depression cases, there could be 3,147 consultations for depression by 2035.

#### Admissions and bed days

For Mental Health specialities (SMR04 data), there were 81 admissions for depression in 2009/10. This could amount to between 99 and 159 admissions annually by 2035.

In Grampian in 2009 in general acute specialities, there were 248 emergency admissions in this chapter and 16 elective admissions. Of note this will also include admissions for Bipolar affective disorder and Schizophrenia.

### 5.2.3 Wellbeing

Good mental wellbeing is important to individuals themselves and also acts as a determinant of health. Mental wellbeing can allow individuals to cope better with adversity, make healthier behavioural choices and recover from illness. Wellbeing is linked to the quality of an individual's social relationships, the feeling of having a purpose and how individuals feel about themselves. An individual's wellbeing can be affected by experiences in early life (for example the quality of parenting), achieving a feeling of purpose through work or bringing up children, and the quality of longer-term relationships. This latter aspect is particularly important in older people.<sup>66</sup>

Poor mental wellbeing in the elderly could be associated with the death of a spouse, social isolation (including being divorced or single), with having a limiting long-term condition and with low physical activity levels.<sup>38</sup> These factors also reduce the ability of older people to maintain quality longer-term relationships<sup>66</sup> further impacting upon wellbeing. The Scottish Health Survey found that in the absence of these factors in adults aged over 65, increasing age was not significantly associated with poorer mental wellbeing.<sup>38</sup>

Using the WEMWBS (described earlier in this report), the SHS assessed mental wellbeing by age (Table 20).<sup>38</sup>

**Table 20: WEMWBS scores, 2008, 2009 and 2010 Scottish Health Survey combined, by age**

	16-64	65-69	70-74	75-79	80-84	85+	Total 65+
<b>Mean (%)</b>	49.8	51.4	50.8	49.3	49	48.1	50.2
<b>% Good</b>	13	20	20	13	15	12	17
<b>% Average</b>	72	69	67	72	67	70	69
<b>% Poor</b>	15	11	13	15	19	18	14

The mean WEMWBS score was slightly higher (at a statistically significant level) amongst all adults aged over 65 compared to those aged 16 to 64. Statistically, the percentage of older adults with good, average or poor mental wellbeing was not different from younger adults

However, within the over 65 group, the mean WEMWBS score decreases with age, from 51.4 in the 65 to 69 age group to 48.1 in the 85 and over group. There was also a significant decrease in the proportion reporting good wellbeing by age in the over 65 age group and an increase in the proportion with poor wellbeing.<sup>38</sup> This may reflect the increase likelihood of the factors described above (e.g. developing a long-term condition and losing a spouse).

There is generally little good quality evidence regarding what measures are good for maintaining and improving well-being. This generally reflects the nature of interventions required to impact upon wellbeing, in that they are complex and outcomes can be difficult to measure.

Enabling older people to maintain **quality social relationships** may help reduce the risk of poorer mental wellbeing. This could be achieved through, for example, **accessible and affordable public transport**.<sup>66</sup> A National Institute for Health and Clinical Excellence review examined occupational therapy and physical activity interventions to promote the mental wellbeing of older people (in primary care and residential care). Its recommendations included **occupational therapy** to encourage older people to identify daily activities which could help improve their health and wellbeing, and **social events** which provide information regarding topics such as personal care and the use of local transport. Another recommendation was that **physical activity programmes** should be produced in collaboration with older people and their carers and be tailored towards their needs and preferences. This could be achieved by health, social care and voluntary staff or in conjunction with leisure services.<sup>67</sup>

### 5.3 Stroke and TIA

#### **5.3.1 Background**

A stroke occurs when there is interruption to the blood supply of the brain, either through a clot in a blood vessel (cerebral infarction) or a bleed into the brain (intracerebral haemorrhage). This prevents oxygen and nutrients reaching parts of the brain and can damage or kill cells in the brain. This leads to neurological symptoms such as weakness in the face and/or limbs and difficulty speaking and swallowing. A severe stroke can lead to death.<sup>68</sup>

A transient ischaemic attack (TIA) has the same causes and symptoms as stroke. The only difference is that symptoms resolve within 24 hours. The occurrence of a TIA is a strong predictive risk factor for a future stroke.<sup>69</sup> The risk factors for stroke are similar to those for coronary heart disease, for example lack of exercise, obesity, alcohol and Diabetes Mellitus. It is therefore possible to prevent many strokes through targeting modifiable risk factors.

The impact of a stroke can be variable. Some individuals experience minimal effects upon their functioning and health. However, following a stroke, many individuals can have significant health and social care needs. Individuals may be unable to carry out activities they previously were able to do, such as cooking and cleaning, and may be more vulnerable to complications such as pneumonia and thromboembolism.

The WHO lists cerebrovascular disease (which includes stroke and TIA) as the second highest cause of death and the third highest cause of burden of disease in high income countries.<sup>53</sup>

### 5.3.2 Prevalence and mortality

Estimates of prevalence are drawn from the SHS and QOF data. QOF data are felt to be appropriate as stroke is linked to increasing age, with most cases occurring in older people. Table 21 shows the prevalence of stroke by age in Scotland using SHS data.

**Table 21: Prevalence of stroke by age in Scotland, 2008, 2009 and 2010 Scottish Health Survey data combined**<sup>38</sup>

	16-64	65-69	70-74	85-79	80-84	85+	Total 65+
Prevalence stroke (%)	1	5	8	11	11	12	9

Note these prevalence figures do not indicate the severity of stroke and, as this is self-reported data, it does not include those who died after a stroke and may be less likely to include those severely disabled by stroke. It is also not clear whether TIAs are included. The prevalence is therefore likely an underestimate.

As can be seen, there is **an increasing prevalence of stroke by age**. The projected population estimates from GROS are not split by age in the same manner and so only the overall prevalence in the over 65 age group could be used. This prevalence figure was applied to the projected population figures to estimate the future prevalence of the condition (Table 22).

