2011

Director of Public Health

annual report

NHS
Grampian

ACKNOWLEDGEMENTS

As always the production of the Director of Public Health Annual Report is a team effort.

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This document is also available from www.nhsgrampian.org.

Published October 2012

Director of Public Health Annual Report 2011

Foreword 3
Executive Summary 4
Section 1 **HEALTH INTELLIGENCE** 7
1a) **Health Status** 7
1b) **Health Inequalities** 17
Section 2 **HEALTH IMPROVEMENT** 25
2a) **Health Improvement Policy** 25
2b) **Health Improvement Programmes** 29
Section 3 HEALTH PROTECTION 36
3a) Joint Health Protection Plan 36
3b) Gastrointestinal Infections 39
3c) Blood Borne Virus Infections 41
3d) Tuberculosis 45
3e) Immunisation/Vaccination 48
Section 4 **HEALTH CARE** 51
4a) **Screening Programmes** 51
4b) **Coronary Heart Disease** 58
4c) **Cancer** 62
4d) **Alcohol and Drugs** 67
4e) **Dental Services** 73
References 75

Foreword

This report, which covers the public health of Grampian for the year 2011, is my first as Director of Public Health.

It provides a snapshot of the health status of the Grampian population and of the many activities underway to protect and improve the health of the public. Overall, the report signals that Grampian compares favourably, on a number of counts, to the Scottish average, including life expectancy.

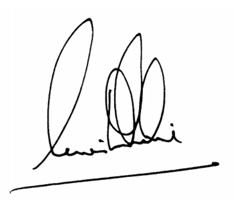
However, there are a number of significant and compelling challenges that must continue to be addressed, including: the growing numbers of elderly people, the inequalities in health among our communities, the rising tide of obesity and the ongoing problems of alcohol and drug misuse. Giving our children in Grampian the best start in life is a key priority, as is the promotion of the physical and mental health of all of our people, and reaching out to the most vulnerable in our society.

Going forward, in order to address these many challenges, it will be crucial for all relevant agencies to work very closely together, in common cause. There are already many encouraging examples of effective partnership working with local/national government, the statutory authorities, the third/voluntary sectors, the further/higher education sectors and the business community of Grampian, some of which are described in this report. We must build on these endeavours in order to rise to the occasion. In effect, nurturing and empowering the public health of Grampian is everyone's business.

I look forward to describing further progress in future reports.

I am grateful to all colleagues who contributed to the compilation of this report, particularly to Dr Dorothy Moir as editor. They are listed in the Acknowledgements Section.

This report has been prepared in two formats - the Full Report (this version) and a Summary Version. Both are available on the NHS Grampian website: www.nhsgrampian.org.



Sir Lewis Ritchie
Director of Public Health
NHS Grampian

Executive Summary

Overall, health trends in Grampian are improving. We are living longer and enjoying a longer period in good health, comparing favourably to the Scottish average. The population of Grampian, as elsewhere, is getting older with an estimated 77% increase in those over 65 years of age by 2035. As we get older, our chances of experiencing multiple diseases, and requiring care, increase. Older people are high users of health services and, once admitted to hospital, patients in this age group typically stay for longer. In the same time period (by 2035), adults of working age are predicted to increase by 9%. In other words, there will be less people of working age to care for and support older people.

As well as ageing, we are ‘growing’ as a population. It is estimated that 30% of adults in Grampian are already obese and this trend does not appear to be slowing. Obesity for women is associated with living in deprived areas, but not for men. Recent data suggest there has been a reduction in the number of children who are overweight or obese, however, 20% of children are overweight or obese in the first year of primary school. This is important, as obesity increases the chances of developing a number of long-term conditions as we age. It has been estimated that among those with type-2 diabetes, at least half could have been avoided by preventing obesity.

Grampian’s relative prosperity improves the regional average for a number of health indicators, but it also masks the range of heath and illness in the population. People living in the least affluent communities in Grampian will die sooner, and will spend more of their shorter lives with a disability, than the more affluent communities. The causes of inequalities are complex and interlinking - genetic factors, biological variation, lifestyles - which in turn are influenced by where we live, work and learn. The future health of the population can be improved by making conditions in pregnancy, infancy and childhood as favourable as possible – in policy terms this is known as the Early Years agenda. In Grampian, encouraging progress has been made. Since 2001, there has been a significant reduction in the percentage of women who smoke when they first become known to the maternity services. The greatest improvements were in women from the most deprived areas, which have narrowed the inequalities gap. However, 42% of women from deprived areas, compared to 9% from least deprived areas, smoke – emphasising the need for further efforts.

Lifestyle choices in young people are showing promising trends in Grampian when behaviours in 2002 and 2010 are compared. Fewer young people smoke, drink alcohol or take illicit drugs. While smoking prevalence in the adult population has reduced, an estimated 43% of the population consume alcohol above the sensible limits, either on a weekly or daily basis. Using 2007/08 data, the cost of treating obesity related illness in the North of Scotland was estimated at £48.7 million and is predicted to double by 2030, the cost of smoking related disease estimated at £85.7 million and alcohol related disease estimated at

£68.9 million. Health improvement work is, therefore, viewed as an essential component of Government and NHS Grampian policy in order to improve and protect health, reduce avoidable ill health, tackle health inequalities and contain rising demands and costs.

Health protection work involves surveillance, investigation, control and prevention of communicable disease and environmental hazards. The Grampian Joint Health Protection Plan 2010/12 provides an overview of health protection priorities, provision and preparedness. Grampian has one of the highest rates of gastrointestinal infections in Scotland due to certain factors, such as an extensive rural landscape and a large number of private water supplies. Hepatitis C is the most common blood borne virus (BBV) in Grampian and is curable in the majority of cases. However, it is estimated that approximately 1,500 people exposed to the virus remain undiagnosed. By raising awareness of how to avoid infection, and by normalising BBV testing, more people will be enabled to address these potentially life-shortening conditions in an effective way.

There are a number of population screening programmes intended to prevent disease, or to detect (and treat) disease earlier, in Grampian from pregnancy through to adulthood. Bowel cancer is the third most common cancer in the UK. In Grampian, uptake of the Bowel Screening Programme is lower than other screening programmes at 59.9%. While overall uptake is higher than the Scottish average, it is lower in men and those in more deprived areas. A range of promotional activities has taken place across the screening programmes to encourage those eligible to attend for screening to take up the offer, for example, the Detect Cancer Early programme.

An asset based approach is a way of working that draws on the inherent strengths and abilities of individuals, groups and communities. It complements the traditional way of working (often described as a deficit approach) that seeks to identify problems and provide often professional-led solutions. This can lead to individuals becoming passive recipients of care, rather than contributing more to their own health and wellbeing. NHS Grampian aims to adopt an asset approach across all its work with partners. The report highlights a few examples of this approach in practice across Grampian.

The NHS, as a major employer and purchaser in the Grampian area, is working with the third sector to ensure wider social benefits are maximised from contracts placed locally. A Healthy Working Lives Gold Award holder is supporting smaller businesses to become involved in health in the workplace – if successful, this model will be further rolled out. Work is also underway across partnerships, and with businesses, to embed promotion of health within daily activities - such as in nurseries and schools through daily toothbrushing. It is recognised that effective social networks are good for health and wellbeing. Older people have advised that they want to remain independent at home for as long as possible and, for some, a bit of companionship is all that is required to maintain confidence or assist with transport. With support from the Change Fund, a volunteer service is being established to bring like minded people together. There are a number of examples where real community engagement and leadership has resulted in better services being provided in innovative ways.

Health care is one of a range of assets that communities require in order to improve their health. Primary care resources (GP practices, pharmacies, optometrists and dentists) are grouping in natural communities to bring together knowledge of their local areas and to engage with their communities to tackle inequalities and promote health. It is early days yet, but Keep Well and Well-North have already shown the benefits for patients and practices, in working together to design services responsive to need, by mobilising the assets in a community. Every patient visit to the health service is an opportunity to promote health. In addition to promoting lifestyle programmes, health care staff are encouraged to consider other detrimental factors, such as financial hardship. Working with the third sector, a financial inclusion scheme is operating within Aberdeen Royal Infirmary and Woodend Hospital. Patients have benefited from this initiative, which seeks to alleviate financial hardship and aid recovery.

In summary, this report provides a snapshot of the public heath of Grampian and describes a number of examples of important developments that are underway or planned, in order to promote the health and wellbeing of our population. As indicated in the Foreword, it will be crucial for all relevant agencies to work very closely together, in common cause, with our local communities, in order to promote further progress for the public health of Grampian.

Section 1 HEALTH INTELLIGENCE

1a) HEALTH STATUS

The population profile is expected to change in the next 20 years. Understanding the make-up of the population is important if health services are to provide the best possible care for people. Using the demographic information and what is known about the prevalence of disease, a profile can be built of what services are likely to be required to ensure they meet the needs of the population.

Births

In Grampian in 2011, there were 6,276 births; 2,608 in Aberdeen City (1,355 males and 1,253 females), 2,695 in Aberdeenshire (1,403 males and 1,292 females) and 973 in Moray (502 males and 471 females).[1]

Life Expectancy at Birth

Over the last 20 years, life expectancy at birth has been increasing for both males and females in the Scottish population generally.[2] There has been a similar increase for both males and females in Grampian, which is significantly higher than that for Scotland.[3] Life expectancy across the three local authority areas in Grampian is shown in Figure 1 below.[4]

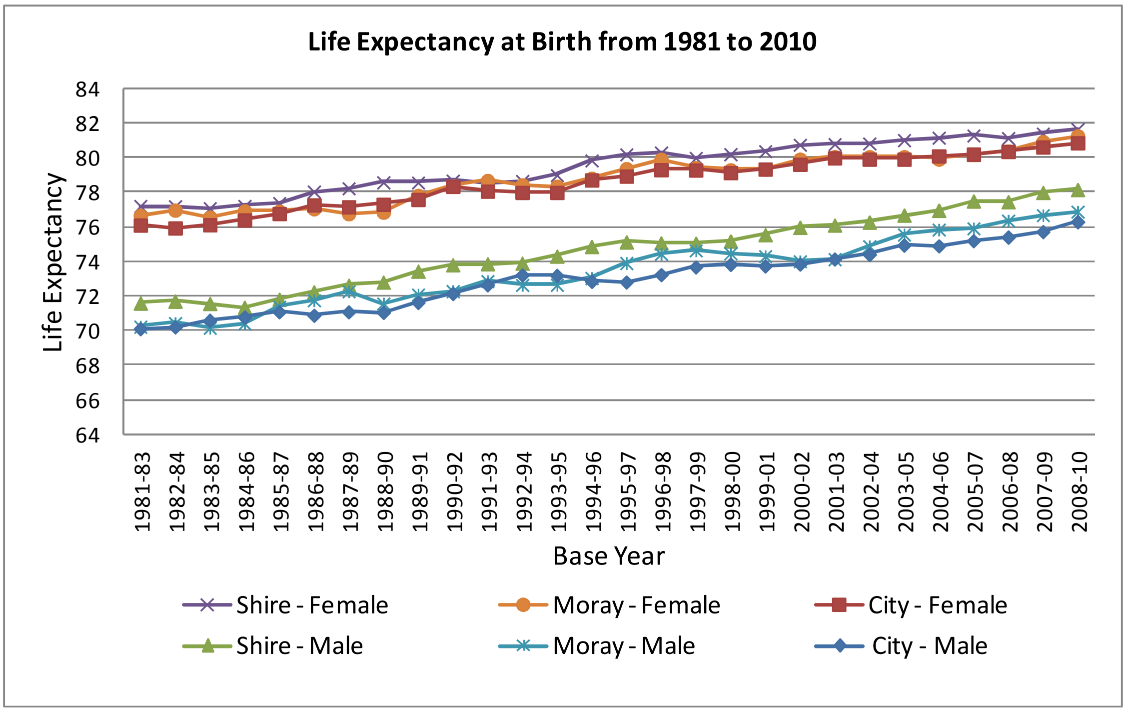


Figure 1: Life expectancy at birth for Aberdeen City, Aberdeenshire and Moray (1981-2010)
Source: National Records of Scotland (2011)

Although life expectancy is improving, there still remains a significant difference depending on the level of deprivation at birth. Life expectancy at birth, for those born in the 10% most affluent areas (2008-2010) in Scotland, is 13.1 years longer for men and 9.0 years longer for women, than those born in the most deprived areas.[5] Within Grampian, the life expectancy at birth of those born in Aberdeen City (2006-2010) was 75.9 years and 80.6 years respectively for men and women. For the most deprived 15% of this population, life expectancy was significantly lower at 70.5 years and 76.2 years respectively.[6]

Children

The most recent data about children in Grampian comes from the mid-2011 population estimates, with 96,716 children aged between 0-15 years of age in Grampian, which is 17.4% of the Grampian population. Of these, 48.3% are in Aberdeenshire, 35.9% in Aberdeen City and 15.8% in Moray.[7]

It is predicted that this population will increase, from levels estimated in 2010, by approximately 18% by the year 2035. This predicted change in population will vary within Grampian. The smallest increase is expected in Moray (10%) and the largest in Aberdeen City (24%), Aberdeenshire (15%).[8]

Children's Health

Whilst the majority of children have good health, a considerable number have long-term health problems of varying severity. 18% of respondents to the Grampian Youth Lifestyle Survey (2007) of secondary school children reported long-term illness or disability, with 10% reporting a diagnosis of asthma.[9]

Hospital Admissions

Children under the age of 15 years are more likely to be admitted as an emergency (unscheduled), than an elective (planned) admission.[10] Of emergency admissions to hospital in children under 15 years in Grampian in 2010, 'respiratory disorders' and 'clinical findings not classified' accounted for 54% of admissions, as shown in Figure 2. 'Injury and poisoning' accounted for 22.4% of emergency admissions.[15]

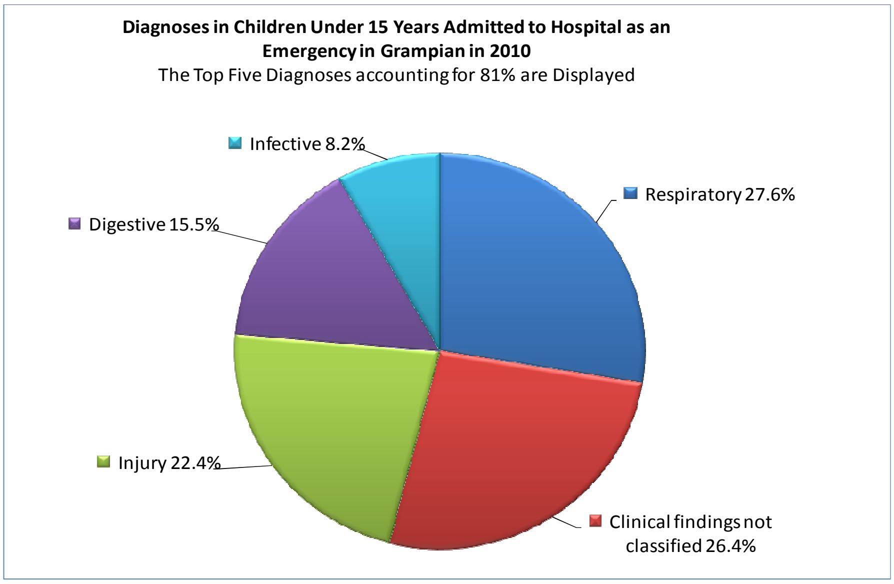


Figure 2: Diagnoses in Children Admitted to Hospital as an Emergency in Grampian in 2010
Source: NHS Grampian, Health Intelligence (2012)

The most common causes of elective admissions in children in 2010 in Grampian were disorders of the gastrointestinal tract (21.3%) as shown in Figure 3. Other common causes of elective admission were congenital (15.2%) and respiratory disorders (14.3%). Cancers accounted for 7.3% of elective admissions.[15]

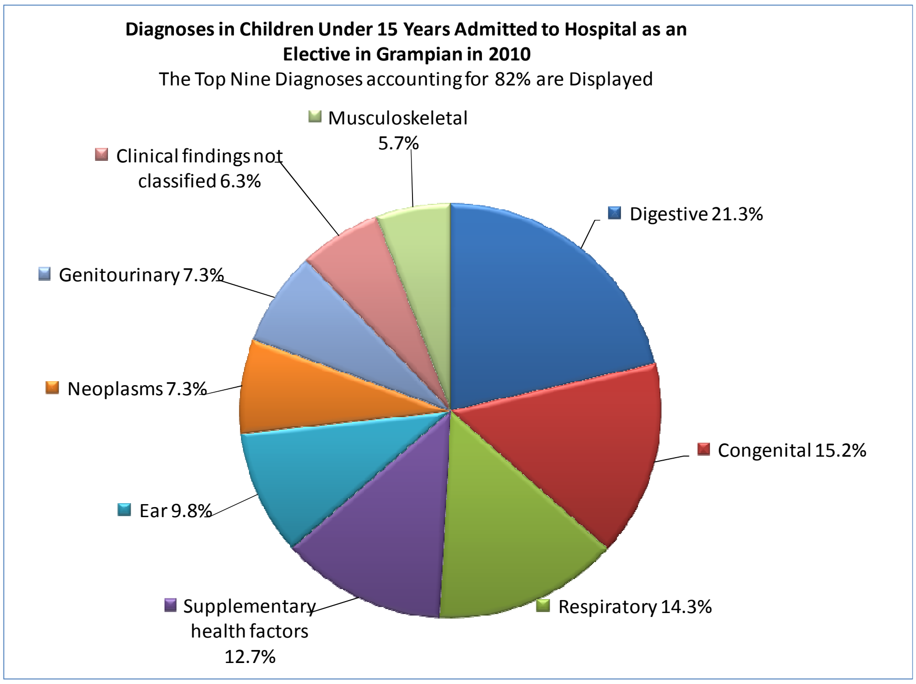


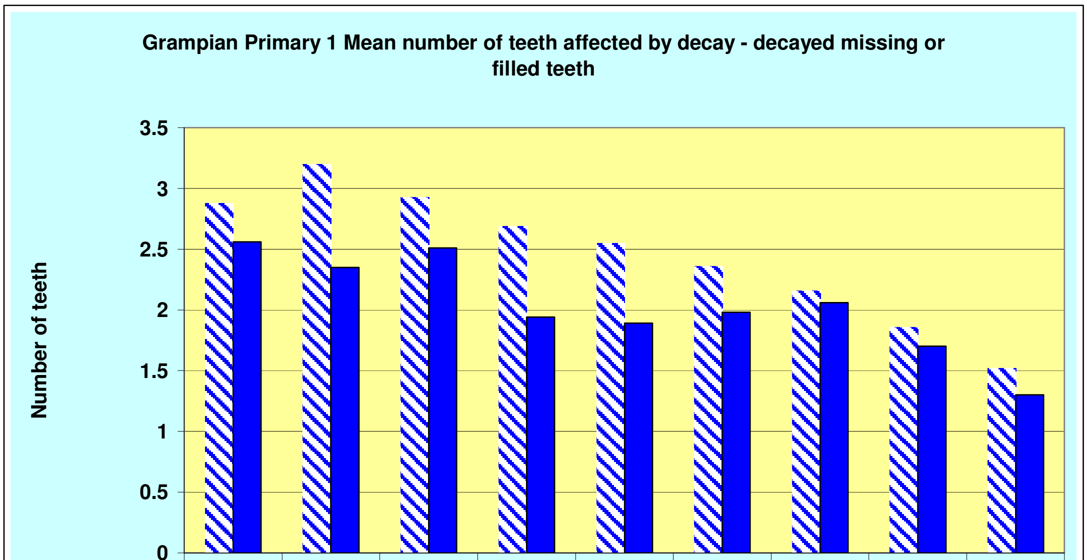
Figure 3: Diagnoses in Children Admitted to Hospital as an Elective in Grampian in 2010
Source: NHS Grampian, Health Intelligence (2012)

Oral Health

Children's oral health is measured annually in Scotland, as part of the school dental inspection system.[11] Each year, a stratified random sample of about 10% of either Primary 1 or Primary 7 children receives a more detailed assessment of their oral health.

In both groups Grampian has exceeded the national target set for 2010 - 60% of children with no obvious disease in Primary 1, 5 year olds (measured on deciduous/baby teeth) and 60% of children with no obvious disease in Primary 7, 11 year olds (measured on permanent /adult teeth).

The average number of teeth affected by decay is also measured and Figure 4 shows that in total there has been a 49% reduction in dental disease since 1991 in Grampian. There is a slow but accelerating trend with a 19% reduction between 1991 and 2006 and a further 30% reduction between 2006 and 2010, with the majority of disease now found in children who live in the most deprived communities.



	1991	1993	1995	1997	1999	2004	2006	2008	2010
Scotland	2.88	3.2	2.93	2.69	2.55	2.36	2.16	1.86	1.52
Grampian	2.56	2.35	2.51	1.94	1.89	1.98	2.06	1.7	1.3

Figure 4: Grampian Primary 1 Mean number of teeth affected by decay – decayed missing or filled teeth
Source: Scottish Dental Epidemiological Co-ordinating Committee (2011)

Working Age Population

The working age population accounts for 67% of the male population and 65% of the female population of Grampian.

