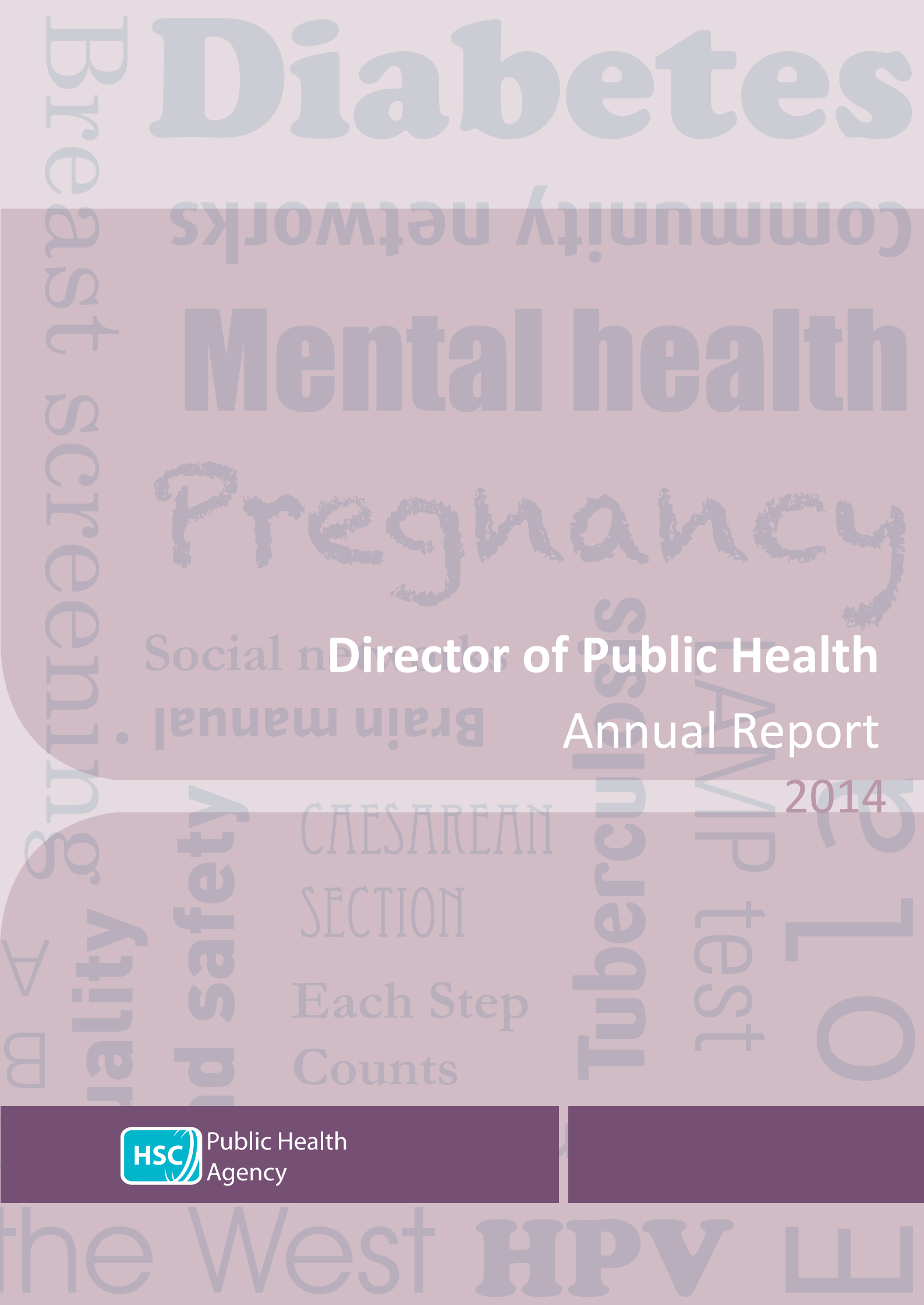
Diabetes
Mental health
Pregnancy
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2014
Each Step
Counts
HSC
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Agency

Breastfeeding

Tackling inequalities

Healthwise

activity

physical

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Cook it!

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Weight loss

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Glaucoma

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Breast screening

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Diabetes

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HPV

Healthy Hearts in the West

Ebola

# Contents

# Foreword

**Dr Carolyn Harper**

*"One of the signs of passing youth is the birth of a sense of fellowship with other human beings as we take our place among them"*

**Virginia Woolf**

Welcome to the *Director of Public Health Annual Report 2014*. The theme of this year's report is 'Making Life Better – Improving Health and Care for Adults'. *Making Life Better* is the new 10 year strategic framework for public health in Northern Ireland, designed to improve health and wellbeing and reduce inequalities. The framework contains six themes, reflected throughout the articles in this report, but particularly the themes 'Equipped throughout life – ready for adult life' and 'Empowering healthy living'.

## Why adults?

Adults (aged 18–64 years) make up over half of the Northern Ireland population. They fulfil many roles and have very different experiences. Achieving optimal health and wellbeing relies on multiple factors: housing, nutrition, safety, physical activity, opportunity for education and work, meaningful relationships, community involvement, and many other diverse elements related to individuals' needs.

Access or lack of access to these opportunities can have significant positive and negative effects on health and wellbeing. Adults are the backbone of the population, providing economic activity and caring roles for the young and older members of society, sometimes all at once. Their health and wellbeing is therefore paramount. Healthy adults will be healthier older people. At a time when life expectancy is increasing and our population is ageing, it is essential that people are supported to enjoy as many of their increased years as possible in good health.

## Meeting the challenges

Society, health and healthcare have developed enormously in recent decades. However, the health and wellbeing enjoyed by some is not enjoyed by all, or even a majority of the population. Inequalities are a key challenge for our society and there is evidence that the bigger the gap between the most and least deprived, the worse the health of the population as a whole. Inequalities are therefore everyone's concern.

Adults from all backgrounds should be empowered to make positive choices for themselves and their families that will have positive impacts on their health for years ahead. The Public Health Agency (PHA) works with partner organisations and the public to raise awareness of health problems and healthy behaviours, support interventions and services that enable people to make these choices, and change behaviour and teach new skills.

Prevention is a key goal in public health, helping adults manage their own health and avoid the need for hospital and other health services. For those who do face health problems, the PHA works alongside other organisations to develop high quality services that meet patients' expectations and needs. Screening services aim to detect disease early to improve outcomes, and the PHA has a lead role in ensuring these programmes are of high quality. Threats to health such as emerging infections must also be managed and the Health Protection service reviews such threats, communicates with the public and takes action when necessary.

My report outlines some of the key programmes and services working to ensure the adult population of Northern Ireland is as healthy as possible. I hope you enjoy reading it.

Dr Carolyn Harper
Director of Public Health

**Further information**

**Dr Carolyn Harper**
**Director of Public Health**
carolyn.harper@hscni.net

# Introduction

## Report structure

This is the sixth *Director of Public Health Annual Report*, detailing the main public health challenges in Northern Ireland. It also provides information on the wide variety of work undertaken by the PHA and its partners during 2014 to improve the health and social wellbeing of the population. Each year, the report focuses on an overarching area, which this year is 'Adults aged 18–64 years'.

The report structure reflects the main areas of public health action:

- improving health and reducing inequalities;
- improving health through early detection;
- improving health through high quality services;
- improving health through research;
- protecting health.

For ease of reference, the sections are colour coded.

On page 94, the report also lists core tables for 2013 relating to key statistical data on, among others, population, birth and death rates, mortality by cause, life expectancy, immunisation and screening. In addition to the core tables, a specific set of tables relating to various aspects of adults aged 18–64 years are published alongside this report.

Both sets of tables are available as a portable document format (PDF) file on the PHA website at: www.publichealth.hscni.net

## Background

The PHA was established to:

- protect public health and improve the health and social wellbeing of people in Northern Ireland;
- reduce inequalities in health and social wellbeing through targeted, effective action;
- build strong partnerships with key stakeholders to achieve tangible improvements in health and social wellbeing.

The PHA takes direct public health action and commissions or facilitates action by others, including a wide range of community, voluntary and statutory partners across all sectors.

Overview

# Being a healthy and happy adult in Northern Ireland

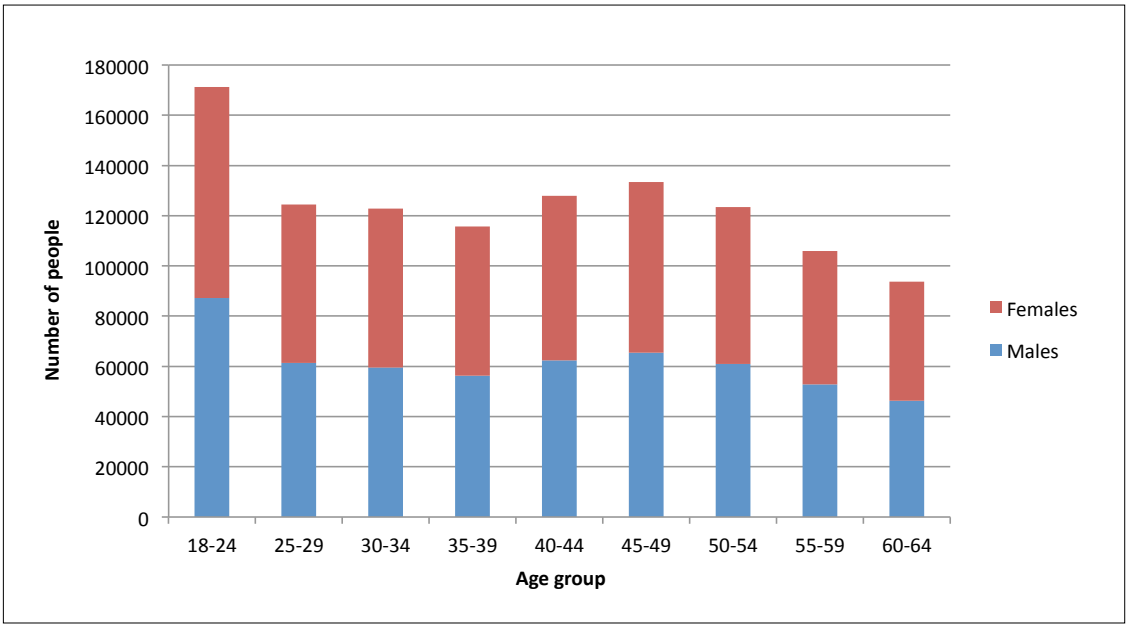
Adulthood takes up the largest portion of the human lifespan, ranging from young adults gaining independence to adults approaching retirement and old age. Given this scope and the differences between individuals, it follows that there are many diverse experiences of adulthood. Although every journey is different, all should have the opportunity for positive and healthy experiences, building on the foundations of a solid childhood and adolescent experience. As we know, however, opportunity and health are not evenly spread across our population.