**Table 22: Estimated population with stroke in Aberdeenshire, over time, based on Scottish Health survey data**

Year	2010	2015	2020	2025	2035
Population aged 65+ (000s)	40	48.2	55.4	63	78.5
Estimated number with stroke (000s)	3.6	4.3	5.0	5.7	7.1

The QOF data are demonstrated below (Table 23).

**Table 23: Stroke/TIA prevalence (%) using QOF data**

	<b>2008/09</b>	<b>2009/10</b>	<b>2010/11</b>
Aberdeen City	1.69	1.74	1.74
Aberdeenshire	1.78	1.83	1.84
Moray	1.98	2.04	2.14
Grampian	1.77	1.82	1.84
Scotland	2.02	2.06	2.1

Prevalence appears to be higher in Moray, but this could be explained by smaller overall numbers in Moray. Prevalence in Aberdeenshire is slightly higher than in Aberdeen City. In all areas, prevalence appears to be increasing. This could be explained in part by the increase in the older old population and higher rates of risk factors such as poor diet, lack of exercise, obesity and alcohol consumption.

The 2010/11 prevalence was applied to the projected population figures for Aberdeenshire (Table 24).

**Table 24: Estimated number of people in Aberdeenshire with stroke based upon QOF data**

<b>Year</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2035</b>
Population	245,780	258,629	269,625	280,383	299,404
Estimated number with stroke (000s)	4522	4759	4961	5159	5509

The number of strokes identified by QOF in 2010 is higher than the estimate from the SHS. This could be due to under ascertainment in the survey for the reasons described above. Of note by 2035 the number estimated using QOF data is lower than the SHS estimate. This is because the QOF figures are calculated based upon the whole population, not taking into account the increase in the over 65 population. This therefore is an underestimate.

Both figures are also likely an underestimate as the prevalence of many of the risk factors for stroke (e.g. alcohol use and obesity) are also increasing within the population.

Deaths from cerebrovascular disease in Grampian have decreased over recent years (Figures 25 and 26). This trend is also observed nationally and is thought to be due to improved diagnosis and management. Whilst this is positive it may mean increasing care needs in survivors of stroke.