Corresponding figures for the working age population are Aberdeen City (71% of male population and 68% of female population), Aberdeenshire (65%

male and 64% female) and Moray (67% male and 65% female).[7]

Based on the 2010 mid-year population estimates, it is projected that the population, aged 15-64, years will increase by 9% in Grampian by 2035. Between 2010 and 2035, Aberdeen City and Moray will see a year on year decrease in the population of those aged 15-64 years, whereas Aberdeenshire will see a slight increase in those of working age, during the same period.[8]

Obesity

While life expectancy has increased, an increasing number of the population are classified as overweight or obese, as shown in Figure 5. Obesity increases the chance of developing a number of long-term conditions, as life expectancy increases.[12] While most adults will not develop type-2 diabetes in their lifetime, overweight adults are five times more likely to develop the disease and obese adults are 12 times more likely to develop the disease.[13] Among those who develop the disease, at least half of these could have been prevented if they had not been obese. Of every 100 men and women with diabetes, 48 men and 75 women who have developed it, are obese. As well as type-2 diabetes, obesity is also associated with cancer and coronary heart disease.[14]

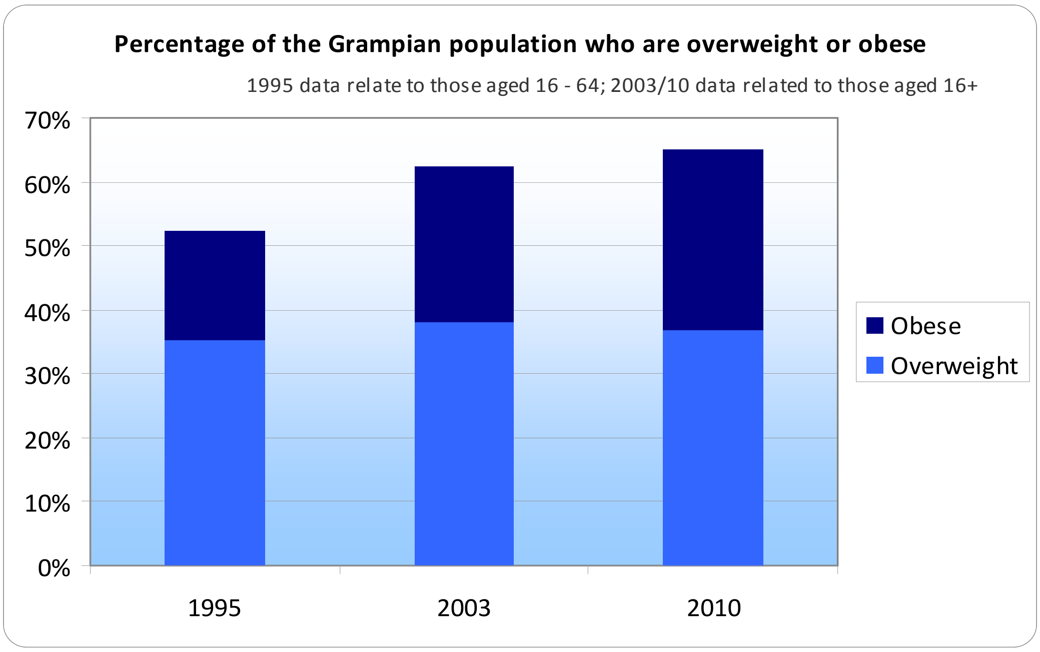


Figure 5: Percentage of the Grampian population who are overweight or obese
Source: The Scottish Government (2011)

Admissions to Hospital

Of emergency admissions to hospital in people aged 15-64 in Grampian, the most common diagnosis was injury (22.8%), followed by 'clinical findings not classified' (20.4%) and digestive disorders (13.2%). Four other diagnoses bring the total admissions to over 80% and were in descending order of frequency: circulatory, respiratory, genitourinary and neoplasms.[15]

Of the elective admissions to hospital in people aged 15-64 in Grampian, the most common diagnosis was neoplasms (18.6%), followed by digestive (18.5%) and musculoskeletal (12.3%). Four other diagnoses that bring the total admissions to over 80% were in descending order: genitourinary, supplementary health factors, circulatory and 'clinical findings not classified'.[15]

Mental Health

Mental ill health, among adults living in private households in the UK, is about 14%.[16] In Scotland, depression and other affective disorders were the fifth most common group of conditions reported in GP consultations in 2009/10.

Suicide is a leading cause of mortality among young people and the European age-standardised rates per 100,000 for suicide are generally higher in Scotland (24.1 for males and 7.7 for females) than elsewhere in the UK, with the exception of male rates in Northern Ireland.[17] There were 772 deaths by suicide in Scotland in 2011,[17] equating to an age-standardised rate of 14.5 per 100,000 population. In 2011, the suicide rate for males was almost three times that for females and those living in the most deprived areas of Scotland have a significantly increased risk of suicide, compared to Scotland as a whole.[17]

The suicide rate for males in 2007-2011 was significantly lower in Aberdeen City, than in Scotland as a whole, while Aberdeenshire and Moray did not differ significantly. For females, the suicide rate was significantly higher in Moray and significantly lower in Aberdeenshire, than in Scotland as a whole. The suicide rates by local authority area are shown in Figure 6.[17]

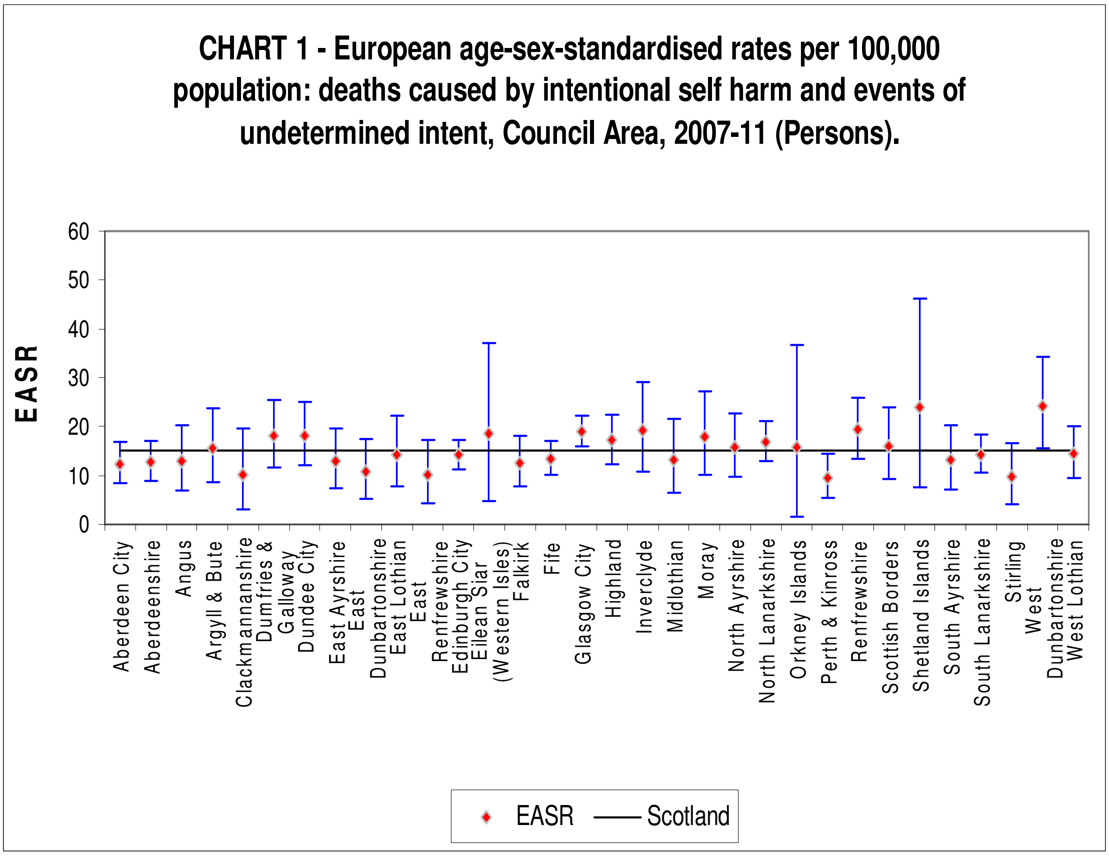


Figure 6: European age-sex-standardised rates per 100,000 population
Source: Scottish Public Health Observatory (2012)

Oral Health

A key measure of oral health is to record the number of adults with no natural teeth remaining, having lost all their natural teeth. Grampian exceeded the national target for 2010 of less than 10% of adults (over 16 years) with no natural teeth, with only 9.1% of adults with no natural teeth in 2009.

Oral health improvement has been dramatic within Scotland and Grampian between 1972 and 2010,[18] with the greatest improvements in the working age group and the elderly population.

Premature Mortality

While life expectancy has increased in Grampian, lifestyle factors, such as alcohol and drug misuse, contribute significantly to the main causes of death in the working age population. Deaths under 65 years of age are classified as premature mortality.

In Grampian, in 2011, there were 957 premature deaths.[19] Of these:

- 335 deaths (35%) were due to cancer;
- 151 deaths (16%) were due to external causes;

- 114 deaths (12%) were due to coronary heart disease;
- 66 deaths (7%) were due to diseases of the digestive system;
- 62 deaths (6%) were due to diseases of the respiratory system;
- 29 deaths (3%) were due to cerebrovascular disease.

The number of deaths due to the various causes is similar to the causes of deaths in the elderly population, except for the second highest cause of death, which is due to external causes, such as road traffic accidents, drowning and other causes.

Elderly Population

The population aged 65 years and over in Grampian has been increasing steadily over the last 27 years. The over 85 years age group has more than doubled from 5,408 in 1984 to 11,346 in 2011.[20] The 2011 mid-year population estimate shows that there are currently 90,309 individuals aged 65 years and over in Grampian. This accounts for about 16.3% of the population of Grampian.

Life Expectancy

Life expectancy in Scotland, in those reaching the age of 65, has increased by up to 16.0 years in men and 19.2 years in women (2008-2010).[2] Similar to the trends seen for life expectancy at birth, Grampian residents, particularly Aberdeenshire and Moray residents, have a higher life expectancy at age 65, than the Scottish population generally.[21]

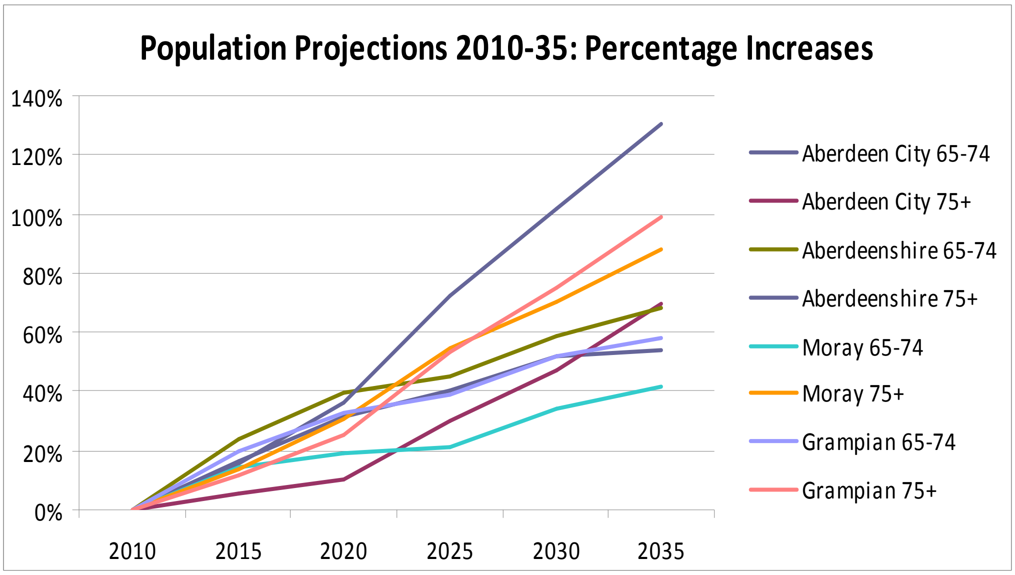


Figure 7: Population Projections 2010-35: Percentage Increases
Source: National Records of Scotland (2012)

The mid 2010-based population projection for Grampian gives a projected increase in the population, aged 65 years and over, of 77% by 2035, making up 24% of the total Grampian population. Within Grampian, the projected population of those aged 65 and over in 2035 is greatest in Moray (28.0%), compared to Aberdeenshire (26.2%) and Aberdeen City (19.1%).[8]

This predicted increase in the population of older people has considerable implications for the provision of health care within Grampian, because older people are high users of health services and, once admitted, patients in this age group typically have a longer length of stay in hospital, compared to younger age groups. As with much of the UK, the dependency ratio (i.e. the number of people aged 16-64 per person aged over 65) across Grampian is likely to fall. This will result in less people of working age being available to care for and support older people.

Admissions to Hospital

Of emergency admissions to hospital in people aged 65 and over in Grampian, the most common diagnosis was 'clinical findings not classified' (19.4%), followed by circulatory (17.5%) and respiratory disorders (13.3%). The other five diagnoses, that bring the total admissions to over 80%, were in descending order: injury, digestive, neoplasms, genitourinary, and musculoskeletal.[15]

Of the elective admissions to hospital in people aged 65 and over in Grampian, the most common diagnosis was neoplasms (22.9%), followed by digestive (15.6%) and supplementary health factors (12.4%). The other three diagnoses, that bring the total admissions to over 80%, were in descending order: eye, musculoskeletal, and circulatory.[15]

Long-Term Conditions in the Elderly

Long-term conditions contribute significantly to ill health within the population. Although long-term conditions can affect any age group, they are more common in the elderly population. The prevalence of long-term conditions is increasing, because of the increasingly elderly population and medical advances, that have allowed people to live longer with these conditions. These long-term conditions can have significant impact on the individual patient and their family and many require ongoing medical care. The Scottish Household Survey (2009/10) reported 52% of 'older smaller' households and 53% of 'single pensioner' households with someone having a long-standing limiting illness, health problem or disability.[22] Very similar results were found for Grampian households (52% and 54% respectively), based on a small sample (i.e. 440 'older smaller' households questioned and 386 'single pensioner' households questioned).[23-25]

Neuropsychiatric conditions, disorders of vision, hearing loss and alcohol use disorders are dominant, as non-fatal but disabling conditions. It is estimated that neuropsychiatric disorders, including depression, alcohol use disorders, dementia and drug use disorders cause around one third of the 'years of life disabled' in high income countries such as the UK.[26] Other leading causes of disability are osteoarthritis, chronic obstructive pulmonary disease, diabetes mellitus and asthma.

Oral Health

The population over 65 years of age with no natural teeth sets new challenges for dental services. In the 1970s, almost no adults over 65 years had any natural teeth remaining. In 2010, almost 70% of the over 65 year old adults have some natural dentition.[18] The challenge is how to maintain oral health and function for life, as elderly patients require increasing levels of support to maintain oral health.

The main indicator for oral health, 'no natural teeth remaining', is no longer a sensitive indicator for oral health. A more sensitive indicator for future years will be 'the percentage of adults with more than 20 teeth', reflecting maintenance of a functional dentition, with minimum artificial replacement.

Causes of Death

The main causes of death in the Scottish population are coronary heart disease and cancer and this is mirrored in the Grampian population. In 2011, there were 5,147 deaths (all age groups) in Grampian[27] and of these:

- 1475 deaths (29%) were due to cancer: with 7% of all deaths due to cancer of the trachea, bronchus and lung; 4% due to colorectal cancer; 3% due to cancer of the lip, oral cavity, pharynx, oesophagus and stomach; 2% due to cancer of the breast; 2% due to cancer of the lymphoid, haematopoietic and related tissue; 2% due to cancer of the kidney or bladder; and 2% due to prostate cancer. Other cancer groupings account for 1% of all deaths or less.
- 785 deaths (15%) were due to coronary heart disease;
- 594 deaths (12%) were due to diseases of the respiratory system;
- 455 deaths (9%) were due to cerebrovascular disease;
- 288 deaths (6%) were due to mental and behavioural disorders;
- 246 deaths (5%) were due to diseases of the digestive system, with 1% of all deaths due to chronic liver disease;
- 257 deaths (5%) were due to external causes including accidents (4% of all deaths), falls, poisoning, intentional self harm and assault.

1b) HEALTH INEQUALITIES

Health inequalities are defined as 'differences in health status or in the distribution of health determinants between different population groups'.[1] Health inequalities exist in all societies and Grampian is no exception.

Generally, health inequalities are often described in terms of socio-economic determinants and the Scottish Index of Multiple Deprivation (SIMD) is a tool used to identify small areas of multiple deprivation throughout Scotland. Geographical areas (on average 750 people) are ranked by their multiple deprivation score, based on 38 indicators from seven core domains (Income; Employment; Health; Education, Skills and Training; Housing; Geographic Access to Service; Crime). Datazones can be grouped into national or local deprivation quintiles.

The causes of health inequalities are complex and interlinked. Some health inequalities are attributable to biological variation, genetic factors and intergenerational causes such as a mother's behaviour during pregnancy and circumstances and behaviour as they raise their children. On the other hand, health inequalities can be attributable to free choice, e.g. an individual's lifestyle and behaviour, which is significantly influenced by the environment, social and cultural conditions in which s/he lives, works and learns.

Health behaviours and disease rates vary between different social groups. Commonly there are differences in health between males and females, between people from different ethnic backgrounds, from different geographical locations and from different socio-economic groups.

Some specific aspects of inequalities in health are attributed to differential access to and standards of health care. Uneven access to health care results in health inequalities, but also leads to inequality in health.

Measuring health inequality is complex and an inexact science. Data on socio-economic status and health are available from a number of sources, including the decennial census, household surveys, and birth and death records. Figures on inequalities by disability and ethnicity are not readily available.

Tackling and monitoring health inequalities is a key priority for the Scottish Government. The Scottish Government's annual report `Long-Term Monitoring of Health Inequalities'[2] sets out key indicators, including healthy life expectancy and premature mortality from cancer and coronary heart disease, as important markers of health inequalities in Scotland.

In the last couple of years, Grampian has achieved a reduction in the inequalities gap in smoking during pregnancy and in premature death from coronary heart disease.

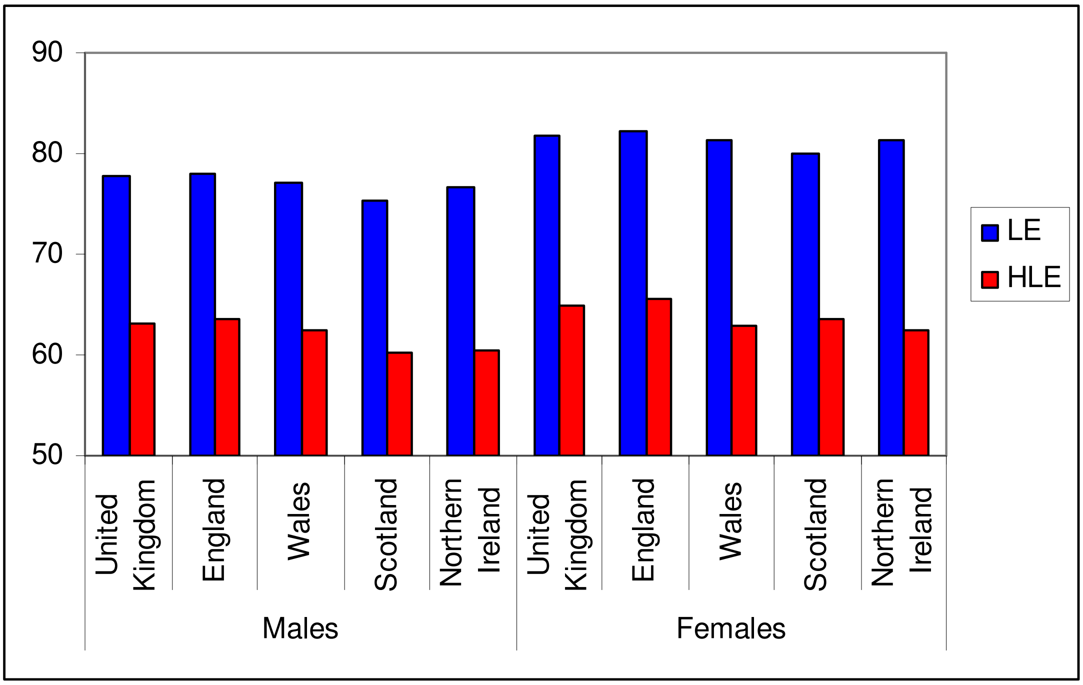


Figure 1: Life expectancy (LE) and Healthy Life Expectancy (HLE) at birth: by country and sex, 2007-2009
Source: Office for National Statistics (2010)[3]

Life Expectancy and Healthy Life Expectancy

Scotland is often referred to as the 'Sick Man of Europe'. In particular this refers to Scotland's health, in comparison to 16 other western European countries, with the average life expectancy at birth in Scotland comparing less favourably with other western European countries, except for Croatia, Lithuania and Latvia.[4] When compared to the rest of the UK, Scotland's health is also generally less favourable.