At a time of cultural and economic uncertainty, amid increased recognition of the importance of early years for children and the opportunities and challenges of the increasing population of older people, adults risk being somewhat overlooked. Projections into 2020 predict the Northern Ireland population will reach 1.9 million, with a growing number of children and older people, but a largely static number of adults aged 16–64 years.[1] Adults are a vital asset to the population and this section of the report describes some important aspects of adult life in Northern Ireland.

## The adult population of Northern Ireland

Adults aged between 18–64 years constitute approximately 61% of the 1.83 million people in Northern Ireland, with slightly more females than males (50.6% and 49.4%).[2]

**Figure 1: Adult population in Northern Ireland aged 18–64 years**

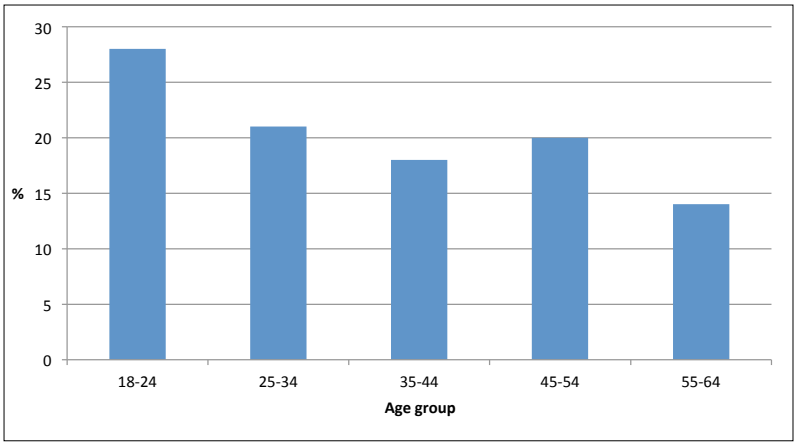



**Source: Northern Ireland Statistics and Research Agency (NISRA)[2]**

Census data show that 98.4% of adults aged 16–74 years usually resident in Northern Ireland are of white ethnicity. The main ethnic minority groups are Asian (1.1%), black (0.2%) and mixed (0.2%).[3] Usual residents from these ethnic groups have a younger age profile than those of white ethnicity.[4]

Like the rest of the UK, the proportion of the adult population in Northern Ireland of no religion is growing. In 2013, 17% of respondents reported being of no religion, double that of a decade before when only 8% of respondents declared they were of no religion.[5]

**Figure 2: Proportion of adults in Northern Ireland of no religion, by age, 2013**



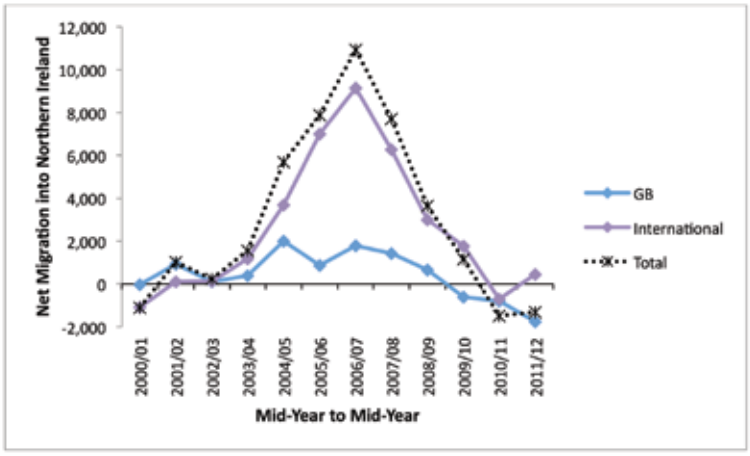

**Source: Northern Ireland Life & Times**

## Life events of adults in Northern Ireland

Northern Ireland has experienced increased migration since 2004 due to the European Union expansion, reaching a peak in 2007. Since 2007, net migration has been decreasing and since 2010, there has been a net outflow from the region. However, the overall Northern Ireland population has continued to grow due to more births than deaths.

Although measuring emigration can be challenging, data show that adults aged 16–64 years are more likely to emigrate than younger or older age groups.[6] The reasons for emigration are not clear, but given that adults are more likely to emigrate than other age groups, it may involve looking for job opportunities elsewhere.

**Figure 3: Estimated net migration into Northern Ireland (July 2000–June 2012)**



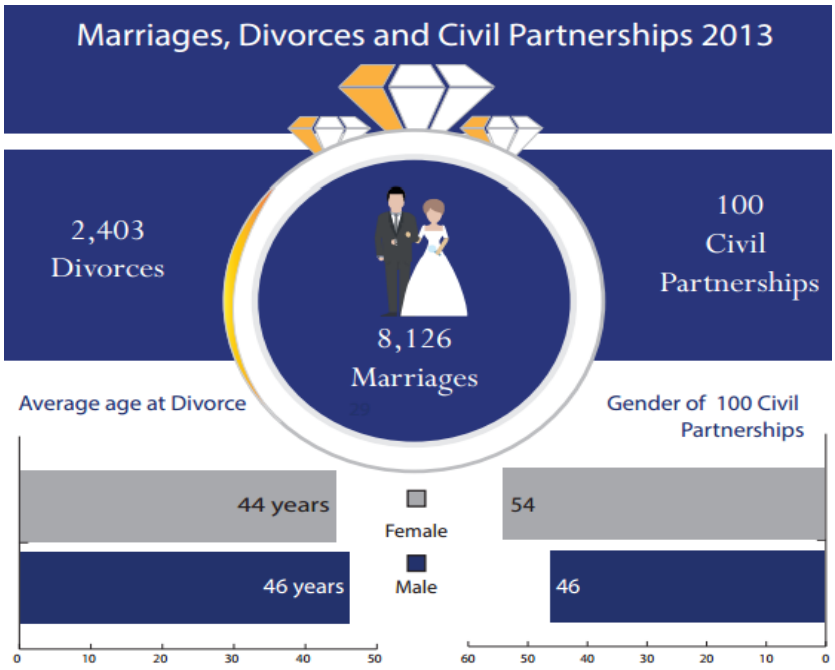

**Source: NISRA[6]**

Getting married is less common than it used to be. However, over the last 10 years marriages have increased in number by 5% to 8,126 in 2013. People now tend to get married older than previously – brides and grooms were on average aged 31 and 34 years respectively in 2013, approximately five years older than was the case two decades ago.[7] The number of civil partnerships has stayed largely static since 2005 and in 2013 there were 100 civil partnerships formed. The average age of both male and female partners was 35–36 years. The divorce rate remains largely unchanged over the last 20

years at 1.7 per 1,000 of the population over 16 years of age, which equates to approximately 1,900 divorces among adults aged 18–64 years. Over the past 10 years, there has been an increasing proportion of those getting married for whom it is not their first marriage.[8]

In the 2011 Census, 53% of the population (over the age of 16 years) were living in a couple, compared with 10 years earlier when 56% of people were living in a couple. Although people were less likely overall to be living in a couple in 2011, they were more likely to be cohabiting (increase from 4% in 2001 to 6% in 2011) and less likely to be married (decrease from 51% in 2001 to 47% in 2011).[9,10]

**Figure 4: Marriages, divorces and civil partnerships, 2013**



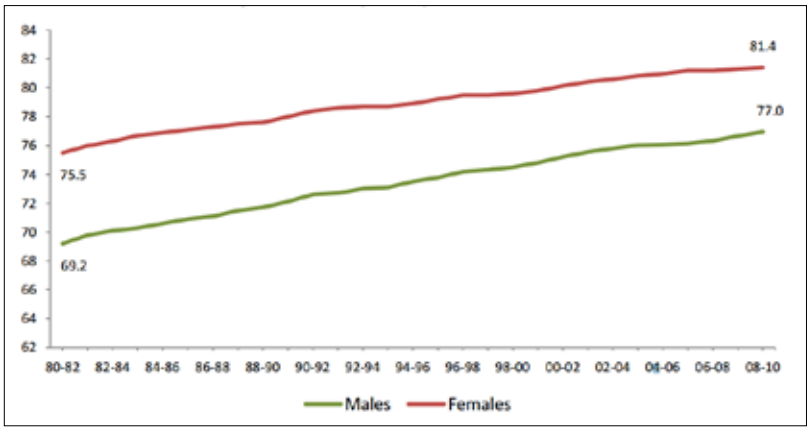

**Source: NISRA**[11]

Although births have been gradually declining since the 1960s, during the past decade in Northern Ireland, birth numbers initially increased to a peak in 2008, after which they have remained broadly stable at around 25,000 per year. Women are having their first baby at an older age. In 2013, the average age of first time mothers was 28 years, compared with 24.5 years in 1983. Also in 2013, more than half of all babies were born to mothers aged 30 years or over. The majority of births in 2013 (90%) were to mothers themselves born in the UK or Ireland, although this is a decrease from 96% 10 years ago. This is partly driven by women coming to live in Northern Ireland from the A8 countries (Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia).[12]

Societal change is evident in the patterns of births in the region. Thirty years ago, 1 in 10 births were to unmarried parents. In 2013, 43% of births occurred outside marriage. This varies across Northern Ireland and by age of mother. Cohabiting parents have increased threefold in the last 20 years. Increasing numbers of multiple births are due to the growing proportion of older mothers as well as increased use of fertility treatment.[12]

Life expectancy has been increasing steadily in Northern Ireland over the last three decades as shown in Figure 5. Today in Northern Ireland, a young adult aged 18 years can expect to live another 61 to 65 years, for males and females respectively.[13]

**Figure 5: Life expectancy in Northern Ireland**




**Source: DHSSPS**[14]

Although this is good news, further analysis shows that this increase in life expectancy has been driven mainly by falling mortality in those over 60 years of age (primarily due to improvements in mortality rates for coronary heart disease and stroke) while young adult males aged 15–44 years and females aged under 30 years actually experienced a reduction in life expectancy of 0.1 years between 2001–03 and 2008–10. The difference in life expectancy between men and women in 2008–10 was 4.4 years. The gap in life expectancy between the least and most deprived 20% of the population is substantial – 7.6 years for men and 4.5 years for women.[14]

Healthy life expectancy is the number of years we can expect to live in good health. The Northern Ireland average is 59 years for men and 62 years for women. However, the gap in healthy life expectancy between the most and least deprived in the population is greater than 10 years.[15]