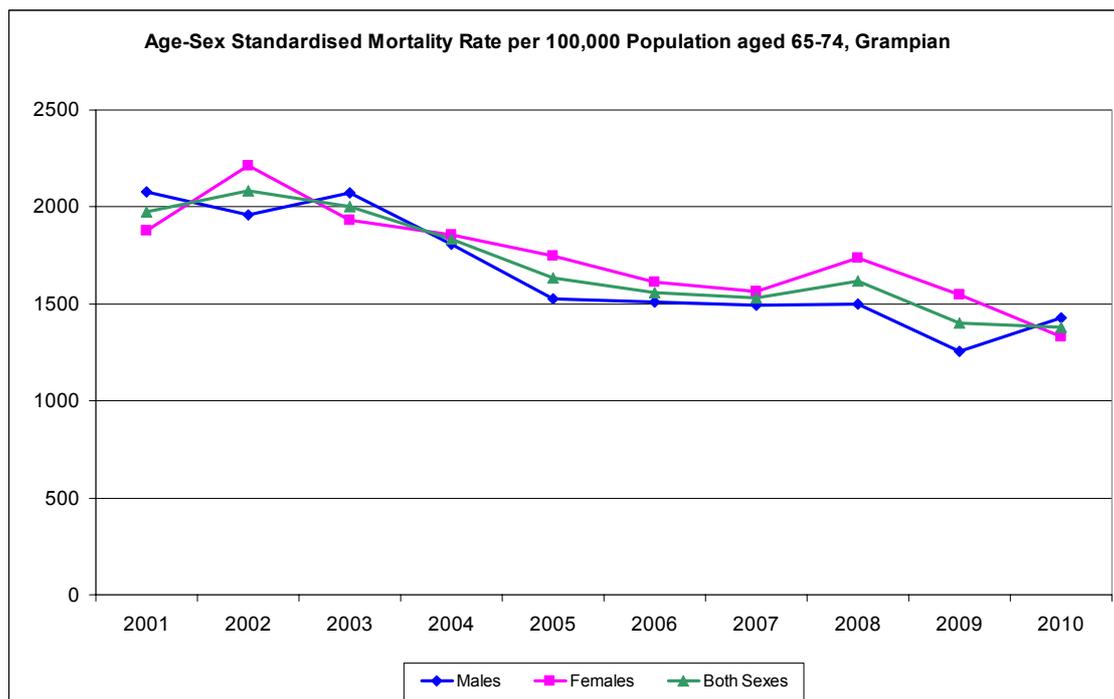


Figure 25: Age-sex standardised mortality rate, aged 65-74, Grampian

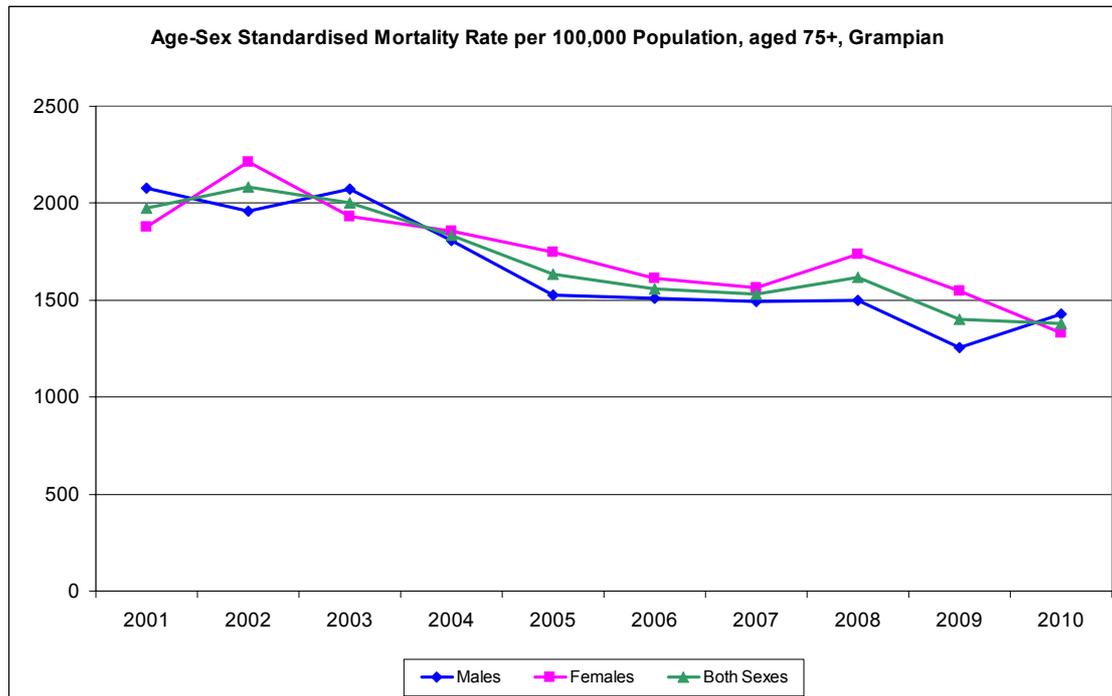


Figure 26: Age-sex standardised mortality rate, aged over 75, Grampian

### 5.3.3 Current service provision

#### General Practice consultations

Table 25 shows the estimated number of consultations in Scotland with a GP or Practice Nurse for Stroke. Stroke in this case refers to “stroke” and “transient cerebral ischaemic attacks and related syndromes”. There are **increasing consultation rates with increasing age.**

Table 25: No. of consultations per 1,000 registered patients with GP or Practice Nurse for Stroke, 2009/10 (PTI statistics)

	65-74 years	75 years and over	All ages
Males	31.1	60.2	8.4
Females	23.1	38.0	7.5
All	Not available	Not available	7.9

The consultation rates were applied to the GP registered population. This amounts to an estimated 1,434 consultations in 2011. If consultation rates increase in the same manner as the number of strokes, there could be between 1,749 and 2,825 consultations for stroke per year by 2035.

### ***Admissions and bed days***

The following ICD-10 codes were used:

“163: Cerebral Infarction”

“164: Stroke, not specified as haemorrhage or infarction”

“161: Intracerebral haemorrhage”

### ***Emergency Admissions***

For the over 65 age group in 2009, the ICD-10 chapter “Diseases of the circulatory system” (of which the above are included along with coronary heart disease) contained the highest number of emergency admissions to NHS Grampian in 2009 compared to the other chapters.

When combined, the codes making up the definition of Stroke, accounted for 405 emergency admissions and 59,505 bed days in 2009 (Table 26). In Aberdeen City there were 381 admissions and 63,206 bed days. The rate of bed days per admission was 147 in Aberdeenshire and 166 in Aberdeen City.

**Table 26: Emergency admissions and bed days of Aberdeenshire residents aged 65+, discharged in 2009 with stroke as primary diagnosis**

<b>ICD-10 Code</b>	<b>No. of discharges</b>	<b>No. of bed days</b>
Cerebral Infarction	171	29,869

Stroke, not specified as haemorrhage or infarction	182	21,964
Intracerebral haemorrhage	52	7,672
Total	405	59,505
Rate	147 bed days per admission	

If the numbers increase with the projected increase in stroke cases there could be between 494 and 798 emergency discharges due to stroke in 2035 with between 72,596 and 117,225 bed days.

### Elective Admissions

There were 30 elective stroke admissions accounting for 5,347 bed days. There were no elective stroke admissions in Aberdeen City.

**Table 27: : Elective admissions and bed days of Aberdeenshire residents aged 65+, discharged in 2009 with the stroke as primary diagnosis**

ICD-10 Code	No. of discharges	No. of bed days
Cerebral Infarction	2	328
Stroke, not specified as haemorrhage or infarction	26	4,659
Intracerebral haemorrhage	2	360
Total	30	5,347
Rate	178 bed days per admission	

If the numbers increase with the projected increase in stroke cases there could be between 37 and 59 elective discharges due to stroke in 2035 with between 6,523 and 10,534 bed days.

## 5.4 Coronary Heart Disease

### 5.4.1 **Background**

Coronary heart disease (CHD) encompasses a range of conditions which arise due to a narrowing of the blood supply to the heart. These conditions include angina, acute myocardial infarction and ischaemic heart disease. The risk factors include: smoking, high blood pressure, high cholesterol, being physically inactive, being overweight/obese, having a family history of heart disease, certain ethnic backgrounds (e.g. South Asian communities) and older age. Men are more likely to develop CHD at a younger age than women.<sup>70</sup>

The importance of CHD lies in the fact that it is preventable (many of the listed risk factors are modifiable) and that it is a major cause of death in Scotland.<sup>71</sup> The WHO lists Ischaemic Heart Disease as the leading cause of death and second highest cause of burden of disease in high income countries.<sup>53</sup>

### 5.4.2 **Prevalence**

Using SHS data, it can be seen that, as for stroke, the prevalence of CHD increases with age (Table 28).

**Table 28: Prevalence of IHD (ever had) by age in Scotland, 2008, 2009 and 2010 Scottish Health Survey data combined**

	<b>16-64</b>	<b>65-69</b>	<b>70-74</b>	<b>85-79</b>	<b>80-84</b>	<b>85+</b>	<b>Total 65+</b>
Prevalence IHD (%) *	3	16	20	21	25	26	20

\*IHD: Ischaemic heart disease (doctor-diagnosed heart attack or angina)

This prevalence in the over 65 population was applied to the current and projected population figures within Aberdeenshire (Table 29).