Healthy life expectancy (the number of years a person is expected to live healthily) relative to life expectancy for males in Scotland is shorter than the average for the UK, but longer than in Northern Ireland. Female healthy life expectancy, although below the UK average, is higher than that for females in Wales and Northern Ireland.

In Grampian, the average rates of health behaviours and disease generally compare favourably with the Scottish average and Grampian is often seen as facing fewer health challenges than other areas in Scotland.

Males in Grampian have the second highest life expectancy (77.3 years) and females the fifth highest life expectancy (81.3 years), when compared with other NHS Board areas as shown in Table 1.

NHS Board areas	Males	Females
Scotland	75.8	80.4
Borders	77.5	81.2
Grampian	77.3	81.3
Orkney	77.3	81.4
Shetland	77.2	80.7
Lothian	77.0	81.4
Tayside	76.8	80.7
Dumfries & Galloway	76.7	81.5
Forth Valley	76.6	80.8
Highland	76.6	81.3
Fife	76.3	80.7
Ayrshire & Arran	75.6	80.0
Lanarkshire	75.0	79.4
Western Isles	74.0	82.0
Greater Glasgow & Clyde	73.6	79.2

Table 1: Life expectancy by sex and NHS Board, 2008-2010
Source: National Records of Scotland (2011).[5]

Furthermore, males and females in Grampian have the fourth longest healthy life expectancy, compared with other NHS Boards, while standardised mortality rates for coronary heart disease in the under 75s are amongst the lowest of the mainland health boards. This pattern holds for many indicators.

One probable and highly influential factor behind this is Grampian's relative prosperity, compared to other areas in Scotland. The percentage of people, who are income deprived in Grampian, is amongst the lowest in Scotland.

It is well recognised that the health of those from more socio-economically advantaged areas generally fares better than those from more disadvantaged areas. Grampian's relative prosperity improves the Grampian average for some key health indicators, while masking the range of health and illness within the population.

Smoking during Pregnancy

The benefits of not smoking in pregnancy include reduction in the number of stillbirths, premature births and underweight babies, (which is an indicator of health inequalities). The prevalence of smoking during pregnancy at booking in Grampian, by SIMD quintiles between 2006 and 2010, is shown in Figure 2.[6] It is evident that smoking in pregnancy is more common in the most deprived areas in Grampian, than in the least deprived areas (42% and 9% respectively).

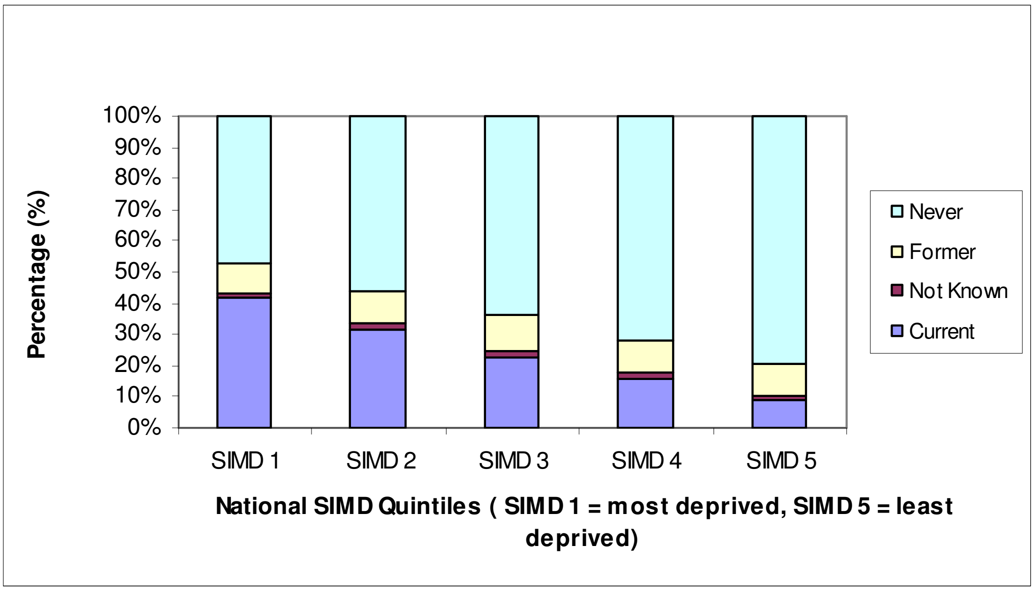


Figure 2: Smoking status in Pregnancy at booking in Grampian by national SIMD quintiles, 2006-2010
Source: ISD Scotland (2011)

There is also a stepwise social gradient. Those in the second most deprived quintile have a greater proportion of pregnant smokers, than those in the third most deprived quintile and so on. This pattern is seen for many health and disease indicators.

When the data from 2006-2010 is compared to 2001-2005[7], there is a reduction in the percentage of women, who reported being 'current' smokers at booking in Grampian in all SIMD quintiles between the two periods.

The greatest improvements were in those who smoke during pregnancy in the most deprived quintiles, suggesting there has been a reduction in inequalities in this group. The decrease in smoking rates (smokers versus non smokers - never smoked and former smokers) between the two periods was statistically significant ($p < 0.001$) for women in SIMD 1, 2 and 5.

Breastfeeding

The benefits of breastfeeding for a baby are well documented and include reduced risk of type 1 diabetes, atopic illnesses such as asthma and eczema, sudden infant death syndrome and gastrointestinal and respiratory infections. Mothers who breastfeed, have a lower risk of breast cancer, ovarian cancer and osteoporosis. Exclusively breastfeeding for at least the first six months offers the greatest benefits. Despite this, breastfeeding rates in Scotland and Grampian remain low.

In Scotland in 2010/11, 26.5% of babies were exclusively breastfed at 6-8 weeks. In Grampian, 32.5% of babies were exclusively breastfed at 6-8 weeks. In Aberdeen City, Aberdeenshire and Moray the figures were 32.9%, 32.5% and 31.1% respectively. Grampian has the fourth highest breastfeeding rates at 6-8 weeks in Scotland but, while above the Scottish average, failed to meet the Grampian HEAT target of 41.2% of mothers exclusively breastfeeding at 6-8 weeks by 2010/11.

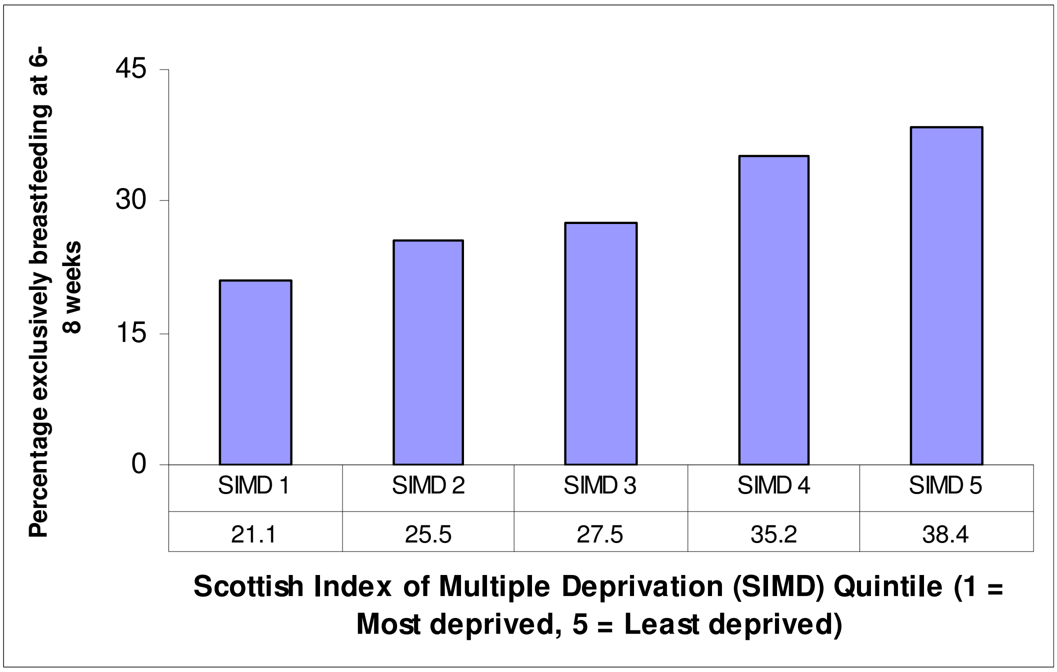


Figure 3: Percentage of women exclusively breastfeeding at 6-8 weeks in Grampian by local SIMD quintile, June 2010 – August 2011
Source: ISD Scotland

The relationship between breastfeeding and deprivation in Grampian is shown in Figure 3. Between 2010 and 2011, 38.4% of babies in the least deprived quintile were exclusively breastfed at 6-8 weeks, while 21.1% in the most deprived were exclusively breastfed.[8]

The Scottish Government's 'Improving Maternal and Infant Nutrition: A Framework for Action'[9] provides an integrated approach to improving the nutrition of pregnant women, babies and young children and recognises the importance of breastfeeding in achieving this goal.

NHS Grampian's local action plan is in line with the Scottish Government's framework and includes initiatives specifically designed to improve breastfeeding in the most deprived areas, while others aim to increase breastfeeding throughout Grampian.

Alcohol Related Diagnoses in Grampian

Overconsumption of alcohol remains a complex problem in Grampian and

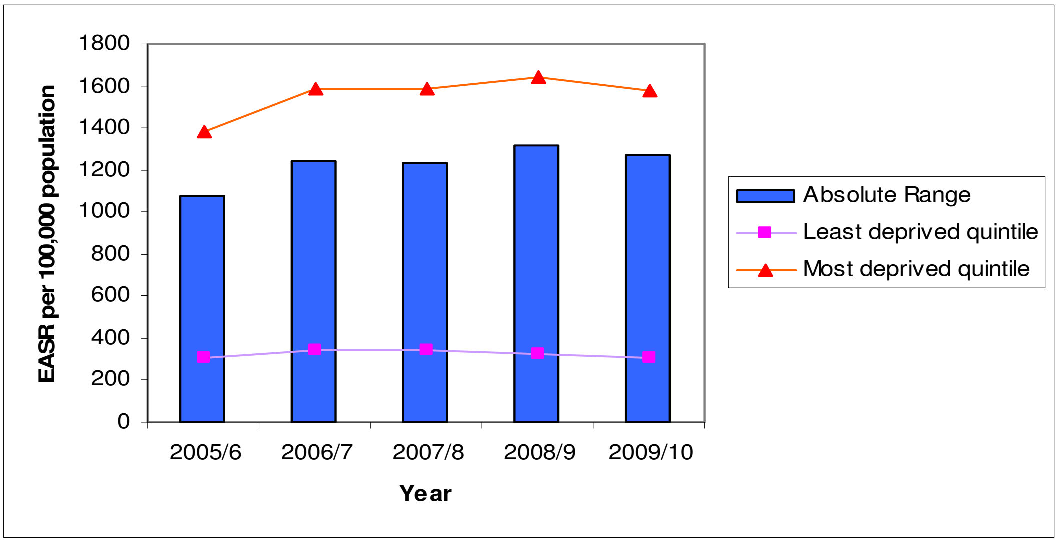


Figure 4: Alcohol related diagnoses on discharge from general acute and day admissions, 2005/6-2009/10
Source: ISD Scotland

throughout Scotland with both short and long-term effects on health. Although overconsumption of alcohol is a significant problem in both deprived and more socio-economically advantaged communities, alcohol related diagnoses of patients admitted to hospital in Grampian are disproportionately more common in people from SIMD 1, than from the other quintiles. This may reflect drinking patterns of 10-20 years ago. The rate of alcohol related diagnoses is five times as great in the most deprived quintile, when compared with the least deprived. There is also a considerable gap between SIMD 1 and 2, with an alcohol related diagnosis on discharge being over 2.5 times more likely in individuals from SIMD 1 than SIMD 2.

The gap over time between the most and least deprived populations in Grampian, with an alcohol related diagnosis on discharge from hospital, is shown in Figure 4, with a widening in the gap between 2005/6 and 2006/7, since when the gap has remained fairly static.[10]

Premature Death from Coronary Heart Disease

Coronary heart disease (CHD) is one of the leading causes of death in Scotland and Grampian. The risk factors for CHD and cardiovascular disease are well documented and these risk factors tend to cluster more in people from deprived areas – see section 4b) for more detail.

The crude CHD mortality rates,[11] in under 75s by SIMD quintiles, are shown in Figure 5, with large reductions in the rates for all quintiles and in particular for the three most deprived quintiles, suggesting a reduction in inequalities in CHD mortality.

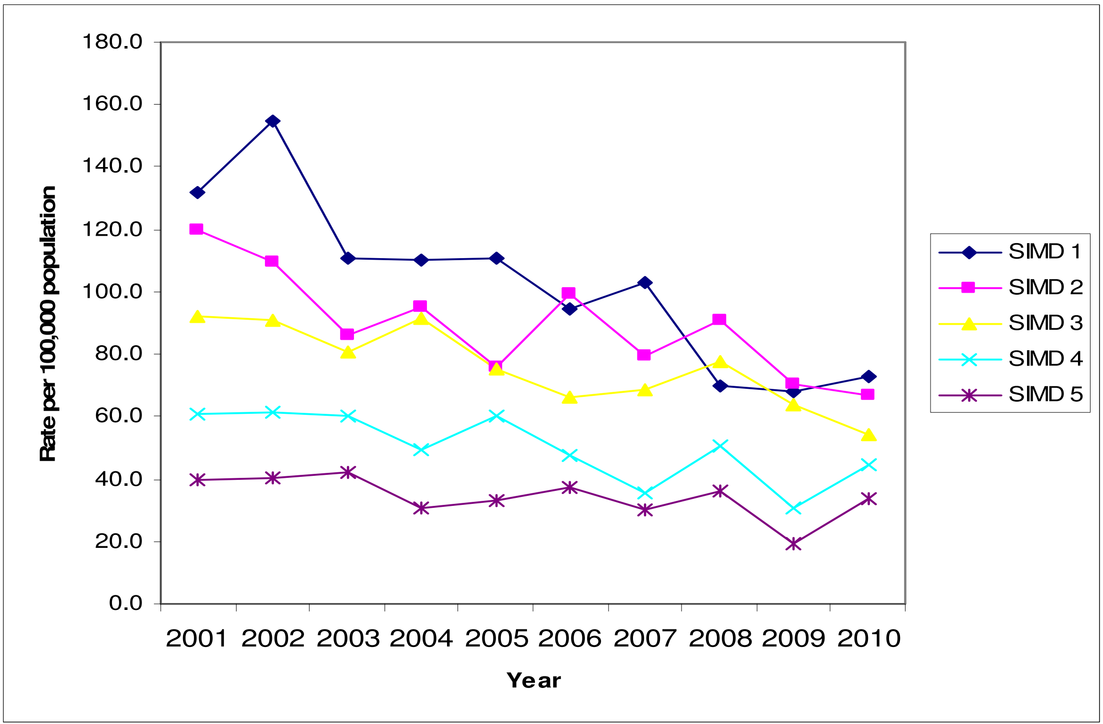


Figure 5: Crude IHD mortality rates in Under 75s in Grampian by National SIMD Quintiles, 2001-2010
Source: National Records of Scotland

Crude rates, however, can be influenced by factors such as the age structure of the population and a more accurate picture can be obtained by standardising the rates for age. Figures 6 and 7 present standardised mortality ratio (SMR) data for five year periods (2001-2005[12] and 2006-2010[13]). The stepwise gradient in inequalities still persists in both periods, although the range indicates that inequalities have narrowed in absolute terms (from 104.8 to 99.7). The gradient of the slope has remained much the same.

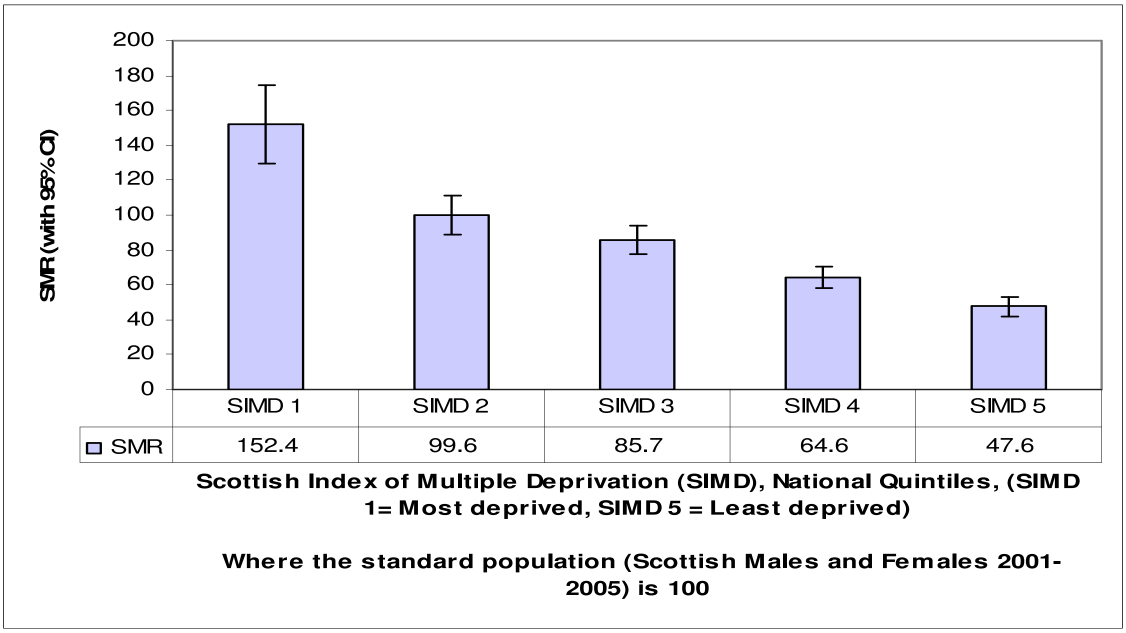


Figure 6: Standardised mortality ratio (SMR) for IHD in under 75s for males and females in Grampian by National SIMD quintiles, 2001-2005
Source: National Records of Scotland

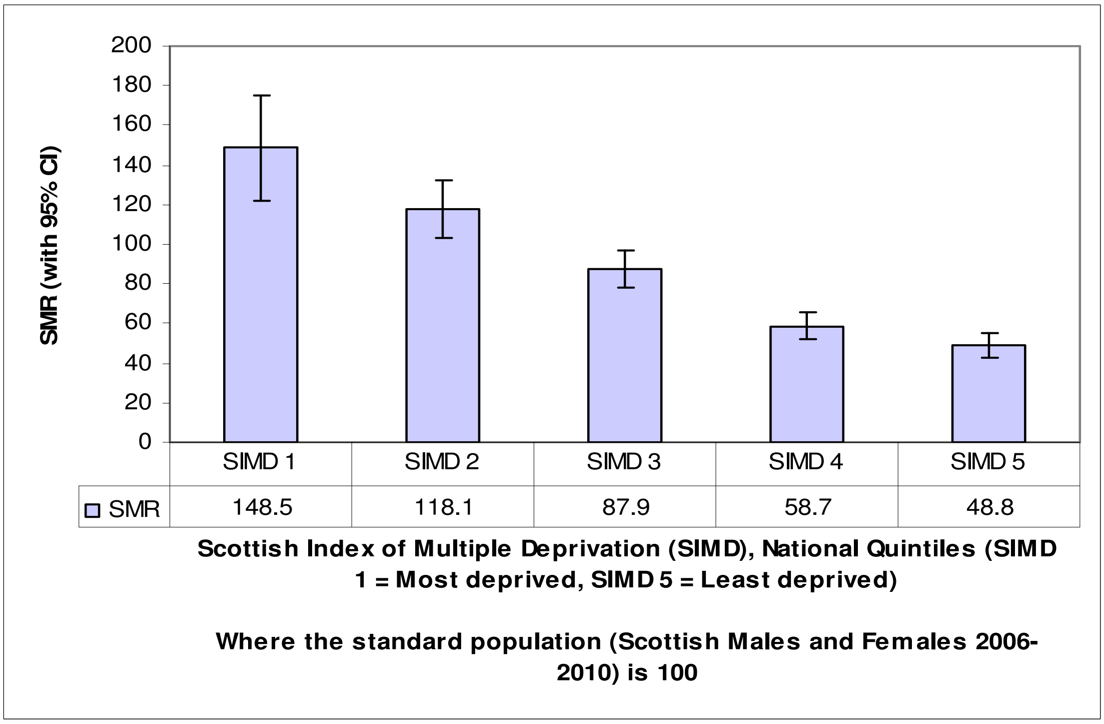


Figure 7: Standardised mortality ratio (SMR) for IHD in under 75s for males and females in Grampian by National SIMD quintiles, 2006-2010
Source: National Records of Scotland

Section 2 HEALTH IMPROVEMENT

2a) HEALTH IMPROVEMENT POLICY

Life Expectancy in Affluent and Deprived Areas

Life expectancy at birth for men and women in Grampian has continued to increase and is significantly above that for Scotland, as described in section 1a). The average masks the range and variation. Using Aberdeen City as an example, in Figure 1, men who live in the more affluent areas have greater life expectancy than those who live in the more deprived areas. In Scotland, those from more deprived areas have a lower healthy life expectancy than those from more affluent areas. While Grampian compares favourably to the Scottish average for healthy life expectancy, there are variations across Grampian.