**Figure 6: Breakdown of the gap between the most and least deprived males, by cause of death, 2008–10**[14]

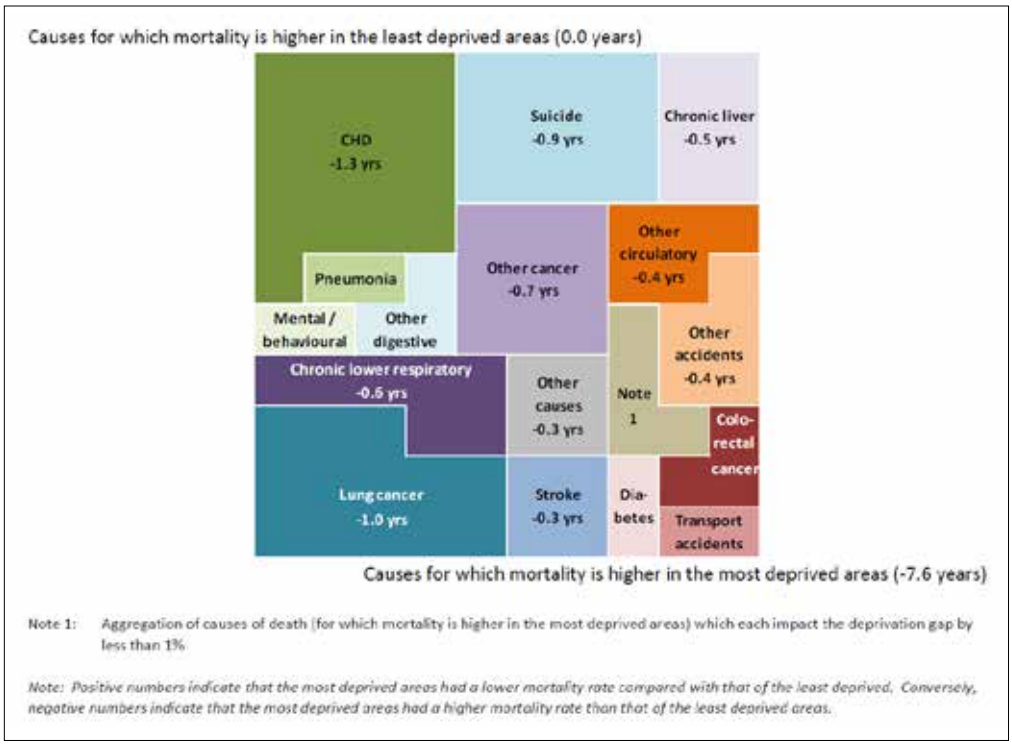
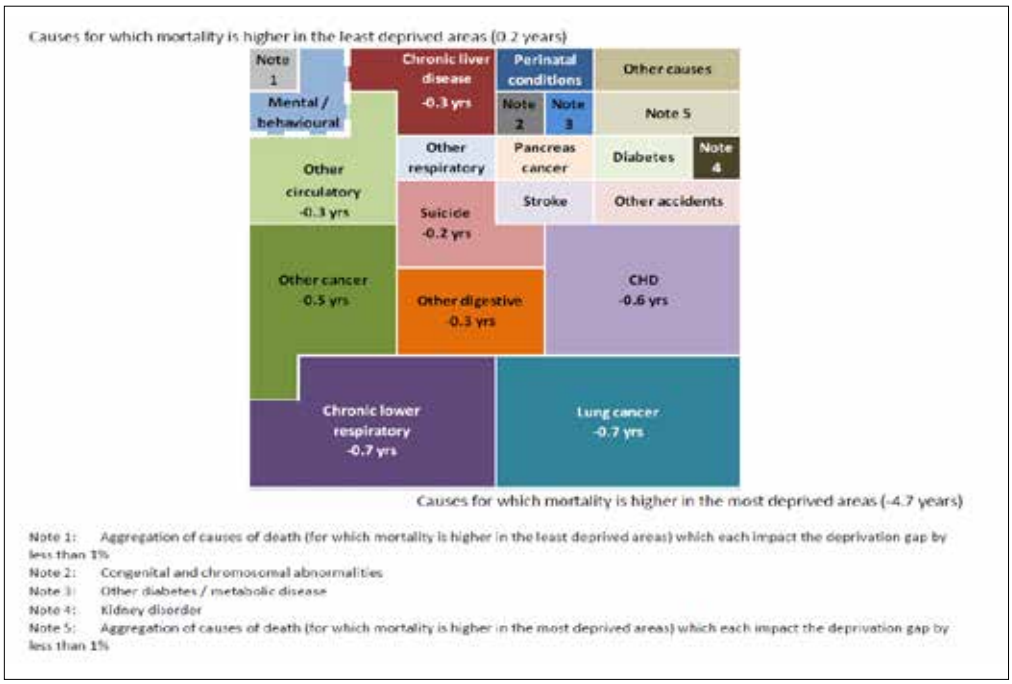
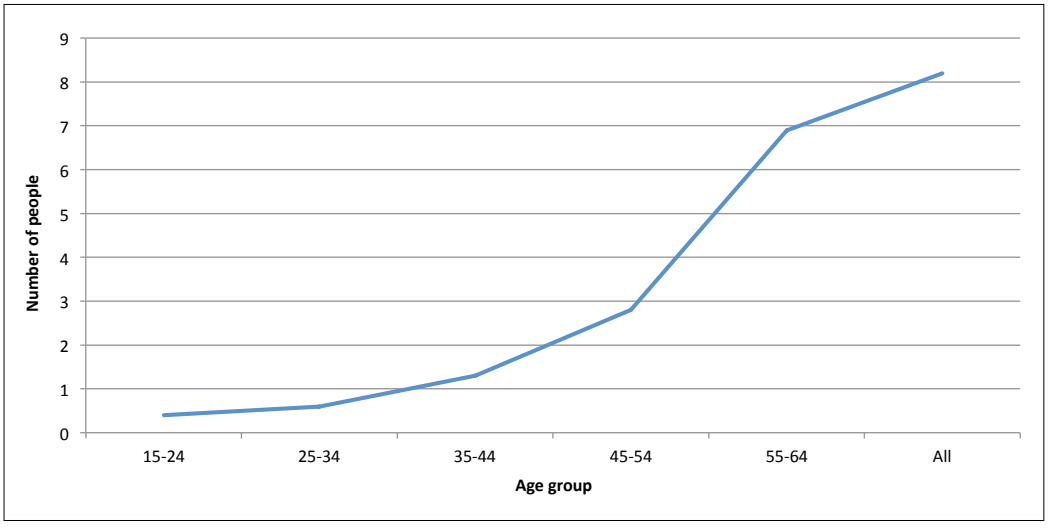


**Figure 7: Breakdown of the gap between the most and least deprived females, by cause of death, 2008–10[14]**




In 2013, deaths among adults aged 18–64 years accounted for around 18% (2,639) of the total deaths in Northern Ireland.[16] Nearly 90% of these deaths occurred in the older half of the adult population – those aged between 40–64 years. As expected, death rates increase as adults age, as shown in Figure 8. Potential years of life lost (PYLL) is an indicator of premature mortality, measured as the number of years of life 'lost' when a person dies before the age of 75 (including those aged one year and above). Deaths to adults aged 18–64 years accounted for 78% of the 77,692 PYLL in 2013.[16]

**Figure 8: Death rates per 1,000 people, by age group**




**Source: NISRA[17]**

Causes of death in adults aged 20–64 years are largely similar to those for the population overall, but there are some important differences. Cancer, respiratory disease and cardiovascular disease are the main causes of death for the whole population and constitute over two thirds (69%) of all deaths. In adults aged 20–64 years, they account for a smaller proportion (62%) of all deaths, and deaths from disease of the digestive system is the third most common cause rather than respiratory disease.

Deaths due to external causes such as accidents constitute 5% of deaths in the whole population, but among adults this proportion is higher at 7%. The proportion of deaths by suicide among adults is five times higher than that for the whole population – 10% for adults and 2% overall.[18]

### Life satisfaction of adults in Northern Ireland

*The Northern Ireland Life & Times Survey* asked a sample of adults in Northern Ireland some questions about their level of happiness. In 2013, 33% of respondents reported being very happy and a further 60% were fairly happy. Those who were most happy (highest proportion of very happy or fairly happy) were 45–64 year olds and the least happy were 18–24 year olds. A higher proportion of women than men reported being either very happy or fairly happy.

Reported happiness in most age groups declined slightly between 2007–2010, after which it generally increased again. This increase has been highest among older adults aged 35–64 years, with younger adults' reported happiness staying more static.[19]

### Lifestyle choices of adults in Northern Ireland

Lifestyle choices can play a significant role in maintaining physical and mental health. Approximately one fifth of the population (22%) still smoke, a 4% reduction over the last 10 years. Differences in rates of smoking contribute significantly to the differences in health seen between the most and least deprived groups in the population. This is reflected in smoking-related diseases – for example, the lung cancer rate among the most deprived individuals is more than double that seen among the least deprived.[15]

The difference in smoking rates by deprivation is considerable – 22% higher in the most deprived sections of the population than the least deprived. In addition, people who are more deprived are less likely to have tried to quit smoking. A higher proportion of men than women smoke, but smoking among both sexes has fallen.

Smoking is highest among adults aged 35–44 years at 27%.[20] In 2013/14, 15.2% of expectant mothers smoked during their pregnancy (down from 16.3% the previous year), with the rate much higher in the most deprived areas (27%).[21] A substantial proportion (33%) of recently quit smokers or those who were current smokers had used e-cigarettes.[20]

Becoming an adult brings additional legal rights and responsibilities such as the ability to purchase alcohol. Alcohol misuse has significant negative impacts, not only on health, but also on social status and functioning. There are more than 200 alcohol-related deaths each year in Northern Ireland, with the highest number among 45–54 year olds.[22] The most deprived in the region are more than five times as likely as the least deprived to have an alcohol-related admission.[15] Three quarters of adults report drinking alcohol, but encouragingly, the proportion drinking above sensible weekly limits has fallen from 19% in 2011/12 to 16% in 2013/14. The age group most likely to drink above sensible weekly limits are 18–24 year olds.