**Table 29: Estimated population who have ever had IHD in Aberdeenshire, based on Scottish Health survey data**

Year	2010	2015	2020	2025	2035
Population aged 65+ (000s)	40	48.2	55.4	63	78.5
Estimated number with IHD (000s)	8	9.6	11.1	12.6	15.7

The crude CHD QOF prevalence has remained broadly stable since 2008/09 (Table 30). It appears to be higher in Moray and lower in Aberdeen City, but again this could be due to smaller numbers.

**Table 30: Crude CHD QOF prevalence rate per 1000 registered patients**

	2008/09	2009/10	2010/11
Aberdeen City	38.2	37.7	37.1
Aberdeenshire	40.9	40.6	40.2
Moray	44.2	43.9	44.2

Although the risk of CHD increases with age, there are also a significant amount of people under 65 who develop it. As a result it would not be appropriate to use QOF figures as a proxy for the prevalence of CHD in older people.

As with stroke, the increasing prevalence of risk factors such as poor diet, lack of exercise, obesity and alcohol consumption mean that these figures are likely an underestimate. Additionally, the death rate from heart disease at a Grampian level is decreasing (Figure 27). Again, this is positive but also suggests more people are living with heart disease and could suggest increased health and social care requirements.

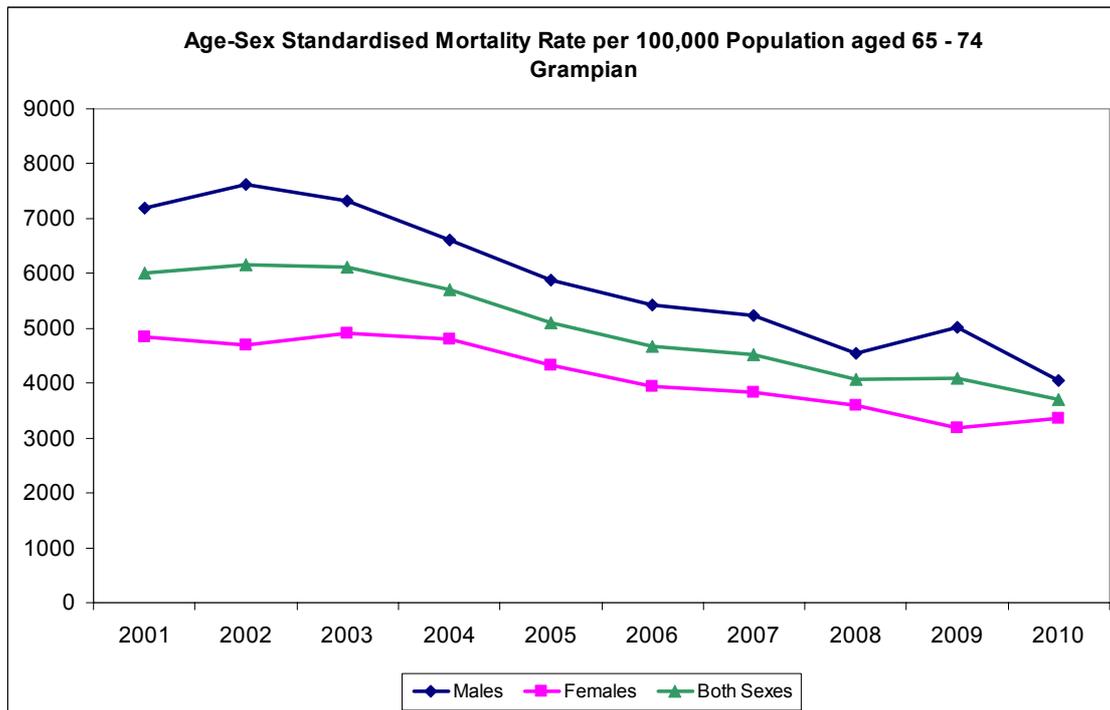


Figure 27: Age-sex standardised mortality rate CHD per 100,000 population aged 65-74 in Grampian, source GROS

### 5.4.3 Current service provision

#### GP consultations

Table 31 shows the estimated number of consultations in Scotland with a GP or Practice Nurse for CHD. CHD in this case refers to angina, acute myocardial infarction and ischaemic heart disease. There are increasing consultation rates with increasing age.

Table 31: No. of consultations per 1,000 registered patients with GP or Practice Nurse for Coronary Heart disease, 2009/10 (PTI statistics)

	65-74 years	75 years and over	All ages
Males	261.8	359.6	<b>71.8</b>
Females	261.8	359.6	<b>45.7</b>
All	Not available	Not available	<b>58.7</b>

These consultation rates were applied to the GP registered population. This amounts to an estimated 12,152 consultations in 2011 in the over 65 population. If consultation rates increase in the same manner as the number of episodes of heart disease, there could be 23,854 consultations per year by 2035.

### ***Admissions and bed days***

The following ICD-10 codes were used:

“121: Acute Myocardial Infarction”

“125 Chronic ischaemic heart disease”

“120 Angina Pectoris”

“122 Subsequent Myocardial Infarction”

“124 Other acute ischaemic heart diseases”

### **Emergency Admissions**

The codes making up the definition of Coronary Heart disease, accounted for 613 emergency admissions and 33,793 bed days in 2009 (Table 32).

**Table 32: Emergency admissions and bed days of Aberdeenshire residents aged 65+, discharged in 2009 with coronary heart disease primary diagnosis**

ICD-10 Code	No. of discharges	No. of bed days
Acute Myocardial Infarction	287	15,611
Chronic Ischaemic Heart Disease	129	7,882
Angina Pectoris	132	4,518
Subsequent Myocardial Infarction	61	5,578
Other acute ischaemic heart diseases	4	204
Total	613	33,793
Rate	55 bed days per admission	

This could amount to 1,203 emergency admissions and 66,336 bed days by 2035. This is a smaller number than Aberdeen City but still significant.