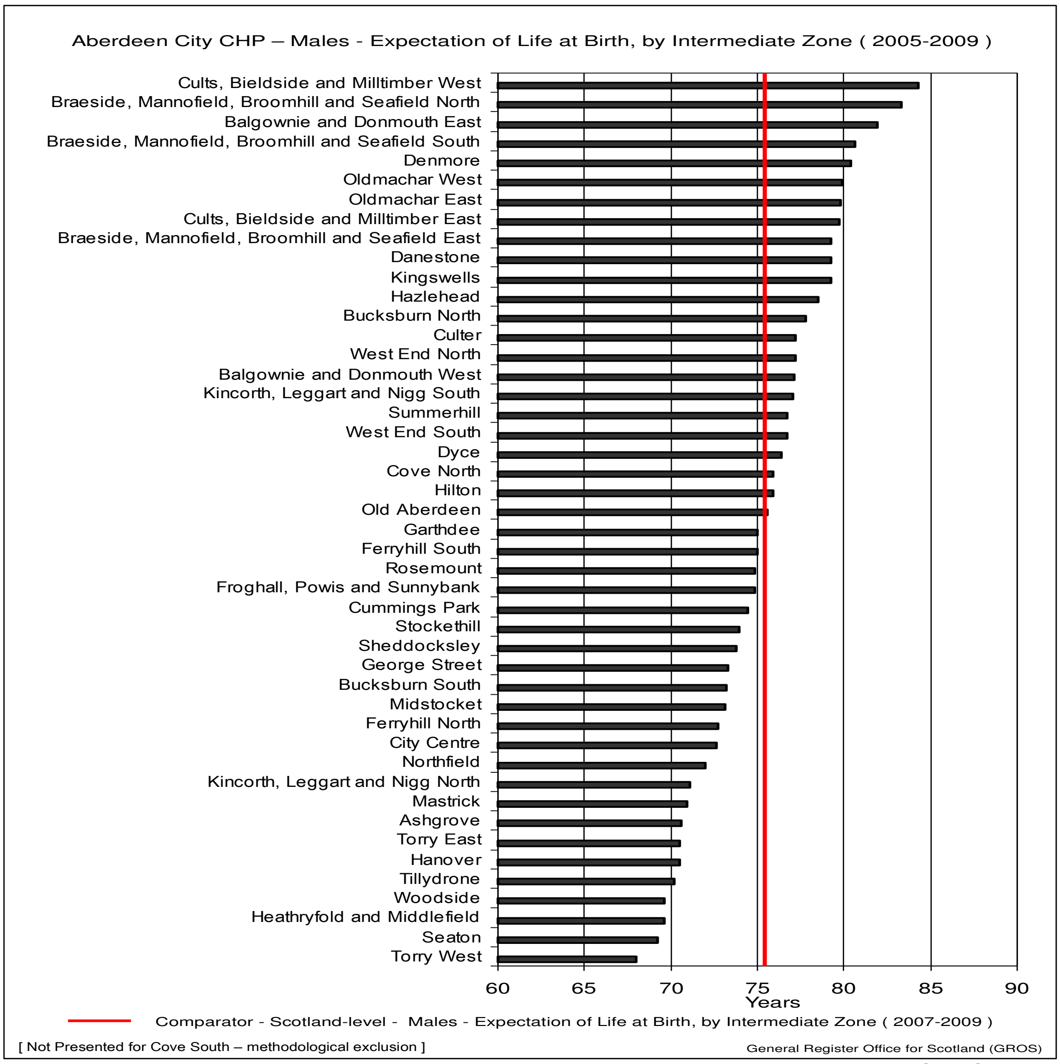


Figure 1: Expectation of Life at Birth by Intermediate Zone (2005-09) Aberdeen City CHP Males
Source: National Records of Scotland

Many premature deaths are preventable and it has been estimated that as much as 40% of the public service budget is spent on responding to the demand generated by preventable ill health in individuals and communities.[1]

Expenditure on NHS Care

The North of Scotland (NoS) Planning Group has examined the impact of lifestyles and health interventions on demand for and cost of NHS services in the North of Scotland.[2,3] Estimates suggest:

- Obesity related illness costs the NHS in the NoS £48.7m (07/08) and is predicted to double by 2030;
- Smoking related disease costs were estimated at over £85.7million (07/08) - 82% of lung cancer and 86% of COPD is smoking related;
- Alcohol related disease costs at least £68.9 million per annum (07/08).

Expenditure on acute health care has increased for all groups in Grampian since 1997, but it has increased disproportionately in the more deprived quintiles (Figure 2).

Research also suggests[1] that communities experiencing poor health make more reactive and recurrent use of public services, using the services for treatment rather than as a service to help them keep well.

Health improvement work is, therefore, viewed as an essential component of Government and NHS Grampian policy, in order to improve health, reduce avoidable ill health, tackle health inequalities and contain rising demands and costs.

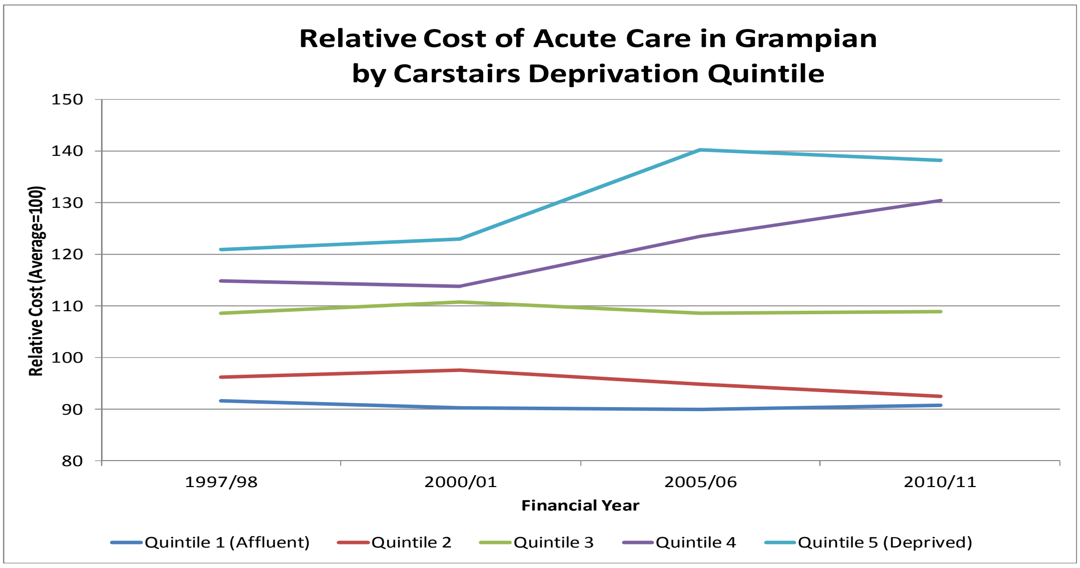


Figure 2: Relative costs of acute care in Grampian by Carstairs deprivation quintile
Source: NHS Grampian, Health Intelligence 2012

Prevention and/or early intervention to prevent or reduce the impact of preventable ill health on people's lives is clearly an important part of NHS Grampian's Healthfit 2020 vision.[4] Working with partners, NHS Grampian aims to improve the health of the Grampian population, focusing on those who are more vulnerable or who have a higher risk of serious preventable ill health.

Approaches to Health Improvement

Although many public health programmes have achieved considerable success in reducing ill health and premature death, it is increasingly recognised that other approaches are required if inequalities in health and wellbeing are to be prevented from widening further.

Marmot, in his 'Fair Society Healthy Lives' Final Report in 2010,[5] stated that: *'Individuals who are socially isolated are between two and five times more likely than those who have strong social ties to die prematurely. Social networks have a larger impact on the risk of mortality than on risk of developing disease, that is, it is not so much that social networks stop you from getting ill, but that they help you to recover when you do get ill.'*

In his 2010 report,[6] the Chief Medical Officer for Scotland highlighted the concept of the assets approach to improving health and wellbeing as offering a coherent set of ideas and concepts for identifying and enhancing those protective factors, which help individuals and communities maintain and enhance their health.

The 'Assets Approach'

A health asset has been described as 'any factor or resource which enhances the ability of individuals, communities and populations to maintain and sustain health and wellbeing and to help to reduce health inequalities. These assets can operate at the level of the individual, community or organisation, as protective and promoting factors to buffer against life's stresses.'[7]

Assets include:

- Individual level: resilience, self esteem, sense of purpose and commitment to learning;
- Community level: family and friendship or supportive networks, intergenerational solidarity, community cohesion, religious tolerance and harmony;
- Organisational level: environmental resources necessary for promoting physical, mental and social health, employment security and opportunity for voluntary service, religious tolerance, safe and pleasant housing, political democracy and social justice.[8]

Many factors affect health and wellbeing – lifestyles, friends and community involvement, living and working conditions, employment and financial hardship. Recent analysis showed that 20% of areas, with the highest rate of emergency admissions for adults, are also the areas with high income deprivation, higher levels of unemployment, low levels of educational attainment and high crime rates.[1] No single agency can address these issues on its own and NHS Grampian is working with its partners, communities, local authorities and third sector organisations to help reduce avoidable differences in health.

The recently published report by the Commission on the future Delivery of Public Services has also highlighted the need to tackle deep-rooted social problems that persist in communities. Change is required to ensure 'public services are built around people and communities, their needs, aspirations, capacities and skills, and work to build up their autonomy and resilience'. [9]

As part of Healthfit 2020,[4] NHS Grampian has been working with senior clinical staff and partners to look at the most effective way of grouping primary care resources and services (GP practices, pharmacies, optometrists and dentists) in natural communities and populations. These groupings bring knowledge of the local area and engagement with local people and are ideally placed to work with Community Planning Partnerships to tackle inequalities in health. They also allow for services to be developed and shared between professionals and practices, enabling the NHS to deliver more services closer to home.

Implications for Current Health Improvement Policy

In 1986, the World Health Organisation (WHO) set out health improvement aims, principles and five action areas, where efforts should be focused.[10] It has been argued that these are as relevant today as they were in 1986[11] and are where effort should be focused:

- Build Healthy Public Policy
- Create Supportive Environments
- Strengthen Community Actions
- Develop Personal Skills
- Reorient Health Services

Many staff are involved in these areas and, while many will not be using the term asset, other terms, such as community engagement, community development, self-management and community capacity building, are used daily. These terms share the key features of asset based approaches that value the positive capacity, skills, knowledge and connections in a community.

The approach is not new or radical and the examples in section 2b) illustrate that asset based work is taking place across many areas of current health improvement policy.

2b) HEALTH IMPROVEMENT PROGRAMMES

Build Healthy Public Policy

Health improvement effort goes beyond the NHS and aims to put health on the agenda of all policy makers in all sectors. NHS Grampian works with a range of partners to support policy production and subsequent implementation.

Supportive Policies in Early Years Settings

To promote the health and wellbeing of children, parents, staff and the wider community, Aberdeen City Council and the Community Health Partnership have developed an Early Years Health and Wellbeing Award. The Award enables nurseries, playgroups and crèches across the City to see how promoting health can be embedded within their daily activities. It builds on the Health Promoting School and pulls together the range of policies:

'Curriculum for Excellence'[1], 'Early Years Framework' (2008)[2], 'Getting it Right for Every Child'[3] and 'Nutritional Guidance for early years: food choices for children aged 1-5 years in early education and childcare settings' (2006),[4] that guide activity within this setting. Early year service providers work through a self-evaluation framework and support is available from development officers.

Once complete, the provider can seek assessment and, if successful, will be presented with an Early Years Health and Wellbeing Award. Launched in 2011, one playgroup has received an award, with many others working through the self-evaluation.

Supportive Policies in the NHS

NHS Grampian has been working with third sector partners and social enterprise colleagues to consider how procurement and recruitment policies could take more of an asset based approach. They considered Community Benefit Clauses and how these could be adopted within the NHS in Grampian. Community Benefit Clauses are contractual requirements, which seek to deliver wider social benefits within a procurement contract, that form part of the criteria on which contracts are assessed and evaluated.

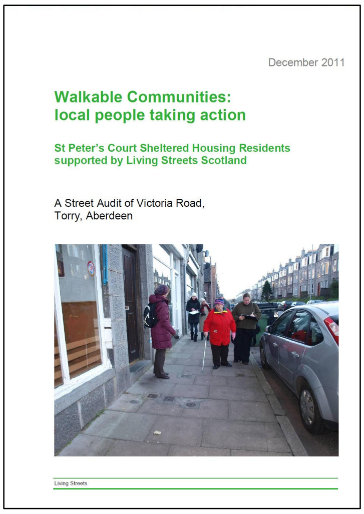
Informed Policy Development

One of the challenges for asset based working is to identify and collate data that measures positive health and wellbeing, to counterbalance the more easily accessible statistics on mortality and morbidity, that describe individuals and communities in deficit terms. A Public Health Intelligence Group is working with partners and academic colleagues on how to measure assets and indicators, which can be used to inform strategic planning and performance management. A key element will be data sharing with Community Planning Partnerships.

Create Supportive Environments

In the Community

Community based working aims to encourage citizen participation and citizen power. Active communities can have a positive impact on health outcomes by improving services and influencing service provision. Groups of elderly citizens have undertaken street audits with the support of Living Streets.[5] These provide a structured and systematic method of evaluating the quality of streets and spaces for walking, from the point of view of those who use them. In Torry, a group of residents from a sheltered housing scheme identified a route around local amenities, including the library, pharmacy, golf course, green space, and leisure centre. The group walked the route, identifying, discussing and recording issues that encouraged and discouraged everyday walking. The residents agreed short-term issues that could be resolved within 3-6 months at moderate cost, and long-term actions that will cost more and may take longer to deliver. Issues identified included:


December 2011

Walkable Communities:
local people taking action

St Peter's Court Sheltered Housing Residents
supported by Living Streets Scotland

A Street Audit of Victoria Road,
Torry, Aberdeen

Living Streets

- Traffic management (the one signalised crossing did not give sufficient time for older residents to cross and had no audible sound);
- Dog fouling was evident along the route and could not always be seen in time, or residents were not mobile enough to avoid stepping in it;
- Lack of seating for those who need to rest;
- Overgrown bushes, which made access difficult for wheelchairs or for those who need to be accompanied.

Recommendations were made to the City Community Planning partners and maintenance has been undertaken. Residents feel improvements to their physical environment have been made as a result of their efforts.

In the Workplace

Healthy Working Lives

The concept of a nurturing environment within the workplace has been identified as a means of improving employee engagement. Engaged staff are less likely to be stressed and more likely to be efficient, thereby improving productivity. In Grampian, supporting health and wellbeing at work includes 194 organisations registered for the Healthy Working Lives National Award. One of the gold award holders in Grampian is piloting an innovative approach, with NHS Grampian support, to encourage small to medium sized enterprises (<250 employees) within their supply chain to become involved in health in the workplace.

The approach is about businesses helping businesses to illustrate how a healthy workforce contributes to healthy business and productivity.

In Hospital

Time spent in natural environments can provide a range of health benefits, including reduced stress and lowered blood pressure. Most gardens offer visual appeal, but a sensory garden is designed to stimulate all five senses, with emotional and physical benefits. The Healthy Working Lives Group at Dr Gray's Hospital decided to rejuvenate the rose garden and create a sensory garden in the grounds for the benefit of patients, visitors and staff. The garden was created using the assets available within the hospital and wider community:

- Staff did the physical work;
- Family, friends and third sector organisations raised funds;
- Businesses provided resources through design, project management and supplies;
- A group of adults with learning disabilities maintained the flower beds.

The sensory garden has been well used, providing a break from treatment, the stress of the hospital environment along with fresh air and sunlight.

Strengthen Community Action for Health

Social Prescribing

Social prescribing links patients in primary care with non-medical sources of support within the community. These are usually local voluntary groups or community organisations that have signed up to the scheme. Many of these schemes use asset mapping tools, in order to identify the potential sources of support, to which GP practices and others can refer their patients. It connects people to assets in their locality.[6]

For Young

Co-production fully involves users and communities in the planning, design and delivery of services. Community Kitchens are being developed across Grampian in line with national policy.[7] Opportunities to learn how to shop for and cook healthy meals from raw materials are provided. The Huntly Kitchen has been established with the involvement, ownership and direction of local people. Varying age groups make use of the kitchen from young mums to older people – 40-50 groups have used the kitchen since its inception in 2009, to encourage improved eating habits with, in particular, vulnerable individuals and groups. The kitchen brings groups together in an integrated way: links with the

community allotment scheme allow participants to grow food, while links to community reading schemes enable participants to use recipes to encourage literacy, in addition to their cooking and nutritional value. The kitchen also provides a forum for local events, such as coffee mornings and food sharing events, promoting a sense of community.

Following the closure of Summerhill Education Centre, colleagues in Aberdeen City undertook a mapping exercise of existing kitchens in a range of premises, including community centres, church halls and schools. The aim is to provide a list of places suitable for developing food skills. Through this process, a network of more than ten venues is available for local communities.

And Old

The Aberdeenshire Signposting Project links people to the organisations, services, clubs and societies best suited to them. Working with older people over the last 18 months, social isolation has been identified as a key issue, which can arise when someone is widowed or moves to new housing, due to their physical needs. Companionship with like-minded people is desired, but if they live in an area poorly served by public transport, have no transport of their own and lack confidence to try a new activity, they have little opportunity to find companions. Through the Change Fund, a dedicated volunteer service is being established to match these older people with the social and cultural contacts they desire. The service will be promoted to a range of agencies, including General Practitioners.

Develop personal skills

Learning New Skills

Health improvement supports personal and social development through providing information, health education and life enhancing skills. As part of the Childsmile oral health improvement programme, over 16,000 children across Grampian brush their teeth daily, within nurseries and schools. The children, and often the staff, are learning how to look after their teeth and are given the opportunity to practice what they learn. This is followed up at home with the provision of toothbrushes and toothpaste to enable them to continue what they have learned. The environment within which this skill development takes place is also supportive. Healthy nutrition policies ensure tooth friendly drinks and snacks during break times and healthy eating messages are provided throughout the curriculum. Over the last nine years, the number of children in Primary 1 who have no obvious decay has increased by 21.8%.

Access to dental services has also improved. One Childsmile participant said: *'I am nervous about going to the dentist so when I was asked if my son was registered, I didn't know what to do. I haven't been to the dentist for years. The Childsmile worker said she would help get my son an appointment. We bide in the country, I said I* *couldn't get there because we don't have a car, but she organised Dial a Bus to come and collect us. She was a great help.'*

Building Confidence

Local agencies have a large part to play in creating the conditions in which individuals and communities can flourish and take control over their lives and their health. Give Kids a Chance (GKAC) supports disadvantaged young people to increase their self confidence and self esteem and develop social and practical skills. The young people work towards achieving their own goals in their chosen activities – to play a piece of music, to swim two lengths of a pool, beat a personal best time or simply to attend and take part in an activity. In 2011, Give Kids a Chance supported 167 young people. It is hard to measure the success of GKAC in numbers, and stories are used to illustrate the difference involvement in the project has made.

> Young Person A was introduced to a martial art class six years ago. Over those six years he has achieved his 'Black Belt', he has volunteered over 200 hours to his martial art school as a junior instructor, once he turned 16 he made his own way to class twice a week and he supports and mentors new GKAC participants. This young man is now a student at college and has encouraged his class mates to fundraise for GKAC. The obvious achievement is his 'Black Belt' but he has developed a level of responsibility, leadership skills, tuition skills, recognition and respect from his peers and most of all confidence. He feels GKAC has made a very big difference to his life – 'Sooyang Do would not have been possible without GKAC'.

Changing Old Behaviours

Health coaches are trained to support people to make changes to their lives. Using techniques from health psychology, such as 'weighing up pros and cons' and 'setting specific goals', they help people to decide whether and how to make changes to their lifestyle. In Grampian, a Health Coaching Service has been developed, as part of the Keep Well Programme, to support disadvantaged and vulnerable groups to improve their health and wellbeing. It is a product of NHS Grampian's joint local investment with NHS Education Scotland, as part of the Trainee Health Psychologist national programme.