Prevalence of drinking alcohol also varies with deprivation. Those in the least deprived areas are more likely to report drinking alcohol than those in the most deprived areas.[20] Exceeding the recommended daily limits is more common among males, but decreases with age among both sexes. Binge drinking is more common among young adults aged 18–29 years than older adults aged 60–75 years. Drinking at home has become more common over time and drinking in a pub less so, especially for females.[23]

Drug-related deaths have more than doubled over the past 10 years, from 52 in 2003 to 115 in 2013. Two thirds of drug-related deaths in that decade occurred among 25–54 year olds.[24] The drug-related death rate among the most deprived was almost four times the rate among the least deprived, and twice the Northern Ireland average.[15] Drug misuse services saw 2,574 new clients in 2013/14, which was

9% lower than in 2012/13. More than three quarters of these clients were male. Among males, 73% of clients were aged 18–39 years, whereas among females, just 51% were aged 18–39 years, and 44% were aged over 40 years (44%). One quarter of all clients were in prison. Hypnotic drugs are the most commonly used type, with reported use by 83% of male and 77% of female clients. Use of hypnotics fell slightly between 2012/13 and 2013/14 from 84% to 82% of clients, while use of cannabis increased from 58% in 2012/13 to 62% in 2013/14.[25]

There has been an increase in notified sexually transmitted infections (STIs). HIV diagnoses are on the increase among adults, especially males aged 25–44 years, with sexual transmission the most common route. Among females, rates are highest in 25–34 year olds.[26] Other STIs such as gonorrhoea and chlamydia have been increasing over the last decade, particularly among those aged 16–34 years.[27]

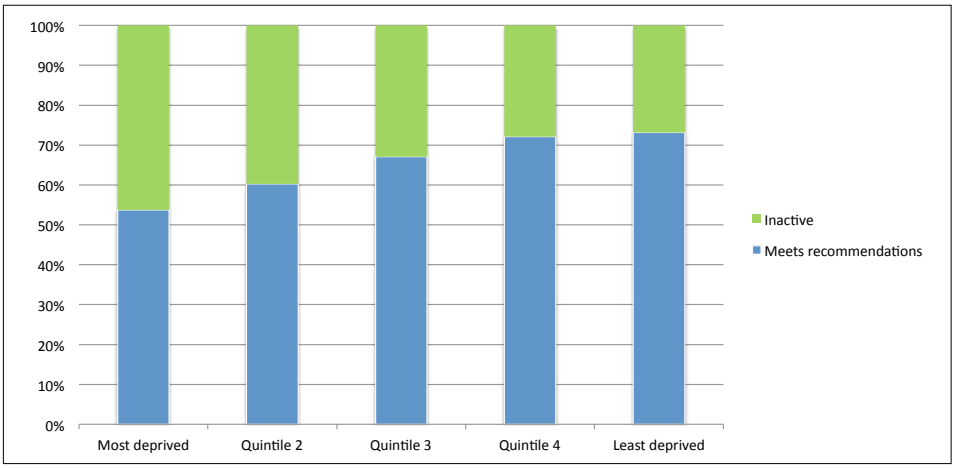
Adults aged 16–55 years were asked about their sexual health in a recent survey. Women were more likely than men to seek advice from a family planning or health clinic, while men were more likely to seek help from the internet. The major barriers to seeking advice on STIs were concerns about confidentiality or that staff may know them. Two thirds of respondents said they would prefer to see their GP about treatment for an STI.[20]

Obesity has become a major health issue in the last two decades, with a considerable impact on the health of individuals. In 2012/13, almost two out of every three adults (61%) were overweight or obese, an increase from 56% in 1997. The highest proportion of overweight or obese adults were aged 55–64 years.[20] In 2013/14, almost half of all mothers were pre-obese or obese at the time of booking. Older mothers had higher levels of obesity. Mothers from the most deprived areas had a 5% higher rate of obesity than mothers from the least deprived areas.[21]

The majority of adults are aware of the guidance on consumption of fruit and vegetables; however, only around a third of adults actually eat the recommended amount. A quarter of adults in the most deprived areas met the recommendations compared with nearly two fifths (38%) in the least deprived areas. Seven per cent of adults reported that they had not eaten a substantial meal in the last fortnight due to a lack of money.[20]

Physical activity is important for both mental and physical health, and inactivity can have serious health consequences. Inactivity shows a clear link with deprivation as shown in Figure 9. Adults from the least deprived areas are more likely than those from the most deprived areas to meet physical activity recommendations.[20]

**Figure 9: Physical activity in adults, by level of deprivation**




**Source: Department of Health, Social Services and Public Safety (DHSSPS)[20]**

The PHA is working with partner organisations on specific programmes to enable adults to reduce their weight and increase their activity with the aim of improving their health and wellbeing. The PHA recognises the centrality of good nutrition to health, and supports a number of programmes including cooking skills training and allotment projects. It also leads the implementation of the Tobacco Strategy and works with Health and Social Care Trusts (HSCTs), GPs and pharmacy services to help people stop smoking. The Health Protection team within the PHA provides a 24/7 service to protect the population from threats of communicable disease, including STIs.

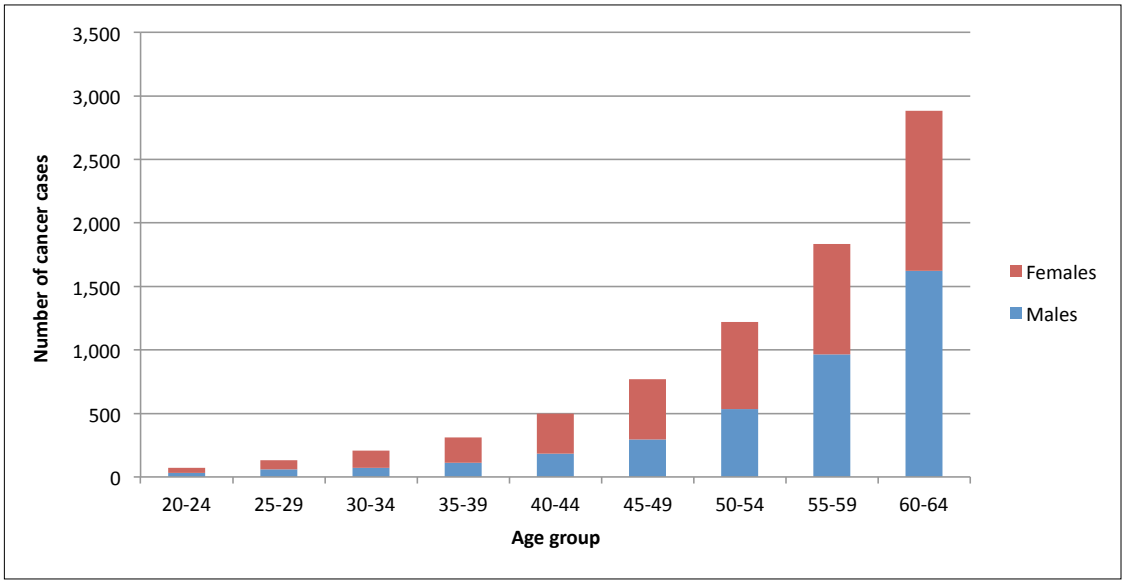
## The health of adults in Northern Ireland

Almost three quarters of adults in Northern Ireland report their health as 'good' or 'very good'. Young people tend to report better health than older people, with 46% of those aged 16–44 years reporting 'very good' health compared with 25% of those aged 55–64 years. Self-reported health also varies by level of deprivation, with those in the most deprived areas more than three times as likely to report having bad health as those in the least deprived areas. The presence of a limiting longstanding illness also increases with age and with increased deprivation.[20] Approximately one quarter of respondents in 2010 reported a longstanding illness, disability or infirmity, with the proportion highest among those aged 55–64 years at 34%.[28]

In Northern Ireland (excluding a less serious and common form of skin cancer) each year there are, on average, almost 3,300 new cases of cancer diagnosed among adults aged 20–64 years, and almost 1,000 deaths due to cancer in this age group. As shown in Figure 10, cancer incidence among adults increases with age. Cancer diagnoses are more common among women than men up to the age of 54 years, after which the pattern reverses.[29]

Cancer incidence also varies by level of deprivation, with those who are most deprived having rates significantly higher than the Northern Ireland average, whereas people in the least deprived areas have significantly lower rates than the Northern Ireland average.[15]

**Figure 10: Cancer incidence per 100,000 people in Northern Ireland, 2009–2013, by age and gender**



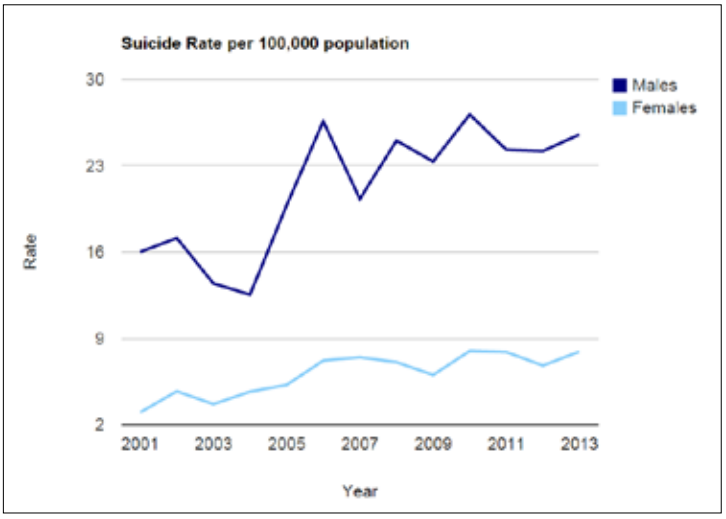

**Source: Northern Ireland Cancer Registry (NICR)[29]**

A recent survey suggests that around one fifth of adults showed signs of a possible mental health problem. This varied by gender and level of deprivation, with females and more deprived people having higher levels of mental health problems. There was also a strong correlation between level of activity and mental health, with inactive adults twice as likely to score highly on the screening tool.[20]

Self-harm is more common among young adults than older adults, with the highest number of episodes occurring among 20–24 year olds. The highest rates are found in the Belfast HSCT area. Alcohol was involved in 51% of all self-harm episodes in 2012/13. Rates of self-harm in Northern Ireland are over 50% higher than those in the Republic of Ireland.[30]

2013 saw the second highest number of suicides on record at 303. Suicide particularly affects men, as shown in Figure 11.[31] Mental health problems can have serious impacts on physical health and standards of living. The PHA supports a range of interventions to help individuals access their financial entitlements, improve their emotional and mental wellbeing, and prevent self-harm.