### Elective Admissions

There were 322 elective discharges with 2,740 bed days in 2009. This could amount to 632 elective discharges and 5,379 bed days by 2035. This is higher than Aberdeen City.

**Table 33: : Elective admissions and bed days of Aberdeenshire residents aged 65+, discharged in 2009 with coronary heart disease primary diagnosis**

ICD-10 Code	No. of discharges	No. of bed days
Chronic Ischaemic Heart Disease	299	1502
Angina Pectoris	12	55
Acute Myocardial Infarction	11	1183
Subsequent Myocardial Infarction	0	0
Other acute ischaemic heart diseases	0	0
Total	322	2740
Rate	9 bed days per admission	

## 5.5 Chronic Obstructive Pulmonary Disease

### 5.5.1 **Background**

COPD is the name for a group of chronic long diseases which cause non-reversible obstruction in the airways and therefore difficulty breathing. It is caused by long-term damage to the lungs, and the vast majority of COPD arises due to smoking.<sup>72</sup> Exacerbations can occur, due to factors such as chest infection, and this can lead to a rapid deterioration in symptoms.<sup>73</sup> This is a common cause of hospital admissions in people with COPD.

COPD is chronic and outside of exacerbations there is a slow deterioration over time.

Stopping smoking, even when COPD has developed, can assist in reducing symptoms. The frequency of exacerbations can also be reduced by measures such as inhaled steroids and receiving the flu vaccine.<sup>72,73</sup>

COPD is the fifth highest cause of death and the seventh highest cause of burden of disease in high income countries according to the WHO.<sup>53</sup>

### 5.5.2 **Prevalence and mortality**

At a national level, Scottish Health survey data shows that doctor diagnosed Chronic Obstructive Pulmonary Disease (COPD) increases with age in both men and women (Table 34).

**Table 34: Doctor diagnosed Chronic Obstructive Pulmonary Disease (COPD), by age and sex- Scotland<sup>49</sup>**

Doctor diagnosed COPD	16-24	25-34	35-44	45-54	55-64	65-74	75+	Total
% Yes on survey								
Men	0	1	3	3	7	10	8	4
Women	1	1	3	4	9	10	8	5

As the prevalence is the same for men and women aged over 65, these prevalence figures were applied directly to the current and projected populations for each area (Table 35).

**Table 35: Estimated population with COPD, Aberdeenshire, based upon survey data**

Age Groups	Estimated population with COPD (000s)				
	2010	2015	2020	2025	2035
65-74	2.21	2.74	3.09	3.21	3.72
75+	1.43	1.67	1.96	2.47	3.30
Total	3.64	4.41	5.05	5.68	7.02

This suggests an increase in the number of COPD cases of 92.9% by 2035. As smoking prevalence does not appear to be increasing, and is indeed potentially decreasing, the projected figures are likely not an underestimate and may be an overestimate.

The QOF data are demonstrated below (Table 36). As COPD is not solely an illness which develops in older people, it would not be appropriate to use QOF figures as a proxy for the prevalence of COPD in older people.

**Table 36: Prevalence COPD (rate per 1000 population), using QOF data**

	2008/09	2009/10	2010/11
Aberdeen City	16.46	16.90	17.25
Aberdeenshire	12.96	13.10	13.57
Moray	14.88	15.12	15.55

There appears to be an increase in prevalence rate over time. This could reflect the smoking patterns in previous years (which were higher than currently). This may begin to decrease in future years. The rate in Aberdeen City appears to be higher than other areas. This could suggest that, at least in the past, that residents currently living in Aberdeen City had higher rates of smoking.

### **5.5.3 Current service provision**

#### **GP consultations**

Table 37 shows the number of consultations in Scotland with a GP or Practice Nurse for COPD.

**Table 37: Number of consultations per 1,000 registered patients with a GP or Practice Nurse. 2009/10. (PTI statistics)**

	<b>65-74</b>	<b>75+</b>	<b>All ages</b>
Males	203.7	190.6	42.3
Females	162.0	172.7	47.5
All	N/A	N/A	44.9

These consultation rates were applied to the GP registered population. This amounts to an estimated 7,224 consultations in 2011. If consultation rates increase in the same manner as the number of episodes of COPD, there could be 13,942 consultations per year by 2035.

#### **Admissions and bed days**

The ICD-10 code “Other Chronic Obstructive Pulmonary Disease” was used.

There were 340 emergency admissions for COPD in 2009, accounting for 16,646 bed days. This is a rate of 49 bed days per admission. If admissions increase in the same manner as the number of episodes of COPD, there could be 656 admissions and 32,110 bed days annually by 2035.

## 5.6 Diabetes Mellitus

### 5.6.1 *Background*

Diabetes Mellitus (DM) is a condition which arises when the body has a lack of endogenous insulin. In Type 1 Diabetes, the body stops producing insulin, and in Type 2 Diabetes, the body becomes resistant to insulin. Type 1 DM is less common than Type 2 and often affects younger people. It may arise due to hereditary factors and may be associated with other conditions such as autoimmune diseases.<sup>74</sup>

The risk of developing Type 2 DM is increased by obesity, inactivity, a family history of the disease and in people of Asian, African, African-Caribbean, and Middle-Eastern descent.<sup>74</sup>

DM can lead to nerve, eyesight and kidney problems, particularly when blood glucose levels are not well controlled. DM is a risk factor a number of other health conditions such as cardiovascular disease and stroke.<sup>74</sup> Diabetes is the eighth highest cause of death and eight highest cause of burden of disease in high income countries according to the WHO.<sup>53</sup>

### 5.6.2 *Prevalence and mortality*

The SHS gives an estimate of the prevalence of diabetes (Table 38).