Up to four sessions are offered with a trained health coach, with plenty of time to think and talk about making healthy changes to diet, physical activity, smoking or alcohol consumption. The coaches can direct service users to other sources of support, such as healthpoint, and services, such as Health Walks; participating in Healthy Helpings; the Smoking Advice Service; taking up screening opportunities; adult learning; financial support through credit unions and carer's support. The interim review of the service found that clients, practice staff, who make referrals, and the health coaches themselves were very satisfied with the service; 100% of clients set a relevant goal and 100% of those attending two or more sessions achieved their goal. Health coaching will be developed in light of experience gained.[8]

Reorient Health Services

Self Caring Community

Well North – Dufftown[9] sought to address individual lifestyle issues by supporting the community to become self caring. The programme was developed with extensive community engagement. The medical practice identified a number of patients at risk of poor health and invited them for a health check. The appointment times and type of health check were influenced by the community. The support provided, to assist individuals with lifestyle changes, addressed the wider determinants of health, including information on services such as housing and financial advice. In addition to reported changes in lifestyle, participation increased in community activities, such as Jog Scotland, and volunteers are receiving training to enable the local gym to increase its opening hours. Changes have also been made as to how GPs provide their routine services. Blood pressure monitoring of hypertensive patients is done at home by the patients, who reported feeling more responsible for the management of their blood pressure and who also liked the convenience of not coming into the practice.

Health Promoting Health Service

Every visit to the health service is an opportunity to promote health. In addition to individual health behaviour programmes, such as alcohol brief interventions and smoking cessation, other lifestyle programmes, such as Cash in Your Pocket, are addressing health inequalities. This is a financial inclusion scheme in Aberdeen Royal Infirmary and Woodend Hospital.

The scheme supports patients and their relatives, who may endure financial hardship due to ill health, to seek guidance and advice on a range of financial concerns. In 2011, 279 referrals were received, with 462 onward referrals to other agencies such as the Citizens Advice Bureau. By providing advice on housing benefit, debt and affordable foods, patients have benefited by an estimated additional £210,000 to alleviate financial hardship and aid recovery.

Meeting Changing Health Care Needs

Health care is one of a range of assets that communities require, in order to improve their health. Health professionals, along with those with influence over the social determinants of health, such as local authorities, third sector organisations and the public, have explored new ways of planning health care with health service managers and planners, drawing in particular on the pathfinder project in Forres described below.

Forres Pathfinder Project	
Aim	To deliver healthcare services that would meet Forres' evolving needs.
Background	Forres is experiencing the ageing of its population and increases in chronic disease, similar to the changes seen nationally. In addition, infrastructure that was no longer able to deliver modern services, required to be replaced by facilities and services that would meet the needs of patients.
Method	Engagement with the public, patients and professionals, using public meetings, workshops, questionnaires, street surveys, and patient stories.
Result	A local patient pathway was developed, along with an action plan to take forward the elements of supported self-care, prevention, increased use of medical technologies, and a proposed new Community Health and Care Centre.
Conclusion	This is a positive example of engagement with a local community, and the lessons learned will be incorporated into future healthcare planning.

The examples in this section highlight the breadth of work that is taking place to improve health in Grampian, with a range of partners. Much has been achieved and it is important to build on the progress that has been made.

Section 3 HEALTH PROTECTION

3a) JOINT HEALTH PROTECTION PLAN

The Public Health etc. (Scotland) Act 2008[1,2] and its associated regulations were implemented on 1st January 2010. It updated the law on Public Health, enabling Scottish Ministers, health boards and local authorities to better protect public health in Scotland. It also took account of the global nature of infectious disease and helps meet the obligations of the International Health Regulations 2005. The Act brought about some changes in working practices and placed a duty on health boards and local authorities to co-operate and produce a Joint Health Protection Plan.

The first Grampian Joint Health Protection Plan (JHPP) covers the period 2010-12.[3] It provides an overview of health protection (communicable disease and environmental health) priorities, provision and preparedness for NHS Grampian, Aberdeen City, Aberdeenshire and The Moray Councils, as required by the Public Health etc. (Scotland) Act 2008. The plan is a public document and may be accessed by members of the public on the NHS Grampian website at www.nhsgrampian.org.

Figure 1: Joint Health Protection Plan 2010-12

NHS Grampian works closely with the three local authorities and other agencies to implement the JHPP and, in so doing, protect the health of the Grampian population.

Communicable Disease

Health Protection involves the surveillance, investigation, control and prevention of communicable disease and environmental hazards to human health. The overriding priority is to provide a timely response to communicable disease and environmental incidents, that may present actual or potential threats to the public's health. This response must be available 24 hours a day and is dependent on having effective surveillance systems in place, to detect changes in communicable disease and environmental exposures. Immunisation and vaccine preventable diseases, tuberculosis, gastrointestinal illness and blood borne viral infections are key components of the Joint Health

Protection Plan and are reported on more fully later in this chapter.

Healthcare Associated Infection (HAI)

Through surveillance and multi-disciplinary working, NHS Grampian ensures compliance with good practice in antibiotic prescribing and other infection prevention and control policies. Education and training of all staff in Infection Prevention and Control is paramount and considerable effort is made to ensure lessons learnt from infection incidents are disseminated throughout the organisation.

NHS Grampian continues to implement the Healthcare Associated Infection (HAI) Action Plan and to address issues identified by NHS Quality Improvement Scotland and the Healthcare Environment Inspectorate, during visits to local NHS health care facilities. Clostridium difficile and staphylococcus aureus surveillance is carried out in all health care facilities in NHS Grampian.

Major Infectious Disease

Pandemic influenza remains the highest risk identified on the UK Government's national Risk Register of Civil Emergencies. Preparedness for influenza and other major infections such as SARS, therefore, remains a national and local public health priority. Working with our partners, NHS Grampian will lead the development of a Major Infectious Disease Plan in 2012.

Environmental Hazards

Local health protection priorities are carried out by Environmental Health professionals within local authorities. Many are requirements of statute, in order to protect the health and safety of individuals, living and working in the community. These include monitoring and improving air quality, controlling noise and antisocial behaviour, investigating and remediation of contaminated land, pest control, home safety, minimising the risk of food poisoning locally and through inspection of imported foods, ill health caused by occupational exposure, minimising the risk associated with environmental tobacco smoke, alcohol consumption regulations and many others.

In comparison with other health board areas, certain health protection risks are of increased (and in some instances unique) importance in Grampian. These include:

- Private water supplies: these are associated with an increased risk of bacterial contamination and consequent gastrointestinal illness. There are more than 8,500 such supplies in Aberdeenshire and over 700 in Moray;
- Radon gas: Radon is a naturally occurring radioactive gas, that seeps up from the ground into some buildings, and Radon is considered to be the second largest cause of lung cancer in the UK. Aberdeenshire is one of the

main areas in Scotland to be affected by Radon gas;

- International airport, heliport and seaports: these are associated with a number of risks including importation of infection.

3b) GASTROINTESTINAL INFECTIONS

Gastrointestinal infections are infections involving the digestive tract and lead to symptoms such as diarrhoea and vomiting. They can be caused by a variety of organisms, including bacteria such as escherichia coli (E. coli) and viruses like norovirus.[1]

Gastrointestinal infections are relatively common and most people recover without ill-effect. A significant minority can suffer severe illness and even death as a result of the infection. Gastrointestinal infections are preventable and people can take simple steps in their daily lives in order to reduce their risk.

Grampian and Gastrointestinal Infections

In NHS Grampian, some infections are seen regularly, although the numbers do vary from year to year (Table 1). Due to certain factors, such as the extensive rural landscape and number of private water supplies, Grampian has one of the highest rates of gastrointestinal infection in Scotland. Public Health staff work closely with colleagues from the local authorities to investigate and minimise the risks of these infections being passed from person to person.

Organism/ Illness	2010	2011
Campylobacter	808	763
Cryptosporidium	70	44
E. coli O157	51	41
Entamoeba histolytica	5	4
Giardia	18	20
Hepatitis A	7	1
Paratyphoid	3	1
Salmonella	103	102
Shigella species (Dysentery)	11	10
Typhoid	3	2
Yersinia	5	2

Table 1: Number of cases of notified disease in Grampian, 2010 – 2011
Source: NHS Grampian Health Protection Team

The management of certain gastrointestinal infections is also covered by legislation. Some gastrointestinal infections are notifiable under the Public Health etc. (Scotland) Act 2008. Notifiable diseases are those which require to be notified to a health board by a medical practitioner, if they have a reasonable suspicion that a patient whom they are seeing has such a disease. Directors of Diagnostic Laboratories are required to notify specified organisms. The purpose of this is to give an early indication of potential threats to human health, in order to assess whether any health protection action may be required to minimise the risk.[2]

A Health Board Competent Person, as defined by the Public Health etc. (Scotland) Act 2008, can make an 'exclusion' or 'restriction' order. This excludes an individual from a specified place (usually a workplace, school or nursery), or restricts their activities when it is considered they pose a significant risk to public health. As the consequences of infections such as E. coli O157 can be severe, it is important to minimise spread. Many of these infections show a seasonal pattern. Certain high-risk groups, such as health care workers, food handlers and young children, may be considered for exclusion, until there is evidence they are free of infection.

The risk of certain gastrointestinal infections is also increased by foreign travel. Grampian has two Universities, a number of colleges and international schools, as well as the thriving North Sea oil industry. These increase the likelihood of people travelling both into and out of Grampian and infections such as dysentery, hepatitis A and typhoid are predominantly imported, following travel abroad.[1]

The list of notifiable diseases and organisms was advised in January 2010, with the new Public Health etc. (Scotland) Act 2008. A comprehensive report of 'The Epidemiology of gastrointestinal infections in Grampian and the actions taken to minimise the risk to the public health 2007-2011' is available at: www.nhsgrampian.org/healthprotectiondocuments.

3c) BLOOD BORNE VIRUS INFECTIONS

The prevention, control and clinical management of blood borne virus (BBV) infections are important public health issues and the scope to reduce the effects of chronic disease progression is great. Three blood borne viruses – hepatitis C, hepatitis B and HIV – share common modes of transmission, each to varying degrees, through unprotected sexual intercourse, sharing of non-sterile equipment during illicit drug use or inadequate infection control procedures and transmission from mother to child. Hepatitis C is most prevalent among current or past injecting drug users and sexual transmission is the most likely mode for HIV. Most local cases of apparently new hepatitis B infection are long-standing, often transmitted from mother to child and occur in individuals of non-UK origin.

Hepatitis C

Hepatitis C is the most common blood borne virus in Grampian, as in Scotland, resulting in more deaths as a result of the infection than HIV or hepatitis B but, unlike these, hepatitis C infection is curable in the majority of cases.

Approximately 120 cases are diagnosed in Grampian each year. In 2011, a campaign through general practice and needle exchange services identified 151 new cases, as shown in Figure 1.[1,2] There are at least 2,300 known chronic cases in Grampian. Health Protection Scotland data estimates, however, that up to 51% of those exposed to the virus remain undiagnosed, with a possible 1,500 individuals yet to be diagnosed locally. Two thirds of individuals exposed to the hepatitis C virus are male.

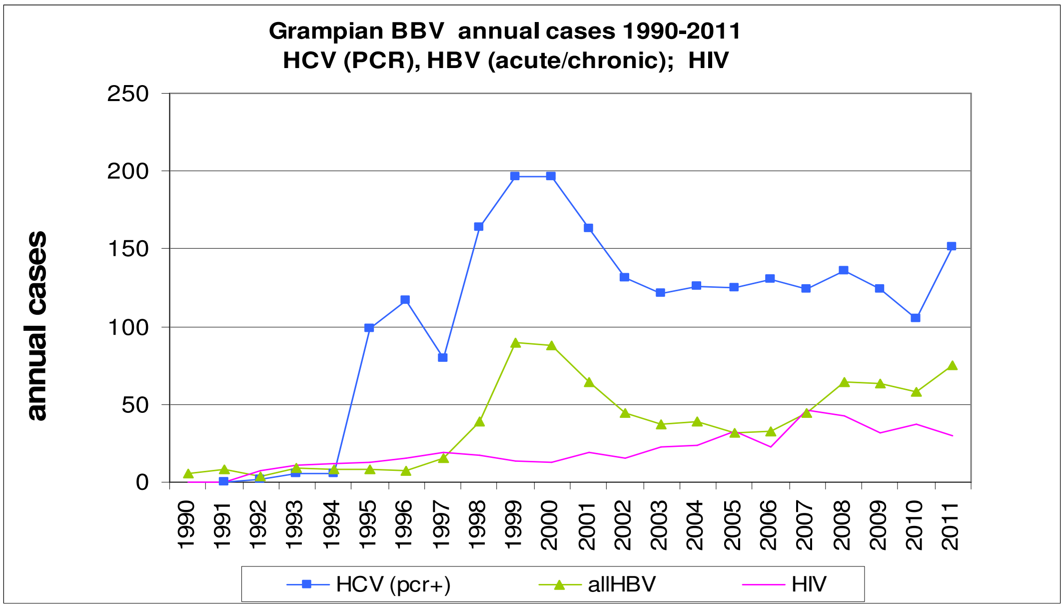


Figure 1: Grampian BBV Annual Cases 1990-2011
Source: NHS Grampian Health Protection Team

Hepatitis C prevention efforts have focused on the provision of sterile injecting equipment through 31 needle exchanges across Grampian, in agency and NHS premises, as well as community pharmacies. Information on reducing harm from injecting is provided through informal discussion at these exchanges, but also using more structured means, such as the 'Break the Cycle' initiative.

Access to support and opiate substitution therapy reduces and can eliminate injecting behaviour, reducing the risk of hepatitis C. Significant reductions in waiting lists for such specialist services were made in 2011.

Considerable numbers of individuals remain unaware of their hepatitis C diagnosis and educational sessions were provided to raise awareness in all Grampian general practices during 2010 and 2011. Practices were also provided with posters to highlight the issue to their patients and to encourage consideration of testing for blood borne viruses.

In 2011, increased referrals into the specialist service for hepatitis C management, led to 136 individuals starting antiviral treatment, trebling the number from three years previously. More than 1,000 individuals, known to have chronic infection, have not yet accessed specialist treatment, in addition to those who remain undiagnosed. Specialist clinical, mental health, drug and alcohol addiction support, social care, welfare and peer support services are essential components of the service and, while much has been achieved in Grampian, improvements remain to be made.

Local implementation of the national 'Hepatitis C Action Plan'[4] required that 10% of those started on antiviral therapy should come from prison populations, however, due to local operational challenges and prisoner demographics, services in Grampian have yet to achieve this. Further work is required to ensure this is achieved before HMP Grampian opens in 2013/14.

Hepatitis B

Scotland has been a country with low prevalence of hepatitis B. The number of acute cases each year remains small (4 in 2011), having returned to the very low numbers prior to the late 1990s, when there was a large outbreak of nearly 300 cases of acute hepatitis B, centring on the drug injecting population in Aberdeen.

In the last 10 years, however, the number of newly diagnosed chronic hepatitis B cases has significantly increased (71 in 2011), with most originating from countries where hepatitis B prevalence is higher than in the UK.

Prevention efforts focus on raising awareness of hepatitis B generally, but also on promoting effective vaccination. While many countries offer universal vaccination against hepatitis B, selective vaccination is provided in Grampian, in line with UK policy. In recent years, uptake of hepatitis B vaccination, for babies born to hepatitis B infected mothers, has been nearly 100%, protecting them from transmission and for life. There have been no known transmissions from mothers to babies born in Grampian in recent years.

For individuals who develop chronic hepatitis B infection, increasingly effective long-term antiviral therapy is available, thereby decreasing disease progression. Only a proportion of individuals infected (20%) are likely to be at a stage of the disease where antiviral therapy is recommended. Treatment numbers are likely to increase in the years ahead.

Patients with hepatitis C and hepatitis B, who have associated liver disease, are at risk of developing the complications of cirrhosis, end-stage liver disease and hepatocellular cancer. Secondary prevention messages, aimed at slowing the development of liver disease, include good weight management, abstinence from alcohol and curbing the effects of tobacco and cannabis on disease progression. Ongoing follow-up with specialist services, including six monthly abdominal ultrasound and clinic review is being established, to screen for such complications and to prepare for liver transplantation should this be indicated.

HIV

HIV was first diagnosed in Grampian in 1986, and the number of new cases has stabilised, with approximately 30 cases diagnosed annually as shown in Figure 1. By 2011, 500 individuals living with HIV have been known to Grampian services,[1] although just under half have moved away or died.

The proportion of male HIV cases is similar across Grampian and Scotland, 73% and 72% respectively, however, age at diagnosis is slightly older in Grampian. The most common factor in Grampian remains heterosexual intercourse, mainly in individuals who have been exposed to infection abroad, approximately 60%, either in individual's countries of origin or through foreign work or leisure contacts. This has been facilitated by international links through the oil industry and a traditionally international university student body. The majority of HIV positive individuals have not acquired the infection in Grampian and scope for preventing transmission through local initiatives is limited. For Grampian residents acquiring HIV locally, the predominant risk factor is men having sex with men.

Promotion of the safer sex message with HIV positive individuals, those particularly at risk of infection and the general public, continues to be part of preventative efforts. Strengthening of needle exchange and antenatal HIV screening will also contribute. Raising awareness of HIV is important for the prevention of infection at all ages, including those who may not consider themselves at risk, to encourage testing and early diagnosis. Currently more than half of diagnosed individuals are known to be still living with HIV in

Grampian, almost all of whom (95%) are followed up at specialist services. 87% of HIV patients are on antiretroviral therapy, the same proportion as for Scotland as a whole, and provides evidence of good access to life-saving treatment.

If left untreated or diagnosed late, HIV will progress to the acquired immunodeficiency syndrome (AIDS). Since the advent of effective life-long treatment in the mid-1990s, however, fewer cases progress to AIDS. Mortality has decreased sharply, with more people living with HIV infection as a long-term condition, necessitating treatment and support at different stages to those previously required. Fewer than five individuals with HIV infection die each year in Grampian.

One issue common to all three BBVs is that of stigma and this is likely to be an important factor in late diagnosis. By raising awareness of how to avoid infection and by normalising BBV testing, more individuals will be enabled to address these potentially life-shortening conditions in an effective way.

The overall aim for BBV infections in Grampian continues to be:

- Reduce new transmissions;
- Reduce undiagnosed cases through increased testing and early diagnosis;
- Ensure universal access to high quality treatment and care;
- Support those living with, and affected by, hepatitis C, B and HIV.

3d) TUBERCULOSIS

Tuberculosis (TB) is an infection, which can be difficult to diagnose, and which has a high case fatality rate, if not treated effectively. It is estimated that on average each untreated infectious TB case passes infection on to another 10-15 people each year. Since 2005, there has been a continued increase in the number of cases and incidence of TB in Scotland, and an increasing trend in the proportion of non-UK born cases.

Notifiable Disease

The most recent calendar year, for which complete information is currently available, is 2010. The number of new cases of TB in Grampian increased from 36 in 2006 to 58 in 2010, with a rate of 10.5 cases per 100,000 population. In 2010, for the first time in many years, Grampian exceeded the World Health Organisation (WHO) 'Stop TB' target of aiming for less than 10 cases of TB per 100,000 population. With a TB rate of 10.5 cases per 100,000, Grampian had the third highest TB incidence in Scotland, after Greater Glasgow and Clyde, with 19.4 cases per 100,000 and Lothian, with 12.2 per 100,000.

In Grampian, in 2010, two patients were under the age of 15 years, 49 patients were aged 15-64 years and seven patients were 65 years or older. When TB infection occurs in children, it is considered to be an indicator that recent transmission of infection is occurring within the local community. In 2010, 12% of Grampian cases had risk factors, which made them more susceptible to TB infection. These included alcohol misuse (three cases), immunosuppression (three cases) and health care worker (one case).

Diagnosis and Treatment

A fully integrated public health and clinical service is essential if prevention, treatment and control are to be successful. Every TB patient needs the support of a range of professionals, working closely together to achieve successful completion of their course of TB treatment. As a minimum, collaboration is essential between the patient's GP and primary care team, specialist secondary care clinical team, health protection team, specialist microbiology service and pharmacy service – all coordinated by the specialist TB nurse. When the patient's individual risk management plan identifies a need for Directly Observed Therapy (DOT), the assistance of numerous other professionals, family members and friends is frequently also vital for success.

TB treatment is often complex, lengthy and unpleasant for the patient, who usually needs to take four different antibiotics for two months, then reducing to two antibiotics for another four months. The antibiotics, which must be used, often have unpleasant and sometimes serious side-effects. Completion of this usual six month course of treatment is essential to cure the infection and avoid the development of drug resistance in the TB bacteria. Drug resistance has become increasingly important worldwide and patients with a multi-drug resistant (MDR) strain of TB infection require even more complex and expensive antibiotic treatment over many more months. While a small number of patients were resistant to one first line drug in 2010, no Grampian patient had a multi-drug resistant strain of TB.

TB Case Finding Services

In 2011, the Scottish Government published a TB Action Plan for Scotland. Amongst its recommendations was one that identified a need for health boards to implement local systems of case finding for latent TB infection in new and recent entrants to the UK. A local initiative was established in Grampian in 2007 to offer improved access to TB case finding for new entrants, on their arrival in Grampian. Currently, case finding has had to be prioritised towards only those people coming from a very high TB incidence country (certain African countries and India) and in whom a case of TB infection would present a particularly high risk of transmission of infection to others. Accordingly, case finding has been offered only to those students who arrive to attend either of the two Aberdeen Universities and who meet the above criteria. About 55% of the Grampian cases of TB, notified in new entrants between 2007 and 2009, come from the very high TB incidence countries. A small number of cases of active TB disease and many cases of latent TB infection have been successfully identified and offered treatment through this initiative. Additional resource would allow extension of case finding to include new entrants arriving from other high TB incidence countries, including those intending to work in settings where they are likely to have contact with vulnerable groups, such as in the Care Home sector.