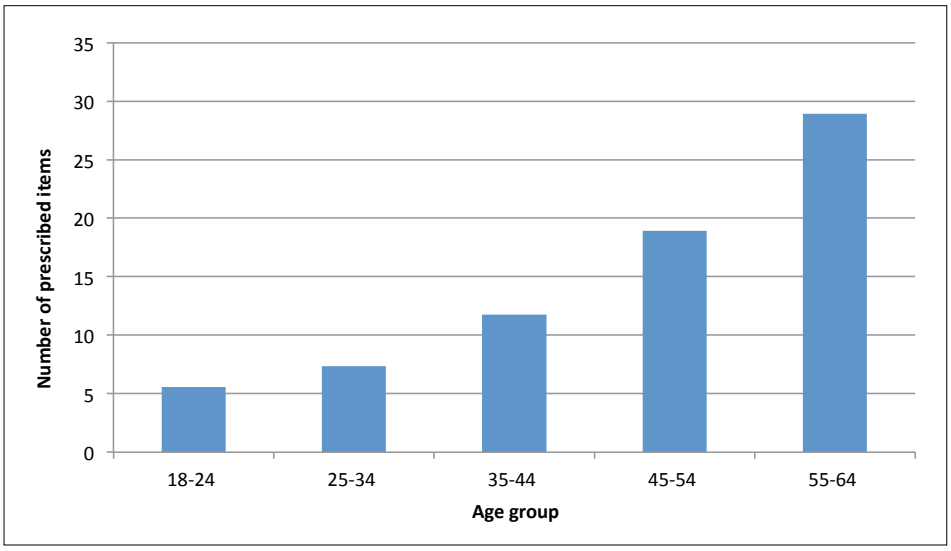
**Figure 11: Suicide rate per 100,000 of the population in Northern Ireland**




**Source: NISRA[31]**

In 2014, there were 39.8 million prescription items dispensed in Northern Ireland, 51% of them to adults aged 18–64 years. These were not distributed uniformly across age groups and, as would be expected, the number of items dispensed per person increased with age, as shown in Figure 12.[32]

**Figure 12: Prescription items dispensed to adults, 2014**

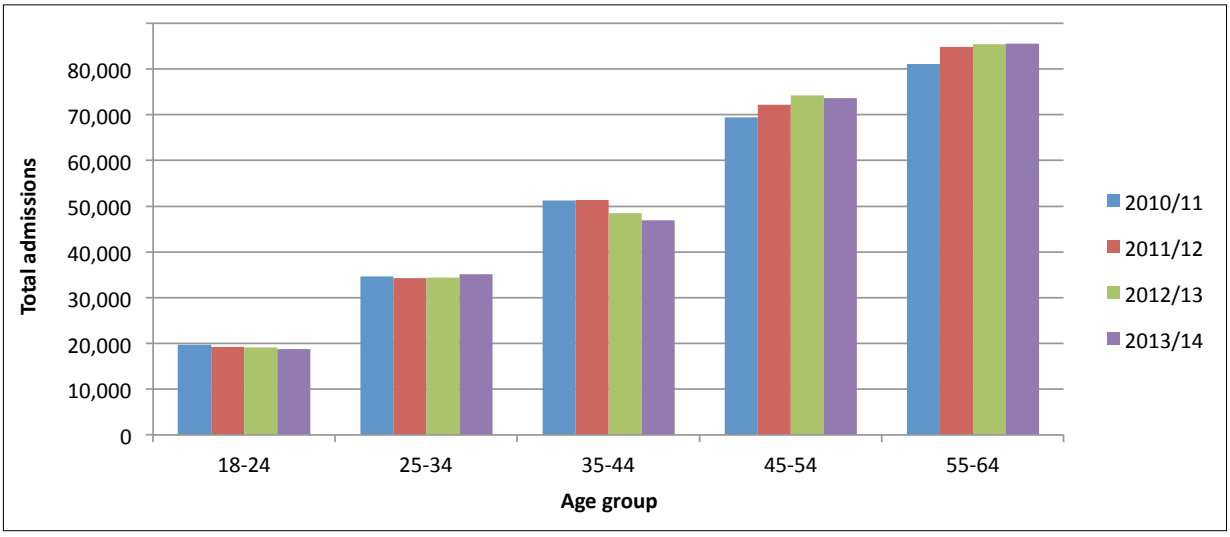



**Source: BSO prescribing data[32]**

The total number of acute hospital admissions (day case, elective, non-elective) by age group from 2010/11 to 2013/14 is shown in Figure 13. Older people have higher numbers of acute admissions, with a small increase during the years shown. Younger adults in the 35–44 and 18–24 years age groups have seen a decrease in admissions over time. The increase among older adults is mainly due to an increase in day case and non-elective admissions. The decrease in total admissions among 35–44 year olds is due to a decrease in day case and elective admissions, as non-elective admissions are reasonably steady.[33] The number of emergency hospital admissions varies with level of deprivation – the most deprived members of the population have 30% more admissions than the Northern Ireland average and almost 70% more than the least deprived in the population. The gap is not as pronounced for other types of planned admissions.[15]

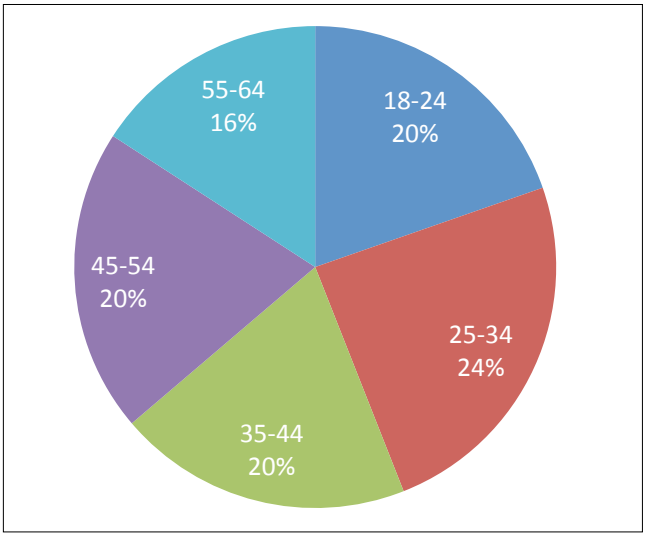
Just over half (53%) of all new and unplanned review Emergency Department (ED) attendances in 2012/13 were by adults aged 18–64 years. The highest number was among 25–34 year olds and the lowest number among 55–64 year olds.[33]

**Figure 13: Total acute hospital admissions, by age and year**




**Source: DHSSPS Information Directorate[33]**

**Figure 14: Proportion of new and unplanned review ED attendances, by age group, 2013/14**




**Source: DHSSPS Information Directorate[33]**

The PHA works with other organisations to develop, improve and assure the quality of screening and health services used by the population of Northern Ireland. This also includes raising awareness of common health problems such as cancer and heart disease.

### Employment and working life of adults in Northern Ireland

In the year up to April 2014, median gross weekly earnings for all employees in Northern Ireland decreased by 2.2%, compared with an increase of 0.6% in the UK. The number of employee jobs in Northern Ireland increased by 2.1%, with public sector jobs falling by 1.7% and private sector jobs rising by 3.8%. By April 2014, the gender gap in earnings had narrowed slightly, with female median hourly earnings at 91% of male earnings. However, gross annual earnings still show a gender gap, with males earning 50% more than females, partly reflecting differences in the amount of hours worked per week. Earnings in Northern Ireland are lower than in the UK.[34]

Data from November 2014 show that 28% of the Northern Ireland population aged 16–64 years is economically inactive. This compares with 22.4% of the UK population as a whole. The figure includes people who are students, looking after families, not working due to ill-health or retired. Of the population aged 16–64 years who are economically active, approximately two thirds (67.8%) are in employment.[35]

In December 2014, there were approximately 50,000 people in Northern Ireland claiming Job Seekers Allowance (JSA), 4.1% of the population aged 16–64 years. This varied by age group:

- 6.7% of the population aged 18–24 years;
- 4.3% of the population aged 25–49 years;
- 3.1% of the population aged 50–64 years.

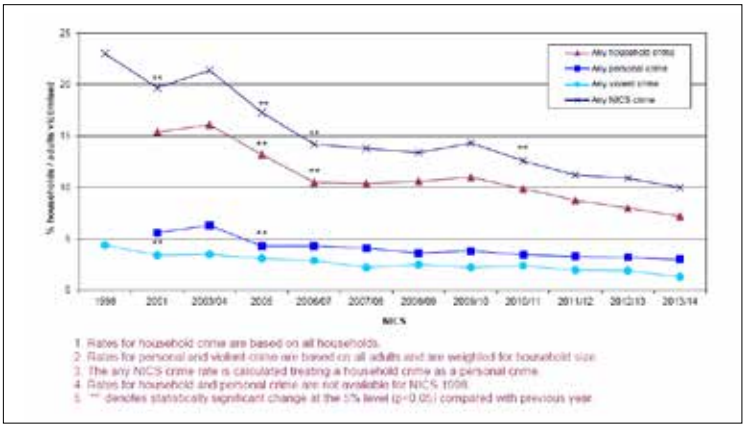
Within each age group, the proportion claiming JSA was higher than the UK overall figure.[35]

The living wage is a key indicator of low pay. It is the hourly rate that would provide a full-time worker with a basic, but acceptable, standard of living. In Northern Ireland, the living wage rate is currently £7.65. In 2012, there were an estimated 173,000 employees in Northern Ireland earning an hourly wage below this, which equates to approximately 23% of all employees. This was more common among female employees, part-time workers and young adults in employment, with over 80% of employees aged 18–21 years earning below the living wage. The industry with the highest proportion of people working for less than the living wage was accommodation and food service activities (74% of employees), followed by agriculture, forestry and fishing (56% of employees).[36]

In 2013, 64% of people in Northern Ireland felt their household's income had fallen behind prices. The age group most likely to report this was 45–54 year olds.[37]

There were 102,746 crimes recorded by the police in Northern Ireland in 2013/14. As Figure 15 shows, there has been a general downward trend in crime over the last decade.[38] Results from the 2013/14 *Northern Ireland Crime Survey* show that 10% of all households and their adult occupants were victims of at least one crime during the 12 months prior to interview, which is the lowest rate since the measure was first introduced in 1998. The risk of being a victim of crime in Northern Ireland remains lower than in England and Wales.[39]

**Figure 15: Household/adult victims of crime once or more in Northern Ireland**



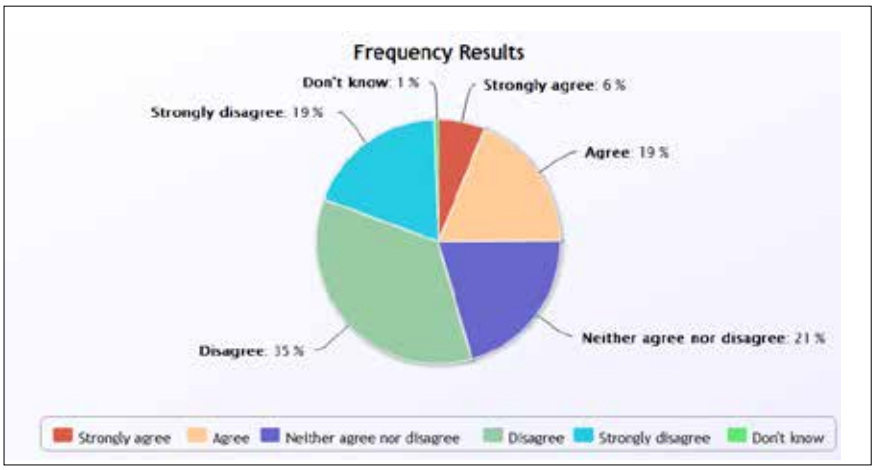
Young people and those who perceived their area to have a high level of antisocial behaviour were more likely to have been victims of a violent crime.[39]