**Table 38: Prevalence of doctor-diagnosed diabetes by age, 2008, 2009 and 2010 Scottish Health Survey data combined**

	16-64	65-69	70-74	75-79	80-84	85+	Aged 65+
% reporting doctor diagnosed diabetes	4	11	12	13	11	8	11

The prevalence is higher with increasing age until over 79 where it decreases slightly.

Note this does not take into account those who have undiagnosed diabetes. The

prevalence in the over 65 population was applied to the current and projected population figures within Aberdeenshire, as in previous sections (Table 39).

**Table 39: Estimated population with Diabetes in Aberdeenshire, based upon Scottish Health Survey data**

	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2035</b>
Population aged 65+ (000s)	40	48.2	55.4	63	78.5
Estimated number with diabetes (000s)	4.4	5.3	6.1	6.9	8.6

The QOF data are demonstrated below (Table 40). There appears to be an increase in prevalence rate over time. This could reflect the increase in risk factors for Diabetes such as poor diet and lack of exercise. As Diabetes is not solely an illness which develops in older people, it would not be appropriate to use QOF figures as a proxy for the prevalence of Diabetes in older people.

**Table 40: Diabetes prevalence using QOF data, rate per 1000 patients**

	<b>2008/09</b>	<b>2009/10</b>	<b>2010/11</b>
Aberdeen City	38.94	40.59	41.35
Aberdeenshire	36.72	38.53	39.57
Moray	44.39	46.89	49.46

### **5.6.3 Current service provision**

#### **GP Consultations**

Table 41 shows the estimated rate of consultations in Scotland for Diabetes.

**Table 41: No. of consultations per 1,000 registered patients with a GP or Practice Nurse for Diabetes, Scotland. 2009/10 (PTI statistics)**

	<b>65-74</b>	<b>75+</b>	<b>All ages</b>
Males	514.4	467.4	144.6
Females	414.1	301.2	114.1
All	Not available	Not available	129.1

These consultation rates were applied to the GP registered population, amounting to an estimated 16,808 consultations for DM in Aberdeenshire in 2011. This could mean 32,994 consultations annually by 2035.

### ***Admissions and bed days***

The codes for Diabetes Mellitus are contained in ICD-10 chapter E: “Endocrine, nutritional and metabolic diseases”. In Grampian in 2009 there were 325 emergency admissions in this chapter (amounting to 1.2% of admissions) and there were 45 elective admissions (0.2% of admissions). It must be emphasised that Diabetes Mellitus plays a large role in the development of other diseases and conditions (as described above).

## 5.7 Cancer

### 5.7.1 **Background**

The Information Services Division (ISD) have predicted that new cancer cases are expected to increase by approximately 8% every five years up to 2020 due primarily to an ageing population.<sup>75</sup>

The most common cancers in Scotland in 2010 in men were prostate cancer, trachea, bronchus and lung cancer and colorectal cancer. For women it was breast cancer, trachea, bronchus and lung cancer and colorectal cancer. Trachea, bronchus and lung cancer was the most common cause of death from cancer in both men and women in 2010. This was followed by prostate for men and breast for women. Colorectal cancer was the third most common cause of death in both men and women.<sup>76</sup>

Overall cancer mortality rates in Scotland have decreased over the past ten years (by 15% in men and 7% in women). This is true for almost all cancers, apart from liver cancer in men, of which death rates have increased by 48% over the last ten years.<sup>76</sup> The latter is likely due to increasing alcohol consumption.

The WHO lists tracheal, bronchus and lung cancer in 8<sup>th</sup> position in its list of ten leading causes of burden of disease in high income countries. No other cancers are on this list. In the ten leading causes of death in high income countries, tracheal, bronchus and lung cancer, colon and rectum cancer, breast cancer and stomach cancer are at positions three, seven, nine and ten respectively.<sup>53</sup>

Prostate cancer is mainly associated with age and is more common in men from Afro-Caribbean and African origin and in men with a family history of the disease. Obesity may increase the risk.<sup>77</sup> Breast cancer is more common in women aged over 50 and those with a family history of the disease. Higher oestrogen exposure (for example due to starting periods at a younger age, commencing menopause at a later age and having

fewer children) may slightly increase the risk. Alcohol consumption and obesity also increase the risk.<sup>78</sup>

Tobacco smoking causes around 90% of all lung cancer cases. Passive smoking also increases the risk. Radon, which is a naturally occurring gas that can enter into buildings from the ground, may cause a small proportion of lung cancers. Asbestos is another cause.<sup>79</sup>

There are a number of risk factors for colorectal cancer. These include family history of the disease, a diet high in red meat and low in fibre, tobacco smoking, alcohol consumption, obesity and physical inactivity.<sup>80</sup>

### **5.7.2 Prevalence/incidence**

Lung cancer incidence rates in Scotland are amongst the highest in the world, likely due to a high smoking prevalence. The European Age Standardised rate (EASR) of lung cancer in Grampian in 2010 was 51.2 per 100,000 person years at risk (95% confidence interval 46.1 to 56.6). This was lower than in Scotland where it was 65.6 (63.7 to 67.5).<sup>81</sup>

The EASR of breast cancer in Grampian in 2010 was 62.4 per 100,000 person years at risk (56.5 to 68.6). In Scotland it was 64.6 (62.7 to 66.6). The EASR of prostate cancer in Grampian in 2010 was 81.9 per 100,000 person years at risk (72.7 to 91.8). In Scotland it was 82.1 (79.0 to 85.3). The EASR of colorectal cancer in Grampian in 2010 was 47.1 (42.2 to 52.2). This was slightly lower than in Scotland, where it was 54.5 (52.7 to 56.2).<sup>81</sup>

In 2009, the prevalence of lung cancer at a national level was 0.57% and for colorectal cancer was 1.94% in those aged over 65. The prevalence of breast cancer was 4.4% in women aged over 65 and the prevalence of prostate cancer was 4.3% in men aged over 65.<sup>81</sup>

Cancer mortality rises with age, as would be expected. In Grampian, the crude rate of cancer mortality per 100,000 person years at risk over the period 2005-2009 was 1,438.1 for those aged 65-69 and was 2,398.7 for those aged over 85. The rates are slightly lower than those observed in Scotland as a whole. The EASR per 100,000 person years at risk for Grampian was 390.7 (383.9 to 397.5) and for Scotland it was 424.0 (422.6 to 427.2).<sup>81</sup>

### **5.7.3 Current service provision**

#### ***GP consultations***

No data could be readily found for this.