Selective case finding services are also provided to some other groups of Grampian residents including:

- Pregnant women who are new entrants to the UK (through Aberdeen Maternity Hospital);
- Homeless persons (through the Homeless practice);
- Rheumatology patients, prior to commencing immunosuppressive treatment;
- All new NHS employees and those returning to work in the NHS after working in a high TB incidence area.

Contact Tracing

In every TB case, screening for TB infection is routinely offered to the case's close household contacts and, if there is a significant possibility that the case may have passed infection, to social, workplace and/or hospital contacts, screening is offered to these exposed individuals. In 2010, screening was offered to 103 household contacts and 254 exposed individuals, resulting in identification of four cases of active TB disease and 14 cases of latent TB infection.

There are currently two ongoing (unrelated) outbreaks of TB infection in Grampian. The natural history of TB disease and transmission of infection, coupled with the limitations of diagnostic tests and treatments, make control of the spread of TB disease particularly challenging. Investigation of both outbreaks is continuing and a range of public health actions have been, and are continuing to be, implemented.

Future Policy

Following introduction in 2011 of the Scottish TB Action Plan, the recommendations made within the plan have been reviewed locally. Initiatives already progressed over recent years by local clinicians, the health protection team and other professionals mean that NHS Grampian is well placed to respond positively. Many of the recommendations made in the Action Plan are already embedded in local practice. Key issues currently being taken forward include the commissioning, in 2013, of negative pressure facilities for the inpatient care of patients with pulmonary and/or MDR TB disease; and preparation, in partnership with the Scottish Government and Health Protection Scotland, of a business case for the acquisition of a national TB surveillance system. The key remaining issue is the need to build on the new entrant case finding initiative and extend the service to include as many new entrants as possible, who arrive in Grampian from high TB incidence countries.

3e) IMMUNISATION/ VACCINATION

Vaccination against serious infectious disease is offered to all children in Grampian. The primary course of vaccination offered to infants and young children provides protection against tetanus, whooping cough, diphtheria, polio, haemophilus influenzae B, measles, mumps, rubella (MMR), meningococcus C and pneumococcus. Children in higher risk groups are also offered vaccination against tuberculosis and hepatitis B. All teenage girls are offered vaccination against human papilloma virus (HPV), to reduce their risk of developing cervical cancer in later life. In addition, each autumn, seasonal influenza vaccination is offered to adults over 65 years of age and to those children and adults considered to be at higher risk of having a poor outcome, if they develop influenza infection.

In 2011, uptake of primary vaccination in Grampian consistently exceeded 95% and uptake of booster doses tended to exceed the Scottish average. Although primary vaccination uptakes were good in all SIMD groups, there was a tendency for uptakes in SIMD group 1 (most deprived) to lag slightly behind those seen in less deprived groups and the SIMD 1 Scottish average by 12 months of age. By 24 months of age, however, this trend has disappeared, with the SIMD 1 group generally having the highest uptakes of MMR1, Hib/MenC and PCVB. At 24 months of age, SIMD group 1 uptakes in Grampian were significantly better than the Scottish average for communities with a similar level of deprivation.

Measles

A booster dose of MMR is offered to all children when they reach three years four months of age and local uptake of this booster dose significantly exceeds the Scottish average. Maintenance of MMR uptake at the highest possible level is increasingly important, as during 2011, an outbreak of measles spread throughout France and several other European countries. The outbreak is currently ongoing and presents a continuous risk of measles infection being imported into Grampian. Measles is a highly infectious viral illness with each case estimated to generate between 12 and 18 secondary cases among non-immune individuals. As long as high uptakes of MMR can be maintained locally, the risk of significant spread of infection from a single imported case will remain low.

	No in cohort	% completed MMR1 by 24 mths Born 1 Jan to 31 Dec	No in cohort	% completed MMR2 by 5 yrs Born 1 Jan to 31 Dec 06
NHS Grampian	6494	94.9	5990	92.9
Scotland	59267	94.0	56701	89.6

Table 1: Uptake of MMR1 and MMR2
Evaluation year: 1 Jan to 31 Dec 2011
Source: SIRS

Human Papilloma Virus (HPV)

The uptake of the HPV vaccine by teenage girls in Grampian remains good, compared with the Scottish average. The uptake fell to 76% in 2011 in Aberdeen City, compared with 92% in the previous year, giving cause for concern. Action is being taken within Aberdeen City, aimed at restoring uptake to its previous high level.

	No in cohort	% uptake of first dose	% uptake of second dose	% uptake of third dose
NHS Grampian	3007 *(2894)*	91.9 *(93.4)*	90.5 *(92.5)*	83.3 *(91.0)*
Ab City CHP	927 *(877)*	90.8 *(93.4)*	88.2 *(92.5)*	76.2 *(91.2)*
Abshire CHP	1496 *(1456)*	93.0 *(94.2)*	92.3 *(93.5)*	87.8 *(92.0)*
Moray CHP	571 *(543)*	91.6 *(91.7)*	90.5 *(90.6)*	84.2 *(88.6)*
Scotland	28932 *(28778)*	91.8 *(93.6)*	90.2 *(92.5)*	81.0 *(90.9)*

Table 2: HPV vaccination uptake rates for girls in second year of secondary school (S2) in school year 2010/11, *(uptake by S2 girls in the previous academic year, 2009-2010, for comparison)*
Evaluation year: 1 September 2010 to 31 August 2011
Source: SIRS

Seasonal Influenza

Uptake of influenza vaccination exceeded the national target of 75% in the over 65 year age group at 76.4%. The 62% uptake in the younger at risk clinical groups, although better than the Scottish average, was still considerably less than the national target.

The Scottish Government target for flu vaccination uptake in people aged 65 years and older and in people at increased clinical risk aged 64 years or less, was 75%.

Hard to Reach Groups

A local campaign, supported by specific funds from the Scottish Government, was mounted to reach girls who had left school and had not received the HPV vaccination. 300 girls from this hard to reach group came forward for HPV vaccination.

Arrangements for administering vaccines in hard to reach groups were reviewed and found to be satisfactory, with the exception of travellers' children, and further work is in progress to improve access to immunisation and the full range of primary care services for them.

Storage of Vaccines

The importance of storing vaccines at the required temperature in fridges in the various locations throughout Grampian, where vaccines are administered, continues to give cause for concern. Vaccine fridge temperatures are recorded routinely and failure to record temperatures accurately, or to act promptly in relation to a temperature reading outside the required 2-8 C range, will usually require withdrawal and destruction of the vaccine. If a fridge failure is discovered after administration of the affected vaccine, revaccination may need to be offered to those involved, resulting in anxiety and inconvenience, with the attendant cost of the destroyed and replacement vaccines and additional vaccination clinics.

Ongoing Education

NHS Education Scotland (NES) provides an e-learning course, aimed at improving the knowledge and competence of staff involved in delivering vaccination. Currently, in excess of 200 NHS Grampian staff are undertaking the course. Continued action is required to maintain awareness of vaccine storage issues and promote structured learning around vaccination-related issues for all staff involved in the planning and delivery of immunization/vaccination programmes.

Section 4 HEALTH CARE

4a) SCREENING PROGRAMMES

National Population Screening Programmes in Grampian

NHS Grampian participates in national population screening programmes and ensures that these are accessible to its population. Programmes begin in pregnancy and continue through childhood and adulthood. They include: screening in pregnancy for down (Down's) syndrome, haemoglobinopathies, infectious diseases and foetal anomalies; the newborn bloodspot test and universal newborn hearing screening (UNHS); diabetic retinopathy screening; bowel, breast and cervical cancer screening.

Abdominal aortic aneurysm (AAA) screening is currently being planned in Grampian. This will involve offering a single abdominal ultrasound scan to all men, when they reach their 65th birthday, with follow-up dependent on the result of the scan.

Some of the recent developments, achievements and current issues for each of the programmes are described below.

Pregnancy Screening

All pregnant women are offered screening for down syndrome, haemoglobinopathies, infectious diseases (rubella, syphilis, hepatitis B and HIV) and foetal anomalies as part of routine antenatal care. These programmes are currently undergoing significant development.

As of April 2011, all developments to the pregnancy screening programmes, as detailed in CEL 31 (2008), will have been implemented. These include:

- Changing down syndrome screening, from a second trimester test, based on biochemical tests, to first trimester combined ultrasound and biochemical screening (CUBS), with second trimester screening, using additional tests for those missing first trimester testing;
- Introducing screening for haemoglobinopathies during pregnancy.[1]

CUBS involves measuring the nuchal translucency of the foetus and combining this measurement with a number of other factors, including biochemical markers and maternal age, to provide an overall risk. Measuring nuchal translucency is technically challenging and has required significant investment in equipment, staff training and staff time. In addition, the laboratory component of down syndrome screening transferred from Grampian to one of two national down syndrome screening laboratories in Lothian, requiring new arrangements for transport of specimen and communication of results.

Introducing haemoglobinopathy screening has required the Grampian haematology laboratory and maternity service, as well as other health care professionals, to take on new roles and responsibilities. This involves using the Family Origin Questionnaire, testing and feedback of red blood cell parameters, and follow-up of positive tests.

For both haemoglobinopathy and down syndrome screening, provision for follow-up counselling and diagnostic testing has been aided by the recruitment, in April 2011, of two pregnancy screening midwives (PSMWs). The PSMWs coordinate the delivery of pregnancy screening and provide follow-up and counselling of women, with positive results, in collaboration with the Haematology and Genetics departments, as well as community midwives and GPs.

Optimising antenatal screening processes requires early access to antenatal care.

Newborn Screening

The parents and guardians of all newborn children are offered the newborn bloodspot test (which currently screens for phenylketonuria, congenital hypothyroidism, cystic fibrosis, sickle cell disease, and Medium Chain Acyl CoA Dehydrogenase Deficiency (MCADD)) and neonatal hearing screening. The blood spot test involves taking drops of blood from a baby's heel and putting these on to a card, which is sent to the Scottish Newborn Screening Laboratory in Glasgow, where the blood is analysed. Neonatal hearing screening is provided by the Grampian Universal Neonatal Hearing Screening (UNHS) service, which identifies all newborn babies and infants migrating into Grampian and offers screening using otoacoustic emissions.

In 2010/11, more than 6,000 babies were eligible for hearing screening. Over 98% of these babies were offered a screening test and 96% completed screening. 61 of the babies eligible for screening were referred for further assessment, due to an abnormal response in one or both ears.

National Quality Indicators for the pregnancy and newborn screening programmes have been developed and will be introduced in 2012.

Future issues for the newborn bloodspot programme include consideration of the upper age limit for screening. Child Health departments currently ensure that all infants up to the age of six months have been offered this test, but some of the tests become less reliable beyond certain age thresholds and the risk benefit ratio of screening for these diseases beyond the neonatal period is less clear. The screening test for cystic fibrosis is unreliable beyond eight weeks of age and interpretation of the MCADD test is more difficult beyond the neonatal period.

A significant development within the UNHS programme is the move from the current IT system (the Northgate eSP system) to using the existing Scottish Birth Record (SBR) to support the programme. A team within the Information Services

Division (ISD) of NHS National Services Scotland is developing the SBR system to enable it to provide administrative, clinical and data monitoring functions.

Diabetic Retinopathy Screening

The diabetic retinopathy screening programme offers screening to all individuals with diabetes aged 12 years and over, using retinal photography. Invitees are asked to attend for screening on a yearly basis, either at the screening centre on the Foresterhill site or at one of a number of sites across Grampian served by mobile retinal cameras. The digital retinal photographs are then 'graded' to indicate whether further assessment or earlier rescreening is required.

Yearly uptake of screening in Grampian was 79.7%, compared to the Scottish average of 78.1%, for 2010/11. Over the two year period 2009/11, 89.4% of diabetic patients in Grampian were screened.

Of those individuals who were screened in 2010/11, 96.5% were 'negative'. Those without a negative result are rescreened early or referred for opthalmological assessment. Written reports are sent to participants, on average, within seven days, with 98.8% being sent a report within 20 working days.

A key future challenge is a continuing increase of over 4% per annum in the size of the diabetic population, estimated to be over 25,000 persons in Grampian during 2010/11. NHS Grampian has participated in the development and utilisation of automated grading of images (the 'autograder'), which uses an IT package to identify abnormalities on retinal photographs and has played a part in enabling the service to meet these increasing needs.

Bowel Screening

The bowel screening programme offers screening to all men and women aged 50-74 years, using the Faecal Occult Blood test (FOBt). These are sent to invitees every two years from the Scottish Bowel Screening Centre in Dundee. Approximately 90,000-100,000 people in Grampian are invited each year. Positive tests in Grampian residents are notified to the bowel screening team in NHS Grampian, which provides advice and arranges follow-up testing (usually colonoscopy), as appropriate.

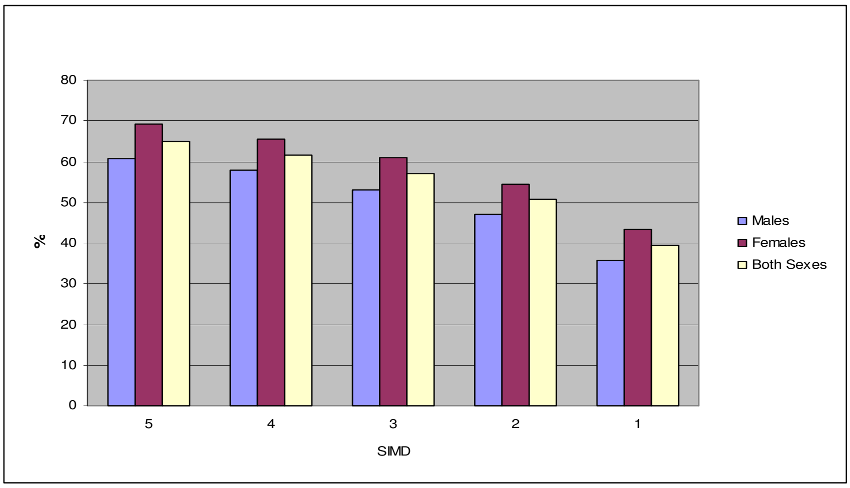


Figure 1: Bowel Screening uptake by SIMD and sex (Grampian, May 2009 – Apr 2011)
Source: ISD Scotland

Uptake of screening is relatively high across Grampian. For the period May 2009 – April 2011, uptake was 59.9%. This compares to the Scottish average of 54.1%. This figure is the lowest uptake of the cancer screening programmes in Grampian and masks significant inequalities. Uptake is lower in men than women, 56.0% and 63.7% respectively, and lower in more deprived areas, 65.0% in SIMD 5 and 39.4% in SIMD 1.

As in 2010, a local promotional campaign was undertaken in 2011 to coincide with Bowel Cancer Awareness Month. In collaboration with First Group in Aberdeen, media interviews provided wide coverage, as well as promotional work and surveys within staff areas at First Group. Links were also made with the Healthy Working Lives team to promote bowel screening within workplaces across Grampian.

Of those completing the screening test, 1.8% of participants had a positive test. This positivity rate is increasing and the average rate in 2011 was 2.3%, about 1,200 individuals. This increase has a significant impact on workload and capacity, given that the monthly positive referral rate is not consistent throughout the year and shows large fluctuations.

A number of developments are likely to present challenges and opportunities to the programme. These include the introduction of a 'pre-notification letter' from January 2012 and the Detect Cancer Early initiative, both of which should increase uptake.

Breast Screening

The breast screening programme offers screening to women aged 50-70 years using two-view mammography. The North East Scotland Breast Screening Programme (NESBSP), which serves the majority of Grampian residents, as well as women living in Orkney and Shetland, invites women to attend either the breast screening centre in Aberdeen or one of two mobile mammography units every three years. Women aged over 70 can self-refer for screening.

Uptake of screening is relatively high across Grampian, and is the highest of the cancer screening programmes. For the three year screening cycle 2008-11, uptake for Grampian was 81.2%, compared to the Scottish average of 74.9%.

Of the women screened, 10.3% in the 'prevalent round' (women aged 50-52 years, who are screened following their first invitation) and 4.1% in the 'incident round' (women aged 53-70 years, who are screened following subsequent invitations), were referred for further assessment. Table 1 shows the different types of cancer detected in the prevalent and incident rounds for 2008-11:

	Prevalent round	Incident round
Invasive cancers	4.6	5.7
Small invasive cancers	2.3	3.0
Non-invasive cancers	1.9	1.5

Table 1: Cancer detection rate in Grampian, 2008-11 (no./1000 women screened)
Source: North East Scotland Breast Screening Programme

The 62 and 31 day cancer waiting times targets were met in 2011, 100% and 94.4% respectively.

A review of the Scottish Breast Screening Programme commenced in February 2011, under the auspices of the NHS National Planning Forum, in order to address key technological, staffing and financial challenges, such as the introduction of digital mammography and issues regarding staff recruitment and retention. NESBSP will need to respond to the outcome of this review, in planning for the future, and consider factors such as the geographically widespread population and the implications for the mobile service, possible co-location of screening and symptomatic services and the introduction of digital mammography.

Cervical Screening

The cervical screening programme offers screening to women aged 20-60 years using 'smear tests' – the 'smear' component of the cervical screening test has been replaced by liquid based cytology (LBC) but the screening test is still often referred to in this way. Invitees are asked to attend their primary care centre every three years. Cells brushed from the cervix are sent to the cytology laboratory for analysis, and follow-up, usually repeat smears or colposcopy, is arranged for women with abnormal results.

Uptake of cervical screening in Grampian in 2010-11 was 75.9%, compared to the Scottish average of 73.6%. Uptake across Scotland has been decreasing for the past 10-15 years, from a high of 88.5% in Grampian in 1997-98. An upsurge was seen in 2008 and is often attributed to the 'Jade Goody effect', but this has now levelled out. Uptake rates are significantly lower in younger women and peak in middle age; the rates in 20-24 year olds and 45-49 year olds for Scotland were 55.5% and 79.7% respectively for 2010-11.

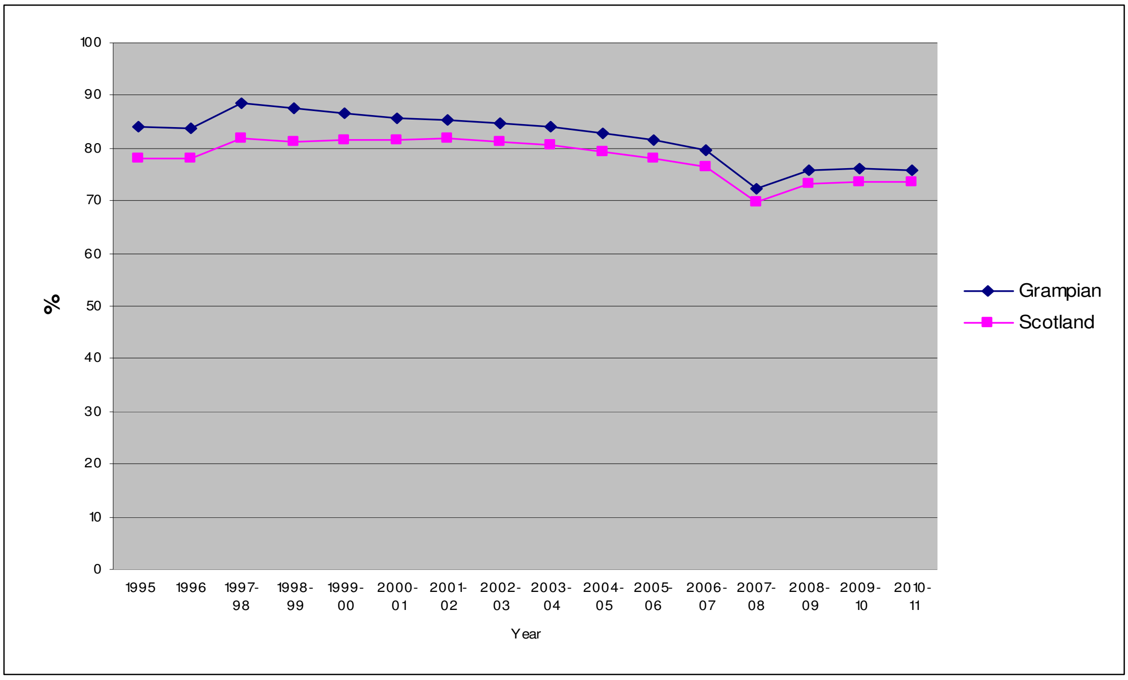


Figure 2: Proportion of women aged 20-60 years who have had a cervical screening test recorded within the past 3.5 years
Source: ISD Scotland

The cytology laboratory in Aberdeen Royal Infirmary processed more than 45,000 cervical screening samples in 2010-11. Of these, 2.4% were unsatisfactory samples, with the Scottish average at 2.8%. 91.5% of the satisfactory samples were 'negative' and 5.5% showed borderline changes. During this period, turnaround times, from receipt of a sample to issuing a report in the cytology laboratory, improved significantly and are often less than 10 days.