The average prison population has been increasing steadily since 2003, apart from a levelling off between 2007–2010. By September 2013, the imprisonment rate was 101 per 100,000 of the population and, at any one time, there were approximately 1,700 people in prisons across Northern Ireland. The imprisonment rate was lower than England, Wales and Scotland, but higher than the Republic of Ireland.[40] Over 90% of the prisoner population are male and, in general, those in prison represent the more deprived groups in the population, with higher levels of dental decay, smoking and prescription drug use.[41]

## Social attitudes of adults in Northern Ireland

Northern Ireland has seen significant changes, both demographically and socially, and there is evidence of some change in social attitudes. In 2013, one quarter of people strongly agreed or agreed with the statement that they prefer to 'stick with people of their own kind' with regard to colour and ethnicity, down from 27% in 2005 (see Figure 16). There was not much variation by age. Prejudice against Travellers is higher than other minorities. Acceptance of ethnic minority residents in a local area has fallen over the past five years, from 89% in 2008 to 79% in 2013. Also in 2013, 27% of people described themselves as very prejudiced or a little prejudiced, a decrease from 32% in 2008. Both of these descriptions increased slightly with older age.[42]

**Figure 16: Level of agreement with the statement 'In relation to colour and ethnicity, I prefer to stick with people of my own kind'**




**Source: ARK 2013**

More than three quarters of people in 2013 were not prejudiced at all against gay men and women, an increase from 2012. The proportion of people in favour of same-sex marriage has increased slightly since 2012, with the highest proportion among adults aged 18–34 years at 72%. There was also a religious split, with the highest proportion of people in support of same-sex marriage being those of no religion.[43]

## Adults helping others in Northern Ireland

Nearly 44,000 adults aged 25–64 years were claiming Carers Allowance in August 2014, with the highest number of claimants aged 45–49 years.[44] However, many carers provide unpaid care for family and relatives. In 2011, 15.6% of the adult population provided unpaid care, which was higher than the proportion of the population as a whole at 12%.[45] In 2012/13, the age group reporting the highest level of informal care provision were 45–54 year old adults, followed by 55–64 year olds. The health needs of carers can sometimes be overlooked and those people who cared for someone informally for more than 20 hours per week were less likely to describe their own health as very good or good, compared with those who did not have caring responsibilities.[46]

Giving to others is an effective way to improve wellbeing.[47] The omnibus survey of people aged over 16 years in September 2012 showed that approximately one third of respondents had volunteered within the past year. Those without a disability, in paid employment and in more professional jobs were more likely to volunteer. The most common volunteering activity was fundraising, followed by a church/religious organisation.[48] The most recent widespread figures on volunteering in Northern Ireland were collected in 2007. These figures showed that 21% of the population had been involved in formal volunteering and a further 35% in informal volunteering. Those most likely to volunteer were aged 16–24 years and 35–49 years, but in different areas – younger people were more likely to be involved in sports or exercise-based activities whereas 35–49 year olds were more likely to volunteer in relation to schools.[49]

## The aim of public health programmes

Public health programmes aim to:

- prevent ill health;
- address health inequalities;
- detect and treat diseases early;
- improve the health and wellbeing of the whole population.

The PHA's challenge is to:

- embed preventative action at regional and local level to improve the health of the population;
- provide opportunities for adults to improve their health;
- reduce inequalities in health;
- lead on the actions necessary to improve health outcomes.

Public health programmes in Northern Ireland are based on scientific and economic evidence where it exists, or on innovative practice if evidence is limited. This report highlights some examples from our range of public health programmes, particularly those that have led to significant improvements in the health and wellbeing of the adult population in Northern Ireland.

**Further information**

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# *Improving health and reducing inequalities*

**Overview**

Improving the outcomes from diabetes in pregnancy

Weight loss referral scheme piloted in primary care

'Weigh to a Healthy Pregnancy' programme

Healthwise provides physical activity opportunities

Promoting physical activity through partnerships

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Action plan addresses Kilcooley health inequalities

Advice 4 Health expands northern support services

Community networks central to suicide prevention

Building mental health awareness through sport

Support project improves young men's resilience

'Breastfeeding Welcome Here' scheme grows further

# Overview

Improving health and reducing inequalities requires coordinated action across Health and Social Care, government departments and a range of delivery organisations in the statutory, community, voluntary and private sectors.

The DHSSPS published *Making Life Better* in 2014, a systematic strategic framework for public health that sets out key actions to address the determinants of health.

In Northern Ireland, there is a strong pattern of health and wellbeing inequalities at a geographic level, which has been persistent over time. Nevertheless, significant progress is being made in improving the public's health:

- A further 2% reduction in smoking levels among the adult population – from 24% to 22%, with a quit rate of 59% at four weeks across all socioeconomic groups, which represents higher levels of success than any other region of the UK.
- A further reduction in teenage pregnancy rates, down from 17.1/1,000 in 2002 to 13.8/1,000 in 2012 in the 13–19 years age group.
- An increase in the proportion of the population eating five pieces of fruit and vegetables per day – from 27% in 2005/6 to 35% in 2013/14.
- Improved quality standards in areas such as:
  - UNICEF Baby Friendly Breastfeeding Standards, which increased from 54% in 2012/13 to 93% in 2014/15;
  - mental health and emotional wellbeing standards to guide the development of services across multiple providers;
  - smoking cessation standards in pharmacies;
  - the implementation of guidelines such as those to support the needs of lesbian, gay, bisexual and/or transgender (LGB&/T) older people in nursing, residential and day care settings.
- New service developments such as evidence-based early years intervention programmes.

Throughout the year, the PHA has continued to focus on four key building blocks:

1) Give every child and young person the best start in life.
2) Ensure a decent standard of living for all.
3) Build sustainable communities.
4) Make healthy choices easier.

The following articles are illustrative of work underway to improve the public's health and form an important contribution to the implementation of *Making Life Better*.

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# Improving the outcomes from diabetes in pregnancy

## Public health challenge

There are four types of diabetes that can complicate pregnancy: type 1, type 2, gestational diabetes (GDM), and diabetes related to other conditions, eg cystic fibrosis. Type 1 diabetes cannot be prevented, whereas in many cases type 2 and GDM can be prevented.

Pregnancies complicated by diabetes are high-risk pregnancies with risks to the mother and infant. These risks include miscarriage, stillbirth, pre-eclampsia, pre-term labour and worsening retinopathy for the mother.

The additional risks for the infant include congenital malformations, birth injury as a result of macrosomia (birth weight greater than 4.5kgs), higher perinatal mortality rate and post-natal adaptation issues, eg hypoglycaemia (low blood sugar).

The number of diabetic pregnancies in Northern Ireland is increasing. There were 1,251 diabetic pregnancies and 1,270 infants born to diabetic mothers in Northern Ireland in 2013/14. This represents 5.2% of all pregnancies.

This contrasts with the 100 diabetic pregnancies reported in the 2001 CREST report on management of diabetes in pregnancy.[50] The 12-fold increase in diabetic pregnancies since 2001 can be explained by:

- rising levels of obesity, which is associated with type 2 diabetes and GDM;
- changes to diagnostic thresholds for GDM;
- having babies at an older age (above 35 years old) as diabetes is more common in older age groups.

## Actions

To improve pregnancy outcomes for mothers and babies, women with diabetes should be advised to prepare for pregnancy and attend pre-pregnancy clinics, which are available in the five HSCTs, and attend more frequently for antenatal care when they are pregnant.

### Pre-pregnancy care

To support women in achieving good glycaemic control before they become pregnant, pre-pregnancy clinics have been established in all five HSCTs in Northern Ireland. The aim of pre-pregnancy care is to support women with diabetes to plan their pregnancy, optimise blood glucose control prior to becoming pregnant, and ensure they are taking a high dose (5mg) of folic acid, which is available only by prescription, for at least six months before conception.

An online pre-pregnancy counselling resource for women with diabetes and an educational resource for professionals have been developed by Queen's University Belfast to assist women in planning and preparing for pregnancy.[51]

### Antenatal care

Women with diabetes attend clinics jointly staffed by obstetric and diabetes teams. These women need to book early (by 10 weeks of pregnancy) and be seen more frequently in the antenatal period compared to women without diabetes.

**Pre-pregnancy care client Emma Finnegan (centre) and her baby daughter Annabel, pictured with Cooperation and Working Together (CAWT)/ Southern HSCT pre-pregnancy care clinic staff at Craigavon Hospital. Emma, from Newry, has diabetes and had a successful pregnancy with the support of the staff. Also pictured are (standing): Alison Barbour, Diabetes Specialist Dietitian and Joanne Dodds, Healthcare Assistant; (front row): Emma Meneely, Project Manager, CAWT Diabetes Project and Claire Black, Diabetes Specialist Nurse.**

### Post-natal care

All women with diabetes (type 1, type 2 and GDM) should be advised of the need to attend pre-pregnancy clinics when planning their next pregnancy and be directed to the resources on the 'Women with diabetes' website: www.womenwithdiabetes.net [51]

Women with GDM are advised of the increased risk of developing type 2 diabetes following pregnancy, and the importance of making lifestyle changes to reduce the risk of this occurring.

### Impact

Establishing good glycaemic control before conception and continuing this throughout pregnancy will reduce, but not eliminate, the risk of miscarriage, congenital malformation, stillbirth and neonatal death.

#### Key facts

- Diabetes affects 5% of pregnancies in Northern Ireland.
- Women with diabetes should book for antenatal care by 10 weeks of pregnancy.
- 20% of women with GDM will develop type 2 diabetes within nine years following pregnancy.[52] Lifestyle modification in this group of patients (reduced weight, healthy diet and increased exercise) is key to preventing diabetes.

The aforementioned changes in the organisation of diabetes care in the pre-pregnancy, antenatal and post-natal periods should facilitate better outcomes for diabetic mothers and their infants.

### Next steps

Additional investment in antenatal diabetes care in Northern Ireland is planned for 2015/16 to deal with the additional number of women with diabetes attending antenatal clinics.

Clinical information systems should routinely report on pregnancy outcomes for diabetic mothers and their infants.

We will continue to raise awareness among women with diabetes or a past history of GDM of the need to plan pregnancy and ensure optimal glycaemic control before they become pregnant.

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# Weight loss referral scheme piloted in primary care

## Public health challenge

In Northern Ireland, 61% of the adult population are overweight or obese.[53] Being overweight or obese increases the risk of developing a number of serious health conditions including diabetes, heart disease and certain cancers.

## Actions

The Health and Social Care Board (HSCB) funded a pilot scheme that allowed GPs to refer non-pregnant, obese patients aged over 18 and with an obesity-related health issue for free sessions with a commercial weight loss provider.

Participating providers were Weight Watchers Ireland, Slimming World UK, Rosemary Conley Health and Fitness Clubs, LifeCounts and Unislim. Referrals were made over eight months from November 2012 to July 2013.