#### ***Admissions and bed days***

The following codes were used from the ICD-10 category “Malignant neoplasms”:

“C34: Malignant neoplasm of bronchus and lung”

“C50: Malignant neoplasm of breast”

“C18: Malignant neoplasm of colon”

“C20: Malignant neoplasm of rectum”

“C61: Malignant neoplasm of prostate”

Of note, “malignant neoplasm of colon” and “malignant neoplasm of rectum” are combined in the following sections.

### Emergency admissions

The ICD-10 chapter “malignant neoplasms” was the sixth leading cause of emergency admissions in Grampian in 2009. Within this chapter the leading four causes of admissions in Grampian as a whole were malignant neoplasms of the bronchus and lung, colon, prostate and rectum. Breast cancer was the tenth leading cause. These are presented in Table 42 below.

**Table 42: Emergency admissions and bed days of Aberdeen City and Aberdeenshire residents aged 65+, discharged in 2009 with malignant neoplasm as primary diagnosis**

Malignant neoplasm	Aberdeen City			Aberdeenshire		
	No. admissions	No. bed days	No. bed days per admission	No. admissions	No. bed days	No. bed days per admission
Bronchus and lung	176	16,634	94.5	117	9,830	84.0
Breast	31	3,223	104.0	27	2,299	85.1
Colon and rectum	179	13,596	76.0	185	11,714	63.3
Prostate	52	5,928	114.0	64	3,806	59.5

It can be seen that length of stay in Aberdeenshire appears to be on average lower than in Aberdeen City.

### Elective admissions

The ICD-10 chapter “malignant neoplasms” was the leading cause of elective admissions in Grampian in 2009. Within this chapter the leading four causes of admission in Grampian were malignant neoplasms of the bronchus and lung, breast, colon and prostate. These are presented in Table 43 below.

**Table 43: Elective admissions and bed days of Aberdeen City and Aberdeenshire residents aged 65+, discharged in 2009 with malignant neoplasm as primary diagnosis**

<b>Malignant neoplasm</b>	<b>Aberdeen City</b>			<b>Aberdeenshire</b>		
	<b>No. admissions</b>	<b>No. bed days</b>	<b>No. bed days per admission</b>	<b>No. admissions</b>	<b>No. bed days</b>	<b>No. bed days per admission</b>
Bronchus and lung	239	1338	5.6	135	1897	14.1
Breast	189	2437	12.9	202	2435	12.1
Colon and rectum	261	2029	7.8	235	3032	12.9
Prostate	112	1009	9.0	178	1715	9.6

It can be seen that residents from Aberdeenshire appeared to have longer stays per admission than those in Aberdeen City.

## 5.8 Summary

### *Dementia*

- Dementia is very significant due to its high personal, social and financial costs and the fact that it will increase in prevalence with an ageing population.
- There are an estimated 1,794 to 3,200 people aged over 65 with dementia in Aberdeenshire in 2010. This could rise to between 2,186 and 6,300 by 2035. The lower figures for both years are based on QOF data.
- A significant issue in the management of dementia is its under-diagnosis and this paper found that GP recorded prevalence (QOF) of dementia was 44% of the estimate made using Alzheimer's Scotland figures.
- With the expected increase in the number of those aged 65 years and over, this unmet need is likely to be even higher, thus posing a significant challenge for service providers.
- The GP/Practice Nurse consultation rate for dementia in Scotland appears to have risen slightly since 2004/05.
- There were an estimated 1,611 consultations in Aberdeenshire in 2009/10. These could number between 1,964 and 3,161 consultations annually by 2035 based upon dementia prevalence projections.
- There are currently 5,252 bed days for dementia annually and this could rise to between 6,402 and 10,304 bed days annually by 2035.

### *Depression*

- The prevalence of depression in older adults is no higher than that in younger adults, but it is often under-recognised and therefore not treated adequately. GP consultation data show lower consultation rates amongst older adults in

- comparison to younger adults and also that men are significantly less likely to consult.
- Older people with depression have higher disability and poorer outcomes from illness. They are also more likely to die from suicide attempts than younger people. However, they respond well to treatment if the depression is recognised.
  - In the literature, the estimates for the prevalence of depression range from 4.6% to 9.3% in older adults. Using the midpoint of this range there is an estimated 2,780 people aged over 65 with depression in Aberdeenshire which could rise to 5,460 people by 2035.
  - The majority of depression is managed in primary care. There were 1,603 consultations and 81 Psychiatry inpatient episodes.

### ***Wellbeing***

- Mental wellbeing can allow individuals to cope better with adversity, make healthier behavioural choices and recover from illness.
- Poor mental wellbeing in the elderly could be associated with the death of a spouse, social isolation (including being divorced or single), with having a limiting long-term condition and with low physical activity levels.
- In the absence of these factors in adults aged over 65, increasing age was not significantly associated with poorer mental wellbeing.

### ***Stroke and TIA***

- Stroke is an important cause of preventable death and morbidity, and its likelihood increases with age.