Direct referral to colposcopy of women, where indicated, has been routine practice in Grampian for several years. In 2011, NHS Grampian took part in the development of a system, which enables all Scottish health boards to do this in a standardised way, using linkages between SCI Gateway, SCCRS and primary care IT systems.

October 2011 saw the national roll out of a significant change to cervical screening, which had been piloted by NHS Grampian, under the flag of 'Test of Cure'. This involves testing some women with abnormal screening results for human papilloma virus (HPV) and depending on the results of this test, follow-up for many women will be at reduced frequency, with an earlier return to three yearly, rather than annual screening.

The 'cervical screening workforce' involves a wide range of health professionals, including smear-takers in primary care and family planning/sexual health clinics, and good communication is especially important in implementing new developments. A cervical screening newsletter regularly updates smear-takers on a range of issues.

Future challenges include improving uptake and NHS Grampian and University of Aberdeen staff are involved in this research. National work is currently being developed to provide better training for smear-takers and also to develop a national audit of cervical cancers.

It is likely that the cervical screening programme will see further changes over the coming years and a number of factors may contribute to this, including evidence about HPV, testing the impact of the HPV vaccination programme on cervical cancer and cervical screening and the UK National Screening Committee's review of the age range and frequency of cervical screening.

4b) CORONARY HEART DISEASE

Coronary heart disease (CHD) is not a single condition, but a group of related conditions that are commonly linked with hardening of the arteries. Such conditions include angina, myocardial infarction, heart failure and arrhythmias (an irregular pulse).

Risk Factors

The risk of developing CHD increases with age and also with the presence of several modifiable risk factors, that are strongly associated with the premature development of CHD. The modifiable risk factors include smoking, high cholesterol, high blood pressure, obesity, physical inactivity and a diet high in saturated fats (and low in fruit and vegetables). These modifiable risk factors also increase the risk of stroke. The common arrhythmia 'atrial fibrillation' (AF) is itself a major cause of stroke. In adults, the development of diabetes is strongly associated with obesity, and diabetes also significantly increases the risk of CHD. Smoking is the major contributor to CHD, as well as a range of other diseases, and is the biggest single preventable cause of premature death in Grampian.

Trends

Over the last 15 years, Grampian has seen a dramatic fall in the level of premature deaths from CHD. The long-term reduction in CHD deaths in Grampian has been in excess of the national targets, set in the public health White Paper 'Towards a Healthier Scotland',[1] which aimed at more than halving the rate of deaths from CHD between 1995 and 2010, among those aged under 75 years. As Figure 1 shows, the risk of death from CHD has declined considerably in both men and women in Grampian.

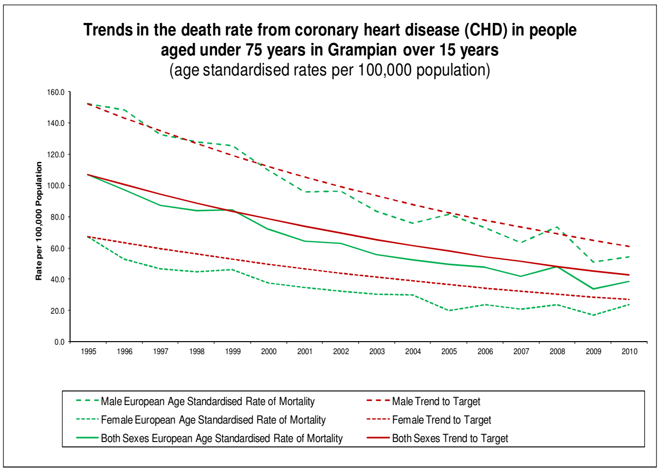


Figure 1: Trends in the death rate from CHD in people under 75 years in Grampian over 15 years
Source: GRO(S); Scottish Government Analytical Services Division (downloaded from ISD website; original tables MC2 and DC4)

The decline in deaths from CHD in Grampian is due to a combination of both lifestyle improvements and improved health care. The current best estimates, based on data for Scotland, are that some 40% of this reduction in deaths from CHD is due to reduced levels of smoking, with a further 20% due to decreases in blood pressure and cholesterol levels. The remaining 40% of the reduction in deaths from CHD is related to improvements in the medical management of myocardial infarction, angina, heart failure and arrhythmias.

Deprivation

Individuals living in socially deprived circumstances have a higher occurrence of CHD and a poorer outlook than the general population, when they develop CHD. It is therefore important that the benefits of effective primary and secondary prevention, as well as access to effective clinical intervention, are accessible for those living in deprived circumstances. As Figure 2 shows, the reduction in deaths from CHD, seen in Grampian over the last decade, also extends to people living in the more socially deprived areas, as described in section 1b). The rate of decline in premature CHD deaths in the most deprived areas in Grampian is greater than that across Scotland as a whole.

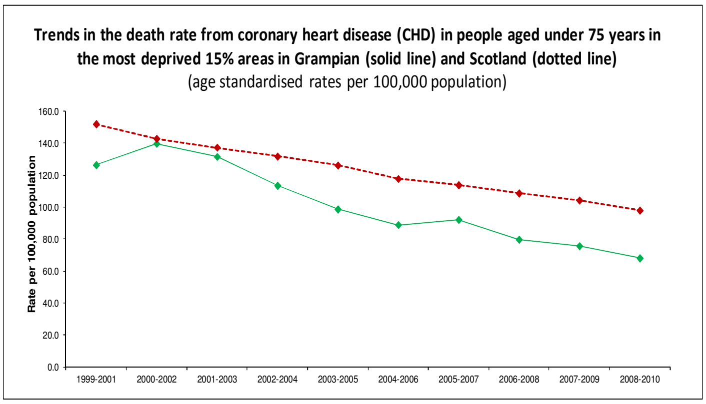


Figure 2: Trends in the death rate from CHD in people under 75 years in the most deprived 15% areas in Grampian and Scotland
Source: GRO(S); Scottish Government Analytical Services Division (downloaded from ISD website; original tables MC2 and DC4)

Managed Clinical Networks

NHS Grampian has two local Managed Clinical Networks (MCNs) with a broad remit for cardiac and stroke services across the region. Both MCNs involve clinicians, public health, patients, managers and members of the public, who are jointly involved in overseeing these NHS services in Grampian. A third MCN is responsible for diabetic services. There are close links between all three MCNs. Since CHD, stroke and diabetes share common risk factors, the broad focus of preventing the development of these conditions (primary prevention) is on smoking cessation and promoting physical activity and healthy eating.

NHS Grampian works through the local MCN for CHD to implement its CHD prevention strategy, which involves a 'population approach', complemented by a 'high risk group approach'. The MCN for CHD has an established workplan based on those set out in the Scottish Government's 2009 'Better Heart Disease and Stroke Care Action Plan',[2] the 2010 Scottish Quality Improvement 'Clinical Standards for Heart Disease'[3] document and also on locally identified priorities. The MCN for CHD is particularly concerned with the delivery of real sustainable service improvements within current financial restraints.

In earlier years, the MCN for CHD has overseen considerable service redesign, which has brought tangible benefits to patients. These have included the development of community cardiology clinics, with increased availability of cardiac investigations (including echocardiography, exercise testing and arrhythmia monitoring) in the community, along with rapid access to chest pain assessment clinics, to ensure that patients experiencing new chest pain, or a sudden worsening of their symptoms, are seen as soon as possible. The provision of cardiac rehabilitation, across all four phases, has also been expanded for patients recovering from myocardial infarction and heart surgery. In the acute sector, the opening of a new vascular laboratory at Aberdeen Royal Infirmary has increased access to coronary angiography, angioplasty and stenting.

Heart Failure

Heart failure is a complex and rather poorly understood condition, in which the heart cannot adequately pump blood around the body. The risk of heart failure increases with age and, with the ageing population of Grampian, the management of heart failure is an important element of the Grampian CHD Strategy. Echocardiography is the standard investigation for heart failure and the equipment for undertaking this is now widely available and accessible to GPs across Grampian. Even with the best treatments, the prognosis of heart failure remains poor with few patients surviving for more than five years with a diagnosis of 'severe' heart failure. Consequently, palliative care is an important element of care. The MCN has supported the development of specialist heart failure nurses.

Arrhythmias

The ageing population in Grampian presents particular challenges to the delivery of effective cardiac services. Atrial fibrillation (AF) is an 'arrhythmia' (irregular heart beat) that is much more common in older people. Approximately 6% of people aged over 65 years have AF and the condition significantly increases the risk of stroke. This risk can be reduced by the use of the blood thinning drug warfarin, but use of warfarin requires regular monitoring, since it increases the risk of bleeding. Newer and more expensive drugs, that do not require regular monitoring, have been developed and the surgical technique of 'atrial ablation' can also be used to treat this condition.

Valvular Disease

The ageing population in Grampian also presents other challenges to the delivery of cardiac services. In addition to the hardening of arteries that occurs with increasing age, the valves of the heart also become stiffer and narrowed with age. Patients with severe narrowing ('stenosis') of the aortic valve rapidly develop heart failure and have a very poor outlook. Surgical aortic valve replacement (open heart surgery) is the standard effective treatment, but a proportion of elderly patients have coexisting conditions (including CHD) that preclude surgery. Recent evidence from a single well-designed randomised controlled trial (RCT) indicates that an alternative minimally invasive procedure (known as ‘trans-catheter aortic valve replacement insertion (TAVI) significantly improves both survival and symptoms in such patients. TAVI is more expensive than routine surgical aortic valve replacement. In the absence of a TAVI service in Scotland, Grampian patients who require it are presently referred to a hospital in London on a case by case basis. It is anticipated that a new TAVI service in Scotland will start in late 2012.

4c) CANCER

As a group of diseases, cancer is characterised by variations in individual-level risks, due to genetic susceptibility, non-modifiable risk factors, such as increasing age, and exposure to modifiable risk or protective factors.

Modifiable Risk Factors

Potentially modifiable risk factors, such as exposure to tobacco smoke or obesity, are associated with the occurrence of different diseases. A systematic assessment of the available research evidence by the World Cancer Research Fund [1] concluded that there is a convincing association between obesity and an increased risk of occurrence for cancers of the oesophagus, pancreas, colon and rectum, breast (postmenopause), endometrium, and kidney. The expert panel agreed that any factor related to food, nutrition and physical activity, that decreases the risk of weight gain, being overweight and obesity, can also be taken to indirectly protect against these cancers

Common Cancers in Grampian

Some 2,750 cancers (excluding non-melanoma skin cancers) were diagnosed in Grampian residents during 2010. The number of cancers has increased over the last 20 years, as shown in Figure 1. This trend can be explained by an ageing population, improvements in diagnosis and levels of exposure to risk or protective factors. The most common cancers diagnosed in Grampian are lung, colorectal, breast and prostate cancers.

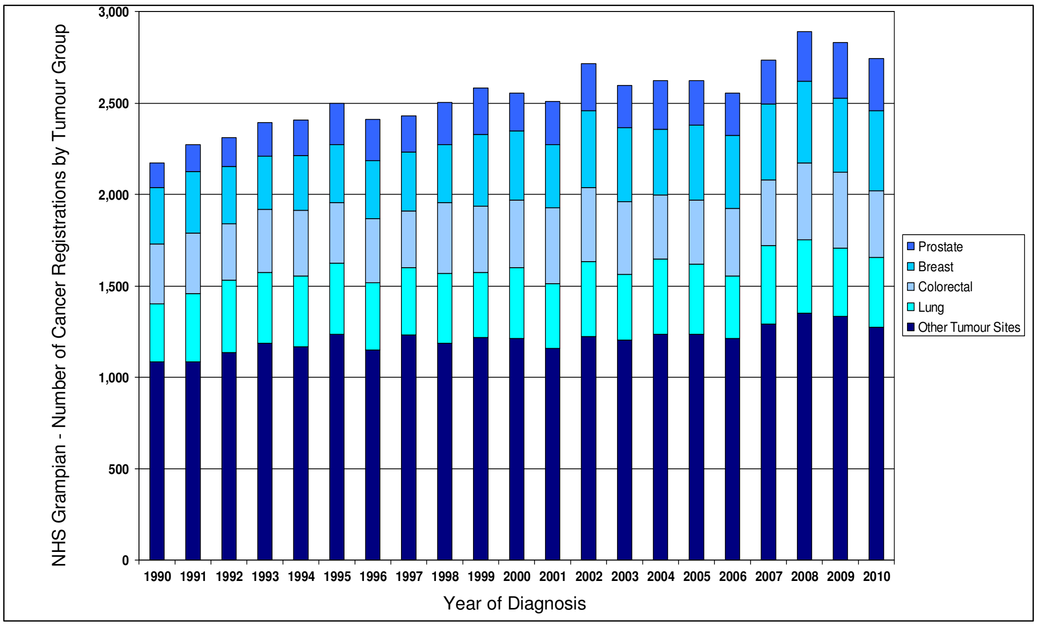


Figure 1: NHSG-Number of Cancer Registrations by Tumour Group 1990 to 2010
Source: ISD Scotland

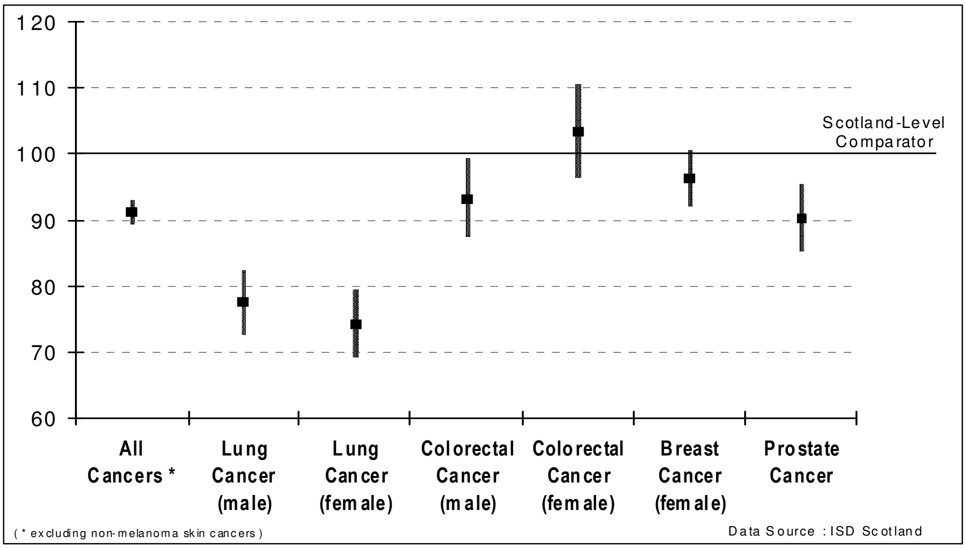


Figure 2: NHSG Standardised Incidence Ratio (SIR) with 95% confidence limits - Calendar years 2006-2010[2]
Source: ISD Scotland

Direct comparisons of observed total population cancer numbers or rates can be misleading, due to differences in population age and sex structure. When comparing a small number of observed events or individuals (low frequency of occurrence, short timeframe or small geographical areas), apparent differences between areas may be due to random variation.

The ‘age and sex’ Standardised Incidence Ratios (SIR), shown in Figure 2, summarise the occurrence of new cancer cases diagnosed in Grampian, over a four year period, relative to a Scotland-level comparator (value 100). As cancer incidence is influenced by ‘natural’ random variation, a 95% confidence interval range is used to quantify the imprecision in the estimate. Over the period 2006-2010, the Grampian incidence was lower than the Scottish average for all cancers (excluding non-melanoma skin cancers), lung cancer, prostate cancer and colorectal cancer in males.

Cancer Risk in Scottish Men and Women

The risk of males and females in Grampian developing the most common cancers, using Scottish data, is shown in Table 1.

Disease risk is the probability estimate that a given disease-related outcome or event will occur within a defined timeframe. Disease risk reduction, at a population-level, includes interventions and services, not only to prevent the occurrence of disease (primary prevention), but also to treat or reduce the rate of disease progression, at the earliest possible stage (secondary prevention) and reduce the impact of disease consequences, once established (tertiary prevention).

Scotland Level Data (ISD - Cancer Registry)	Lung Cancer		Colorectal Cancer		Breast Cancer		Prostate Cancer
	Males	**Females**	**Males**	**Females**	**Males**	**Females**	**Males**
From Birth up to Age 64	1 in 57	1 in 69	1 in 64	1 in 88	Not available	1 in 18	1 in 53
From Birth up to Age 74	1 in 23	1 in 28	1 in 29	41 in 1	Not available	1 in 13	1 in 19
From Birth up to Age 84	1 in 14	1 in 18	1 in 19	1 in 26	Not available	1 in 10	1 in 13
From Birth up to Whole Life	1 in 13	1 in 16	1 in 17	1 in 21	Not available	1 in 9	1 in 12

Table 1: Scotland-Level: Population-level Risk of Developing Cancer (based on 2005-2009 data for Scotland). Source: ISD Scotland[2]

It is well recognised that deprivation is associated with an increased risk of cancer mortality, as shown in Figure 3. Early detection and treatment of cancer is dependent on individual participation in evidence-based population screening programmes for sub-clinical stage disease without identifiable signs or symptoms, as described for breast, bowel and cervical screening in section 4a), and minimising individual delays in seeking medical advice, when identifiable signs or symptoms occur.

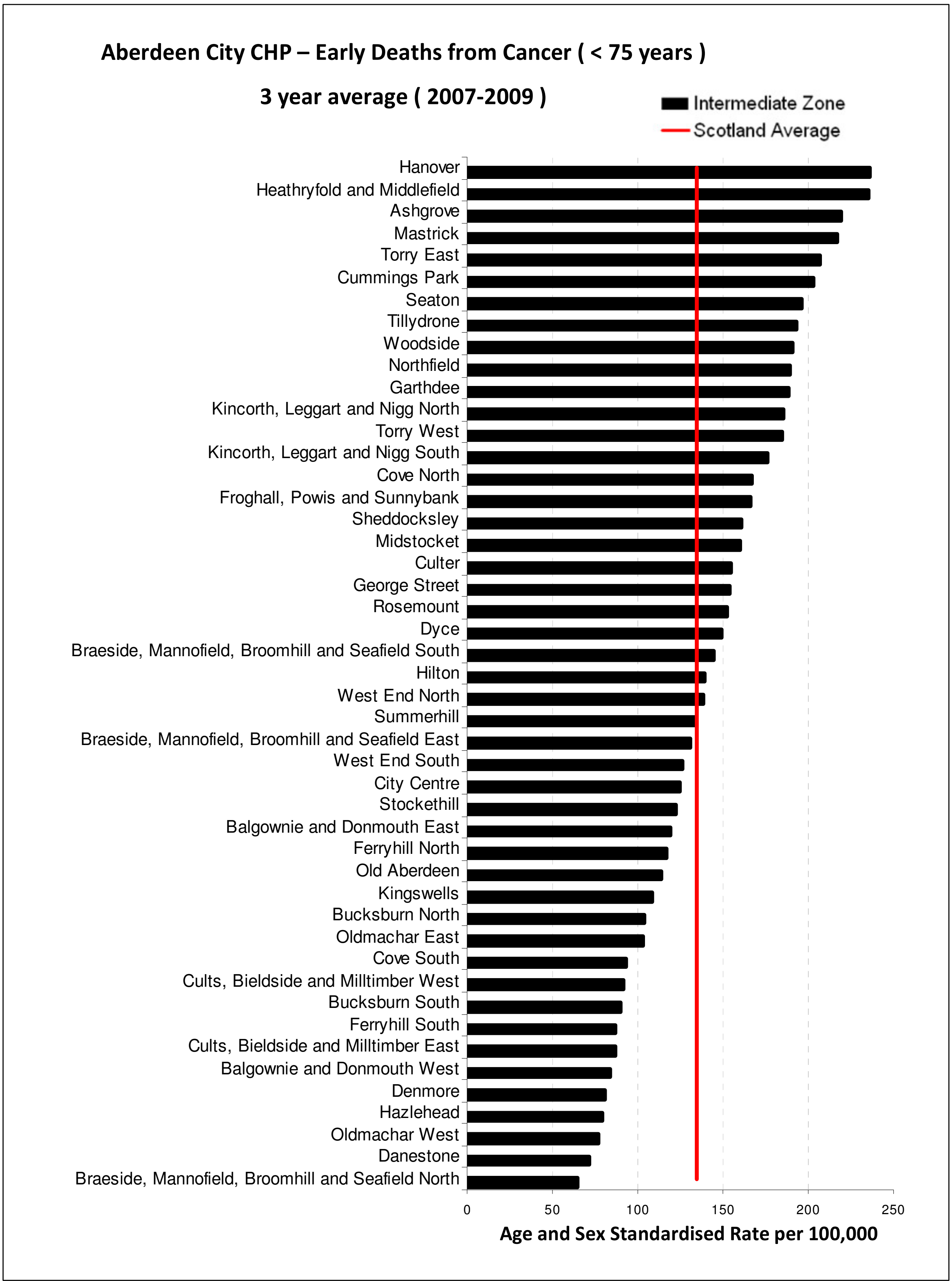


Figure 3: Aberdeen City CHP Intermediate Zone Level - age/sex standardised cancer mortality rate for persons under 75 years of age [3]

Source: ScotPHO 2010 Health Profiles

Cancer Survival in Scottish Men and Women

Survival estimates for common cancers are not routinely available at NHS Board level, but at Scotland level, as shown in Table 2.