## Impacts

### Patients referred

There were a total of 6,227 referrals to the scheme from across Northern Ireland. Most people referred were female. Three quarters of people referred were aged 18–60 years.

Referral rates were highest in areas with the highest levels of deprivation. An intervention like this should be accessible to patients living in more deprived areas, as poor health and obesity rates are higher among more deprived communities.

Almost one quarter of people referred lived in areas ranked among the 20% most deprived in Northern Ireland (measured by the Northern Ireland Multiple Deprivation Measure). Twelve per cent of people referred lived in the 20% most affluent areas.

### Participation in the scheme

Thirty percent of those referred by their GP did not participate in the scheme. Men were more likely not to participate. Only 55% of men referred returned a consent form and participated in at least one class compared with 75% of women referred.

Males living in the most deprived areas were the group least likely to participate after referral – 57% of this group did not participate even though they had been referred by their GP.

### Weight loss results

As the loss of 5% total body weight can have significant health benefits, the National Institute for Health and Care Excellence (NICE) concludes that only schemes that result in at least 30% of participants losing 5% body weight or more should be funded.[54]

In this scheme, 38% of those who returned a consent form and participated lost at least 5% of their initial body weight. NICE also recommend that schemes being offered should result in average weight loss of more than 3%. In this scheme, the average weight loss was 4.1%.

### Weight loss and deprivation

In total, 33% of participants from the most deprived areas achieved 5% weight loss, compared with 45% of those from more affluent areas.

### Weight loss and gender

While females were significantly more likely to be referred and participate in the scheme, the males who did participate were more likely to achieve 5% weight loss – 46% of male participants achieved 5% weight loss or more, compared with 36% of female participants.

## Next steps

Further work will be carried out to evaluate the long-term impact of this scheme on those who took part.

The HSCB and PHA will consider whether this sort of scheme should be provided in Northern Ireland in the future. Part of this consideration will be how such a scheme could target those at greatest risk in order to increase participation among certain groups – particularly males from the most deprived areas.

### Key facts

- Four times more women than men were referred by their GP.
- The youngest person referred was aged 18 years and the oldest aged 80 years.
- 70% of those referred participated in the scheme.
- Referral rates were higher in more deprived areas but participation rates and weight loss were lower compared with more affluent areas.

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# 'Weigh to a Healthy Pregnancy' programme

## Public health challenge

As the levels of population obesity have increased in recent years, maternity services have seen an increase in the number of pregnant women who are obese. Obese women have an increased risk of complications during pregnancy and childbirth. These include gestational diabetes, miscarriage, pre-eclampsia and maternal death.[55]

An obese woman is more likely to have an induced or longer labour, instrumental delivery, caesarean section and postpartum haemorrhage.[56] Obesity can also result in women experiencing reduced choices, with restrictions on home births, the use of birthing pools and types of pain relief.

Babies born to obese women are at higher risk of fetal death, stillbirth, congenital abnormality, shoulder dystocia and subsequent obesity.[57]

Guidelines in the USA state that obese women (body mass index (BMI) greater than 30kg/m2) should limit the weight they gain during pregnancy to between five and nine kilogrammes, as this will improve maternal and infant outcomes when compared to gaining more or less weight.[58,59]

## Actions

The 'Weigh to a Healthy Pregnancy' programme was developed as a regional pilot aimed at limiting weight gain in pregnant women with a BMI of 40kg/m2 or above. It takes account of guidelines issued by NICE.[60]

The programme promotes healthier eating, physical activity and behaviour change through the provision of additional information and support to women and their families, and regularly monitoring weight gain during pregnancy. The evidence-based model is led by a multi-disciplinary management group and delivered by teams consisting of midwifery, dietetics and physiotherapy staff in each HSCT. The programme has a number of elements:

- written information;
- goal-setting in a one-to-one session with a dietitian;
- offer of group sessions;
- follow-up by text or telephone calls;
- monitoring of weekly weight gain using telehealth methods.

The programme supports women throughout their pregnancy and into the first few weeks after delivery when they can be signposted to other existing initiatives. The secondary aims of the programme are to encourage women to sustain the healthy lifestyle changes in the longer term and increase breastfeeding rates among obese women.

## Impacts

All HSCTs have engaged in the project and, from March 2015, are offering the programme to pregnant women aged 18 and over with a BMI of 40kg/m2 or above at booking.

Staff involved in delivering the programme were offered specialist training to gain additional knowledge and skills in this area, and expertise in Solution Focused Brief Therapy.

Commissioning Plan targets have been set for the project – all eligible pregnant women aged 18 and over with a BMI of 40kg/m2 or above at booking are offered the programme, with an uptake of at least 65% of those invited.

Preliminary figures show that 581 women were offered the programme in 2014, with 397 (68% of those offered) participating.

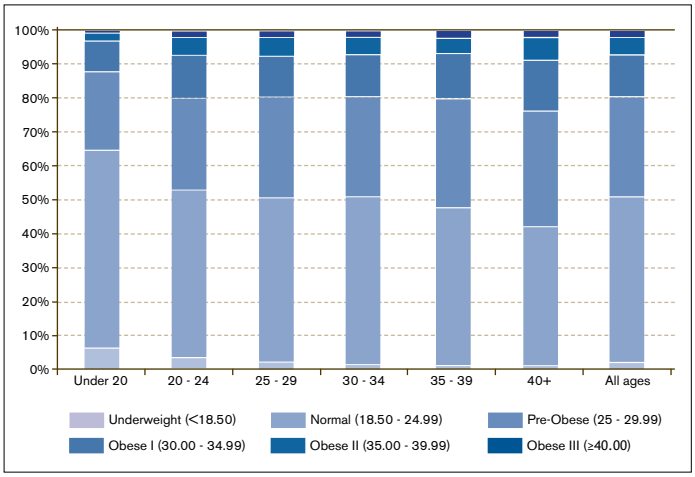
## Next steps

An independent evaluation of the programme is being undertaken by the University of Ulster. This will report on:

- uptake of the programme;
- the impact it has had on lifestyle and behaviour;
- the outcomes in relation to weight gain during pregnancy and weight loss in the post-natal period.

The findings will inform future decisions about delivering weight management programmes in pregnancy.

**Figure 17: Northern Ireland: BMI at time of booking of mothers who gave birth, by age of mother, 2013/14**




### Key facts

- 19.3% of all mothers who gave birth in Northern Ireland in 2012/13 were recorded as being obese at the time of booking.
- 560 pregnant women (2.4% of all pregnancies in 2012/13) were considered morbidly obese with a BMI of 40kg/m2 or over.

### Further information

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# Healthwise provides physical activity opportunities

## Public health challenge

In Northern Ireland, 28% of adults do less than 30 minutes of physical activity per week.[61] In some minority communities, this falls to only 1 in 10 adults. Physical inactivity is the fourth biggest cause of mortality worldwide, making it as dangerous as smoking.[62]

There are clear and significant health and social inequalities in relation to physical inactivity according to income, gender, age, ethnicity and disability. Inactivity not only has consequences for the health of individuals, but also places a substantial cost burden on health services through the treatment of long-term conditions such as obesity, coronary heart disease, stroke, diabetes and cancer.[63]

## Actions

The PHA, working in partnership across statutory, community and voluntary sectors, provides greater access to physical activity programmes and a better range of opportunities for people.

The Healthwise scheme is jointly funded by Belfast City Council, Belfast Local Commissioning Group (LCG) and Sport NI, and has improved links with healthcare professionals, resulting in an increased number of people being referred to programmes.

**A group of patients who participated in the Falls prevention pilot programme, pictured with staff. From left to right are: Siobhan Weir, Elma Greer, Barbara Walker, Elizabeth MacKay, Sean McQuade, Eileen Gilbert, Ruby Glass, Sheila McMaster, Jenny Lockett, Paul McCrudden, Elizabeth McKay and Gail McMillan.**

A number of pilot programmes were delivered to test the integration of physical activity into treatment pathways for long-term conditions including cancer and respiratory disease, and also for patients who have suffered a fall.

The development of a physical activity care pathway has ensured a more patient-centred approach to encouraging long-term behaviour change and promoting an active lifestyle. Continued investment in staff training has enhanced skills and improved service delivery for patients.

## Impacts

More patients had access to programmes in a greater number of communities than ever before. A Social Return of Investment evaluation showed significant improvements in people's physical and mental wellbeing as a result of getting active through the Healthwise physical activity referral scheme.[64]

Evidence from the pilot programmes has shown significant benefits for people, including enhanced ability to manage their condition and reduced side-effects of treatment. These programmes have also raised standards of care, enabled greater choice and helped address many of the issues in supporting people with long-term conditions.[65]

## Next steps

A new patient-centred physical activity referral scheme will be implemented across Northern Ireland. This will expand the number of programmes to support people with long-term conditions, increasing the integration of physical activity into care pathways and patient management.

### Key facts

- More than 2,500 people participated in the Healthwise physical activity referral scheme.
- Social Return on Investment evaluation of the programme showed for every £1 invested, it gives a return of £7 socially and economically.[64]
- Respondents indicated an 82% improvement in physical wellbeing and an 84% increase in physical activity, illustrative of the low baseline levels of activity and health conditions for many of the participants.[64]
- Respondents also indicated that along with a 71% improvement in confidence levels, they improved their level of social interaction by 58%. Respondents also recorded an 82% improvement in their overall life as a result of the programme.[64]

### Further information

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# Promoting physical activity through partnerships

## Public health challenge

Physical activity is essential for good health. Regular physical activity prevents and helps to manage conditions such as coronary heart disease, type 2 diabetes, stroke, mental health problems, musculoskeletal conditions and some cancers.[66]

All adults should be moderately active for 150 minutes per week, preferably at some stage every day.[66] It is also important to spend less time sitting and more time standing and moving. Almost half of Northern Ireland adults are not active to the recommended levels.[67] Physical activity levels vary according to income, gender, age, ethnicity and disability.[66]

Those who currently engage in the least physical activity benefit most from becoming active.[66] The challenge is to get everyone moving more and this can only be done with partnership working.

**Gail Malmo, PHA (second from the right) with Councillor Stephen McIlveen (far right), former Mayor of Newtownards, and other eager runners, launch the first ever Ards Park Run in Comber on 31 May 2014. Also taking part in the inaugural event were more than 30 graduates of the Newtownards 'Couch to 5k' for whom it was their first official 5km run.**

## Actions

The PHA supports many programmes across Northern Ireland that encourage adults to become more active. These include:

- work with local councils, eg Healthy Towns in five council areas in the Western area.
- initiatives with the community and voluntary sectors, eg Western Green Gym led by The Conservation Volunteers, Comber Couch to 5K, and Parkrun and the Resurgam Healthy Living Project in Lisburn.
- programmes with local HSCTs, eg the regional Walking for Health programme.