- Using SHS data, there are an estimated 3,600 people with stroke in Aberdeenshire in 2010 which could rise to 7,100 people by 2035. QOF data identifies 4,522 people with stroke in 2010, which could be higher than the SHS estimate due to the survey not including those who died or were severely disabled by stroke. The QOF data will also include those aged less than 65.
- These numbers are likely an underestimate as the prevalence of risk factors for stroke such as alcohol misuse and obesity are increasing within the population.
- Deaths from stroke are decreasing and whilst this is positive it may mean increasing care needs in survivors of stroke. These needs may be complex.
- There were an estimated 1,434 GP/PN consultations for stroke in 2011, which could rise to between 1,749 and 2,825 consultations per year by 2035.
- There were 405 emergency admissions accounting for 59,505 bed days in 2009, and this could rise to between 494 and 798 admissions and between 72,596 and 117,225 bed days by 2035.

### ***Coronary Heart Disease (CHD)***

- The importance of CHD lies in the fact that it is preventable and that it is a major cause of death in Scotland.
- Using survey data there are an estimated 8,000 people aged over 65 who have ever had CHD in Aberdeenshire and this could rise to 15,700 people by 2035.
- The increasing prevalence of risk factors such as obesity and alcohol consumption mean that these figures are likely an underestimate.
- The death rate from heart disease at a Grampian level is decreasing. Again, this is positive but also suggests more people are living with heart disease and could suggest increased health and social care requirements.
- There were an estimated 12,152 consultations for CHD in 2011 and this could rise to 23,854 by 2035.

- There were 613 emergency admissions and 33,793 bed days in 2009 due to CHD. This is slightly less than in Aberdeen City. There were 322 elective discharges with 2,740 bed days in 2009. This is higher than Aberdeen City.

### ***Chronic Obstructive Pulmonary Disease (COPD)***

- The vast majority of COPD arises due to smoking and it is an important cause of preventable death and morbidity.
- Using survey data there are an estimated 3,640 people aged over 65 with COPD in Aberdeenshire and this could rise to 7,020 people by 2035.
- **If smoking prevalence continues to decline, there may be a decrease in incidence of COPD in the future.** Current tobacco smoking in the over 65 population will increase the risk of COPD exacerbations and hospital admissions however.
- There were an estimated 7,224 GP/PN consultations in 2011 for COPD in the over 65 age group, and this could rise to 13,942 consultations per year by 2035.
- There were 340 emergency admissions for COPD in 2009, accounting for 16,646 bed days. This was less than that in Aberdeen City.

### ***Diabetes Mellitus (DM)***

- Diabetes is significant, not only because of the direct health effects it can have, but the fact it is a risk factor a number of other health conditions such as cardiovascular disease and stroke. It is also a preventable cause of death and morbidity.
- Using survey data there are an estimated 4,400 people aged over 65 with DM in Aberdeenshire and this could rise to 8,600 people by 2035.

- The increasing prevalence of risk factors such as obesity mean that these figures are likely an underestimate.
- There were an estimated 16,808 GP/PN consultations in 2011 for DM in the over 65 age group, and this could rise to 32,994 consultations per year by 2035.

### **Cancer**

- New cancer cases are expected to increase by approximately 8% every five years up to 2020 due primarily to an ageing population.
- The most common cancers in Scotland in 2010 in men were prostate cancer, trachea, bronchus and lung cancer and colorectal cancer. For women it was breast cancer, trachea, bronchus and lung cancer and colorectal cancer. Trachea, bronchus and lung cancer was the most common cause of death from cancer. This was followed by prostate for men and breast for women. Colorectal cancer was the third most common cause.
- Lung cancer incidence rates in Scotland are amongst the highest in the world, likely due to a high smoking prevalence. This is despite the recent decrease in smoking prevalence observed in Scotland.
- The incidence of cancers such as lung and colorectal are lower in Grampian than in Scotland as a whole. The incidence of breast and prostate cancers are roughly equivalent between Grampian and Scotland.
- Overall cancer mortality rates in Scotland have decreased over the past ten years (by 15% in men and 7% in women). Liver cancer mortality rates in men have increased which is likely due to increasing alcohol consumption.
- Cancer mortality rates in Grampian tend to be slightly lower than in Scotland as a whole. The EASR per 100,000 person years at risk for Grampian was 390.7 (383.9 to 397.5) and for Scotland it was 424.0 (422.6 to 427.2).

- The leading four causes of emergency admissions due to cancer in Grampian in the over 65 population were malignant neoplasms of the bronchus and lung, colon, prostate and rectum. The leading four causes of elective admission were malignant neoplasms of the bronchus and lung, breast, colon and prostate.

*What partnerships need to consider*

- Dementia is one of the largest emerging health and social care issues amongst the older population. Under-diagnosis needs to be addressed and measures and plans need to be in place with regards to how care will be provided in the future for this population.
- The under-diagnosis of depression also needs to be addressed, especially as outcomes can be improved through early and appropriate intervention. The majority of depression is managed in Primary Care and so extra resource may be needed in this area to manage the projected increase in cases.
- Enabling older people to maintain quality social relationships may help reduce the risk of poorer mental wellbeing, for example through accessible and affordable public transport.
- Survivors of stroke will have complex health and social care requirements, and as the number of stroke survivors increases (due to increasing stroke incidence and decreasing mortality) there will be an increased burden upon health and social services which will need to be addressed.
- Many of the risk factors for conditions such as stroke, CHD, COPD, DM and cancer are modifiable. Aside from smoking, most of these risk factors are increasing within the population. Addressing modifiable risk factors such as alcohol consumption, poor diet, lack of exercise and obesity is crucial and may need to be considered in a younger population in order to impact significantly upon the conditions listed above.

- Current tobacco smoking in the elderly can increase the impact of COPD and other conditions and so is still an important issue.
- Some of the differences in the number of consultations, admissions and average lengths of stay between Aberdeen City and Aberdeenshire could not be explained solely by the differing size of the elderly population. This could be due to there being increased ill-health in an area, which is not detected when applying national prevalence figures to a local population. However, it could also be due to patient and provider behaviour and geographical issues. Therefore decreased attendances may also be achieved through measures such as patient and provider education for example.

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