With an increasing number of treatment options, surgery, radiotherapy and chemotherapy, and improvements in clinical outcomes, an increasing number of people are living with cancer and beyond cancer.

Cancer Prevention and Care

Primary prevention offers the most cost-effective long-term strategy for the control of cancer.

The national and local Detect Cancer Early programme aims to inform and support an individual's judgements and choices to maximise the probability of seeking treatment at the earliest possible stage of the disease.

Geographical, disease-specific or patient group care pathways within Grampian should be integrated from primary prevention to end-of-life care as required, and across organisational boundaries without barriers.

Scotland Level Data ISD - Cancer Registry	Lung Cancer		Colorectal Cancer		Breast Cancer		Prostate Cancer
	Males	**Females**	**Males**	**Females**	**Males**	**Females**	
1yr relative survival	27.2%	30.4%	75.7%	73.4%	Not available	96.5%	95.6%
5yr relative survival	7.3%	8.8%	55.1%	55.0%	Not available	85.9%	85.5%

Table 2: Scotland-Level: lung, colorectal, breast and prostate cancer survival for patients diagnosed 2003-07

Source: ISD Scotland

4d) ALCOHOL AND DRUGS

Alcohol in Grampian 2011

Alcohol Consumption Trends

Scotland is a country of high alcohol consumption and Grampian is no exception to this. Consumption figures, from The Scottish Health Survey 2010,[1] estimate that 43% of the adult Scottish population drink above sensible limits, either on a weekly or daily basis and are, therefore at increased risk of harm, compared to those that enjoy drinking more responsibly. Localised survey data suggests that Grampian rates do not significantly differ from Scottish rates[2]. In Grampian, this equates to nearly 200,000 adults (aged over 16 years).

For younger consumers, the trends are more encouraging. From the Scottish Schools Adolescent Lifestyle and Substance Use Survey (SALSUS) data,[3] reductions in 'ever drinking' and weekly drinking are apparent from 2002 to 2010 in all three local authority areas. Grampian-wide, fewer 13 and 15 year olds have ever had a drink, 74%, compared with 60% in 2010. The proportions drinking at least weekly have reduced from 20% to 13%.

Alcohol Brief Interventions Programme

Once alcohol has become an issue of physical dependence and addiction, therapeutic interventions are of uncertain long-term benefit. Of much more proven value is the implementation of a programme of alcohol brief interventions (ABIs) into routine, opportunistic clinical practice, well before dependence becomes the issue. A robust evidence base[4] and the Government's HEAT target have underpinned implementation of this effective programme of action, aimed at reducing harmful and hazardous alcohol consumption, through general practice and other services.

NHS Grampian was successful in sustaining such activity thanks to the efforts of frontline staff. In 2011, 7,177 ABIs were delivered, following opportunistic screening by GPs and practice nurses. Over the past three years of the programme, when more than 22,000 ABIs have been delivered across all services, it is likely that at least 3,000 individuals have reduced their hazardous or harmful consumption of alcohol following this brief, focused discussion with a clinician. This is a very positive result for a recently implemented programme. With the support of the three Alcohol and Drug Partnerships of Aberdeen City, Aberdeenshire and Moray, a local aspirational target has been set for delivery next year, where the aim is to double the number of people offered this effective intervention.

Specialist Services

Over the past two years, specialist services across Grampian have been reviewed to ensure that support is available for patients suffering the more addictive effects of alcohol. In many cases, this has led to re-commissioning services, facilitating more rapid and appropriate access to specialist counselling and support services, through both statutory and third sector services.

A positive aspect of addressing access to these specialist services is demonstrated by the significant improvement in waiting times in each of the three areas in Grampian. This was possible due to the specific focus on accessibility during service redesign, stimulated by increasingly challenging Government HEAT targets. Overall, waiting times for patients, who have attended specialist alcohol services more than three weeks after referral, have decreased in 2011.

	January – March 2011		October – December 2011	
	completed waits*	ongoing waits at 31/03/2011**	completed waits*	ongoing waits at 31/12/2011**
Scotland		78% of 2719	86% of 7449	69% of 2616
Grampian	33% of 311	76% of 237	68% of 320	77% of 242
Aberdeen City	11% of 111	93% of 70	70% of 86	62% of 79
Aberdeenshire	40% of 130	59% of 88	73% of 170	75% of 72
Moray	54% of 70	81% of 79	50% of 64	92% of 91

Table 1: Waiting Times Alcohol Service, Grampian
Source: ISD Scotland[6]
*completed waits:% of those seen within 3 weeks of referral of those starting treatment
**ongoing waits: % of those still waiting who have waited less than 3 weeks

Excessive alcohol consumption can lead to acute harms in the short-term and attendances through Accident & Emergency (A&E) are an indicator of the size of this issue. The Scottish Trauma Audit Group report[7] estimated that 11% of A&E attendances were alcohol related in 2008. For Grampian, this is likely to account for more than 16,000 of the approximate 147,000 A&E attendances in 2011[8] – a significant burden of care.

To support the acute side of medical care for patients whose journey includes a hospital stay, increased investment was made towards supporting the alcohol liaison nursing function between primary and secondary care in Aberdeen and Elgin hospitals and the wider Grampian community. This aimed to assist patients in the hospital setting with trying to find solutions to their alcohol-related problems, sooner rather than later.

Alcohol Related Admissions and Deaths

Although evident on trend analysis, it is perhaps too early to say that, as a result of these initiatives, alcohol related admissions in Grampian[9] are showing a decrease over the five-year period from 2006/2007, with peak numbers of 3,844 admissions in 2008/09, falling to 3,324 in 2010/2011. Alcohol-related psychiatric admissions added an average of 145 to these totals, each year, over the same time period.

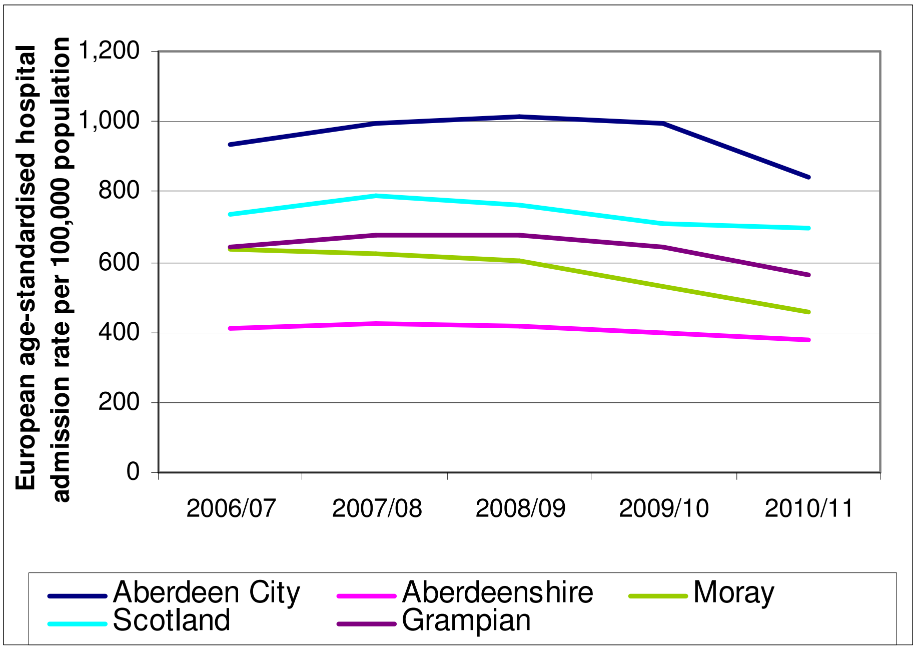


Figure 1: Alcohol-related hospital admission rates, Grampian 2006/07 – 2010/11
Source: ISD Scotland[11]

The ultimate outcome of mortality, however, suggests that death from alcohol related causes continues to be significant, likely a reflection of drinking habits over the past 10-20 years, perhaps attenuating now (provisional 2011 data).

Reducing alcohol consumption through pricing is considered an effective way of changing hazardous or harmful drinking habits and NHS Grampian has been keen to support the Government's policy of minimum pricing.

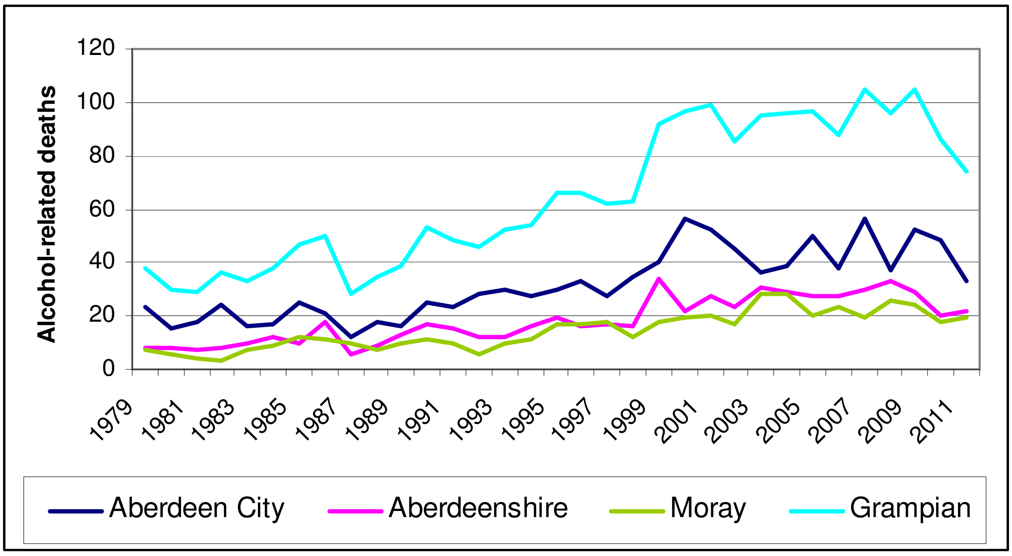


Figure 2: Alcohol-related deaths, Grampian, 1979-2011
Source: ISD Scotland[1]

Future Policy

By way of the Alcohol etc. (Scotland) Act 2010,[10] the health board's new role in supporting Grampian's five alcohol licensing boards in protecting and improving public health is also welcome. Addressing the public health objective will be challenging, as a population approach to the issue of excessive alcohol consumption is worked through with other interested parties.

Grampian partners on the alcohol agenda have embraced the renewed focus on preventing alcohol harms to the population. Consideration of the short-term needs of those affected, including family members and the wider community, is but one component of the continuum of care along the journey of recovery, which will last for years.

Drugs in Grampian in 2011

Drug Misuse Trends

There has been a significant and justifiable shift in focus from drugs to alcohol issues, among professionals trying to address the harms of substance misuse, but drug misuse remains a live issue. At a population level, alcohol affects many more than drugs do. Although quantifying the prevalence of drug misuse is difficult, nationally-derived estimates of heroin and benzodiazepine misuse are estimated at 4,900 in Grampian.[11] These population-based rates place Aberdeen City among the local authority areas with the highest rates in Scotland, but numbers appear to have stabilized, since the previous survey in 2006. Stimulant use (cocaine, ecstasy, amphetamine) is more prevalent, estimated at 2.8% for use in the previous year in Scotland, possibly 13,000 individuals aged 16 years and over[12] in Grampian.

Consumption of drugs by school-aged children is demonstrating an encouraging trend. According to SALSUS,[13,14] fewer 13 and 15 year olds are using illicit drugs in 2010 than was reported since 2002, across all three local authority areas, although the reduction is less marked in Moray than in Aberdeen City and Aberdeenshire. From 2002 to 2010, those 'ever taking' drugs decreased from 20% to 8%. The proportion taking drugs at least once a month also reduced from 13% to 5% overall. Education and general public awareness of the harms associated with drug misuse continue.

Drugs, whether illicit or unprescribed, are dangerous and led to at least 48 deaths, mainly from overdose, in 2011. These deaths, in Aberdeen City, Aberdeenshire and Moray residents (28, 13 and 7 respectively), were the highest recorded for years. The deaths were concentrated in the first half of the year, when the street market was particularly unstable, due to decreasing heroin purity and it is likely that substitution with other sedative substances (benzodiazepine and alcohol), replacing the poor quality heroin, inadvertently increased the risk of overdose. This explanation of increased deaths is corroborated by toxicology data on those who died and by evidence of decreasing heroin purity percentages from Grampian Police drugs seizures.

	January – March 2011		October – December 2011	
	completed waits*	ongoing waits at 31/03/2011**	completed waits*	ongoing waits at 31/12/2011**
Scotland			82% of 4044	76% of 1487
Grampian	38% of 312	50% of 167	87% of 350	90% of 135
Aberdeen City	41% of 112	63% of 30	96% of 161	95% of 38
Aberdeenshire	32% of 155	42% of 107	83% of 137	87% of 63
Moray	49% of 45	59% of 34	69% of 52	91% of 34

Table 2: Waiting Times Drug Services Grampian
Source: ISD Scotland[16,17]
*completed waits: % of those seen within 3 weeks of referral of those starting treatment.
** ongoing waits: % of those still waiting who have waited less than 3 weeks.

Specialist Services

This period of increased risk from street drugs coincided with increased access to treatment services, when progression to clinical treatment of heroin addiction became easier. Specialist services were better able to offer support and effective substitution therapy, with methadone and buprenorphone under close initial supervision and continued monitoring of sufficiently-dosed opioid prescriptions, an effective intervention in reducing overdose mortality, criminality and blood borne virus transmission.[15] Its use as a therapeutic tool continues to be supported by clinicians, who participate in its administration. Significant improvement in access to such management is evidenced by the clear reduction in waiting times for specialist drug services over the past year. By the end of the year, it was estimated that approximately 2,000 patients were supported by services in this way.

Drug User Deaths

While drug deaths were tragically high, they were also avoidable. With the improvement in waiting times, many drug users inadvertently detoxifying in the community were able to access specialist treatment services for support, thus avoiding overdose and death.

Other Drug Related Issues

Other associated harms from drug misuse include criminal activity, which often pays for costly street drugs. Incarceration on remand or conviction adds further costs and consequences for individuals and society. Parental drug misuse can leave children and families suffering too and recent efforts have been made to try to focus on ensuring that the opportunity of support exists for them, as well as for the users themselves.

Prevention Service

Provision of sterile needles and syringes for each injecting episode assists in avoiding transmission of blood borne viruses and remains an important harm reduction measure for those injecting drugs. Roll-out of additional paraphernalia, namely filters and spoons, was completed during this past year, in line with Government policy and is described in Section 3c).

The training and provision of naloxone to drug users, and those close to them, also started towards the end of the year and it is hoped that this will assist in reducing opiate related deaths, by providing the opiate antidote closer and more rapidly at the scene of overdose.

Raising public awareness of the risks of drugs has focused on dissemination of educational material through the Curriculum for Excellence programme in schools, publicising community support services, by way of local and national campaigns and promoting testing for blood borne viruses. Such notions on primary and secondary prevention have helped to shape the redesign of specialist services, thus ensuring that more of a population approach is realised.

Future Policy

Underpinning the drugs strategies in all three Alcohol and Drug Partnership areas is the Government's recovery agenda, as outlined in the 'Road to Recovery', the national drug strategy since 2008. A particular local focus has been placed on ensuring that wrap-around support services, often provided through contracted third sector organisations, are in place and easily accessible and that statutory services continue to play their part effectively in this recovery.

4e) DENTAL SERVICES

In 2007, 57% of children and 28.5% of adults in Grampian received NHS dental care. The waiting list for outpatient appointments exceeded 25,000 but did not differentiate between children, the frail elderly and the disadvantaged, who were on a single waiting list, which often exceeded five years. Those in pain were treated urgently, but many patients, with large restorative needs, required long and prolonged courses of treatment, which exacerbated waiting times. Between 2007 and 2011, over 125,000 new patients were registered with a dentist, exceeding the target set in the NHS Grampian Dental Plan 2008.

data, previously aggregated by dental practice, indicated that the most deprived areas had the poorest access to dental care services, with the poorest access for children in Aberdeen City and for adults in Aberdeen City and Moray. A target of 120,000 new additional registrations was set, as part of the 2008 NHS Grampian Dental Plan. Continuous improvement has taken place since 2007, with over 131,000 new NHS registrations. Registration of children has not been as high as anticipated, despite children being removed from the waiting list in 2009 and offered guaranteed access within 12 weeks. Emergency access was improved to national standards and access to urgent care, within 24 hours.

Registrations	June 2007	June 2009	June 2011	Increase 2007-2011
Children	62,240 57.5%	73,520 67.7%	78,036 71.7%	+15,796 +14.2 %
Adults	119,868 28.5%	155,686 36.1%	208,742 47.9%	+ 88,874 +19.4 %
All population groups	34.4%	42.5%	52.6%	+104,670 +18.2 %
Waiting list				
Number (Mid month estimate)	25,000	35,000	10,000	Down 25,000 Based on highest point

Table 1: NHS Grampian – Between June 2007 and June 2011 an additional 104,670 NHS dental registrations - in line with target set in 2008 NHSG Dental Plan
Source: ISD Scotland

Initial assessment of the waiting list showed that Aberdeenshire and Moray had greater problems. Postcode data became available in 2009 and retrospective analysis of

In order to support the development in oral and dental services, a Managed Clinical Network (MCN) was established with clinical, public health and managerial representatives from primary and secondary care services and in collaboration with patients and the public.

Subgroups within the MCN are clinically led and the following have been developed:

- Referral guidelines for all primary and secondary dental specialties;
- A central referral point for all primary care dental specialties Care HUB;
- Increased access for urgent and emergency dental care across Grampian with links to

the weekend service in Highland for Moray residents;
- An intermediate care service for patients requiring minor oral surgery;
- Improved care pathways for people who have special care requirements.

Aberdeen Dental School

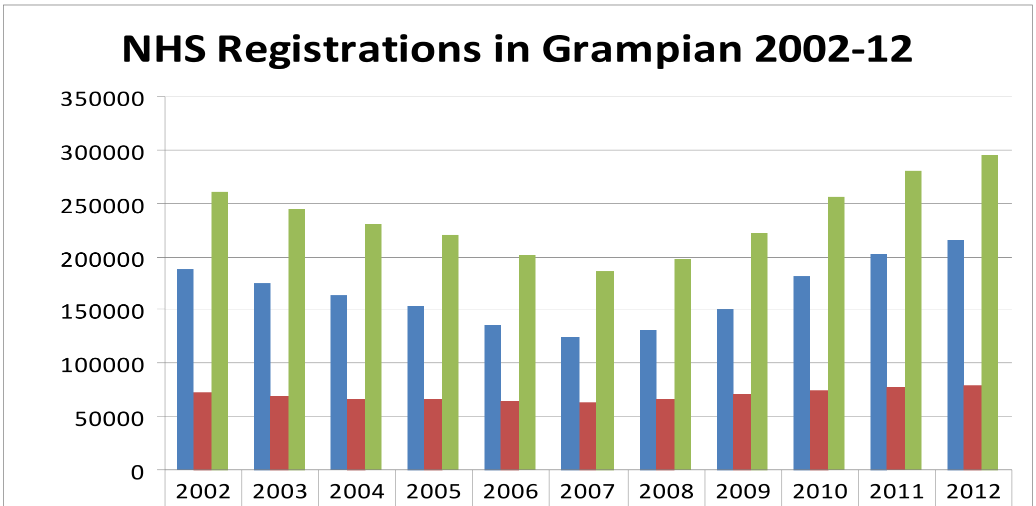
Recognition of the deteriorating dental services and NHS registration levels in Grampian between 2002 and 2007, combined with the largest waiting list for NHS primary care dental services in the UK, led to a radical restructuring of dental services in Grampian and the North of Scotland.

The Aberdeen Dental School, as part of the University of Aberdeen School of Medicine and Dentistry, was the first dental school to be built in Scotland for over 50 years.

- The first students were recruited in 2008;
- The dental school was opened in autumn 2009;
- The first 13 students graduated in July 2012.

In addition to the dental school, two major outreach teaching centres in Aberdeen and Elgin and a new purpose designed dental postgraduate centre in Aberdeen were developed between 2006 and 2008.

The next phase of development will be in line with the Quality Strategy for Scotland, to ensure the highest quality of care is delivered throughout Grampian dental services.



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Adults	18814	17531	16370	15467	13651	12419	13098	15040	18165	20289	21584
Children	72292	69915	66745	66150	64715	62492	66226	71869	74173	76983	78906
TOTAL	26043	24522	23044	22082	20122	18668	19721	22227	25582	27988	29475

Figure 1: NHS Registration in Grampian 2002-2012
Source: ISD Scotland

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