## Impacts

- 2,899 people participated in a range of programmes offered through Healthy Towns in the Western area.
- Participation in the Western Green Gym has brought about a sustained increase in physical activity levels – 84% of participants have increased their physical activity levels beyond their time in the Green Gym, 68% have lost weight and 53% eat four or more portions of fruit and vegetables per day following six months of Green Gym activities.[68] The Green Gym programme supports and sustains a strong network of partnership working.
- More than 500 participants have completed Couch to 5K across the Comber, Newtownards, Newcastle and Downpatrick areas. In addition, 501 people have registered with Comber Parkrun, with approximately 60 participating each week.
- 264 people have joined the Resurgam Community Gym and 58 regularly attend. In September, 180 people participated in a 3K fun run. The route is now the official 'Way to Health' route.
- 2,040 walk leaders are registered and have been trained to lead walks across Northern Ireland.

## Next steps

The PHA will continue to work with key stakeholders to raise awareness of the benefits of physical activity and develop and promote innovative opportunities to engage adults in appropriate activities.

The PHA will further develop its means of evaluating the impact of programmes and partnership working.

### Key facts

- Physical inactivity is the fourth largest cause of disease and disability in the UK.[69]
- The Health Survey for NI 2012/13 highlighted that 53% of respondents met the new CMO guidelines.[67]
- 28% of respondents reported they did less than 30 minutes of physical activity per week.[67]

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# Workplaces pilot '£ for lb' weight loss programme

## Public health challenge

Being overweight or obese increases the risk of developing serious health problems including type 2 diabetes, heart disease, stroke and some cancers. In Northern Ireland, 37% of adults are overweight and a further 24% are obese, with rates higher among men than women.[70]

The problem is greatest among older working age people with those aged 55–64 years being most likely to be overweight (46%) or obese (30%).[71] Obesity also contributes to health inequalities as those who live in the most deprived areas are more frequently overweight.[71]

Lifestyle weight management programmes that include a change in eating habits (including calorie restriction), behavioural therapy and physical activity have been shown to achieve weight loss.[72] The NHS Choices weight loss guide *Losing weight – Getting started* is a freely-available, self-directed 12 week programme based on these principles.[73] Business in the Community (BITC), a national corporate responsibility charity, proposed a workplace-based initiative to the PHA based on the NHS guide and we were delighted to work with them in 2014 to pilot the innovative '£ for lb Programme'.


## Actions

BITC recruited 20 organisations that pledged to donate £1 to charity for every 1lb in weight lost by one of their participating employees (participants contributed the money in public sector organisations). The number of employees taking part in the participating organisations varied from 6 to 135.

The intervention used nominated workplace champions from the participating organisations to support delivery of the programme. Champions were trained by professionals from Belfast HSCT on:

- principles of safe and sustainable weight loss;
- healthy eating;
- physical activity;
- how to measure participants' weight and height accurately.

Participants followed the NHS guide over the 12 week period, supported by weekly weigh-ins at their workplace and ongoing encouragement and support from their champion.

Participants were asked to provide information at the beginning and end of the programme about their weight, eating habits, physical activity and general wellbeing. We compared the information before and after the intervention to learn how effective it was at changing behaviour and achieving weight loss.

## Impacts

A total of 734 people who were overweight (49%) or obese (51%) returned the pre-intervention questionnaire, and 282 (38%) also completed a follow-up questionnaire. Half of the participants were male and half were female.

On average, people who finished the programme lost 5.1kg, which compares favourably to other behavioural weight management programmes available to the public. More than half (51%) of those

who completed the programme lost more than 5% of their starting bodyweight. This accounts for 21% of all those who returned a pre-intervention questionnaire.

The programme was especially effective for men, who were as likely as women to start and complete it. At the outset, men weighed on average almost 20kg more than women, but they narrowed this gap by losing an average of 3kg more than women over the 12 weeks.

By the end of the programme, participants were much less likely to eat unhealthy foods frequently and the proportion of participants who met the Chief Medical Officer's recommended physical activity target (150 minutes each week) increased from 40% to 70%. Participants also reported better wellbeing at the end of the programme compared to the start.

## Next steps

BITC and the PHA are working together to bring the programme to more organisations in 2015 and are considering how this type of workplace intervention can be further extended in the future. We are improving the information collection so we can better understand the reach and effectiveness of the programme on adults in Northern Ireland.


**Pictured at the '£ for lb Programme' celebration event in May 2014 at the Long Gallery in Stormont are (l-r): Graham Moore, Chairman of Westfield Health; Tanya Kennedy, Director, Workplace Campaign, Business in the Community Northern Ireland; Mary Black, Assistant Director of Public Health (Health and Social Wellbeing Improvement), Public Health Agency; Dr Michael McBride, Chief Medical Officer, DHSSPS.**

### Key facts

- Men lost an average of 6.4kg.
- Women lost an average of 3.6kg.
- 151 people lost more than 5% of their bodyweight.
- A total of 1,555kg in weight was lost among the participants.
- The direct cost to the PHA was £3.20 for every 1kg that participants lost.

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# FareShare tackling food poverty in vulnerable groups

## Public health challenge

Food poverty is the inability of individuals and households to obtain an adequate and nutritious diet, often because they cannot afford healthy food or there are a lack of shops in their area that are easy to reach. Food poverty can also be about an overabundance of 'junk' food as well as a lack of healthy food.[74]

Homeless people are particularly at risk and, along with other people on low incomes, have the lowest intake of fruit and vegetables. They are also far more likely to suffer from diet-related diseases such as cancer, diabetes, obesity and coronary heart disease.[74]

Research carried out by the Food Standards Agency (FSA) in Northern Ireland found that the key barriers to eating a balanced diet are:

- financial situation and education/cooking skills;
- depression/stress, alcohol and drug abuse contributing to a lack of appetite;
- a perception that food is not always seen as a priority.[75]

## Actions

FareShare tackles food poverty in Northern Ireland by collecting surplus food from industry retailers and producers, and redistributing it to charities that provide meals to vulnerable and disadvantaged groups including low income families, senior citizens, people with disabilities, victims of domestic violence, at-risk children, young people and homeless people.

FareShare was started by the Council for the Homeless Northern Ireland (CHNI) in 2011, and is supported by the FSA in Northern Ireland, the PHA, the Esmée Fairbairn Foundation, and WRAP Rethink Waste.

Fareshare currently provides food on a weekly basis to more than 60 Community Food Members, 23 of whom use this food to provide hot, nutritious meals in hostels, shelters and other support centres for people who are homeless.

## Impacts

FareShare aims to:

- improve the dietary choices of vulnerable groups through the provision of a wide range of fit-for-purpose surplus food;
- work with Community Food Members to ensure the most vulnerable people have access to food;
- partner with the food industry to source a wide range of surplus food or redistribution, while also creating a positive environmental impact;
- ensure 'no good food should be wasted' among the general public.

**FareShare won the 2014 'Promoting Health Equity Award' at the World Health Organization's Belfast Healthy City Awards.**

During 2013/14, the following outputs were achieved:

- 138 tonnes of surplus food diverted from landfill;
- 330,000 meals provided to disadvantaged people in their community;
- 580 tonnes of $CO_2$ emissions prevented;
- improved dietary options for approximately 4,000 service users.

During 2013/14, FareShare's achievements and commitment to tackling food poverty and reducing waste were recognised through a number of prestigious awards, including:

- UTV Eye Business Awards – winner of Waste Reduction Project of the Year Award;
- World Health Organization's (WHO) Belfast Healthy City Awards – winner of Promoting Health Equity Award;
- Brighter Belfast Awards – winner of the Judges Special Award for its contribution to a brighter, cleaner and greener environment.

The Northern Ireland FareShare programme was also showcased at the European Public Health Conference in Glasgow in November 2014 and profiled in the *European Journal of Public Health* in the same period.


**Former Belfast Lord Mayor Cllr Nichola Mallon with staff and volunteers at the FareShare regional food redistribution depot in Belfast.**

## Next steps

The next steps for FareShare in Northern Ireland include:

- obtaining secure funding to maintain and expand the programme;
- opening a second food distribution depot;
- increasing the number of individuals benefitting from redistributed food;
- increasing the supply of food from producers;
- continuing to measure the impact and outcomes of the programme.

### Key facts

- Currently, there is no measure of food poverty on the island of Ireland and such an indicator would allow for a quantifiable assessment of the extent of the problem in order to inform practice and policy.[75]
- It is anticipated that a food poverty indicator will be launched in 2015.

### Further information

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# Early intervention to support children's development

## Public health challenge

The PHA has worked with Resurgam Community Trust to develop Early Intervention Lisburn (EIL), a cross-sectoral partnership aimed at securing a better understanding of the needs of children, young people and families.

Dr Roger Courtney's *The best for every child* report highlighted:

- what was needed across these communities;
- what outcomes we should strive for;
- how taking action early (early intervention) produces the best results.[76]

The report predicted continued poor outcomes for children, young people and families despite the best efforts of various organisations. The most striking message is that early intervention works and it can help families give their children a secure and loving space in which to grow.

## Actions

An EIL project board has been established and consists of key statutory, community, voluntary and political representatives with significant experience in early intervention work.

The project has created opportunities for organisations to work together and research indicates collective responses result in better outcomes. An example of this approach is the implementation of the 'Incredible Years' programme designed to help children, parents and teachers develop strategies that will:

- manage emotion;
- reduce behaviour problems;
- increase problem solving.

Sure Start, Homestart, playgroups, nurseries and primary school staff deliver this programme together, giving parents better options within their community.

## Impacts

- A motivated project board that is determined to improve outcomes for children, young people and families in Lisburn.
- The establishment of a collective action plan that has created a partnership approach in meeting the needs of the local population.
- Implementation of the evidence-based 'Incredible Years' programme in all primary schools in Lisburn, with local Early Years providers working in partnership to deliver it.


**Parents and carers in Lisburn have been asked for their views on how best to develop services for children aged up to three years in their area. The PHA is one of the lead partners in the Resurgam Community Development Trust's EIL project, which held a one-day event in Lagan Valley Leisureplex to listen to the views of people from the communities of Hillhall, Tonagh, Old Warren, Knockmore and Hilden.**

- Three parents who attended this programme are now delivering it in their local area. One parent with young children is now a volunteer with Resurgam Trust youth service and is using the strategies learnt in the training to influence behaviour change in young people.
- Department of Education (DE) funding has initiated two programmes delivered by Resurgam Trust and YMCA to support young people at risk of expulsion to remain in education.

## Next steps

To make a lasting difference, EIL recognises that a long-term collective response is required. EIL project board members are committed to this project for the next 10–15 years.

EIL has reached stage two of the Big Lottery Supporting Families Fund. If the bid is successful, over the next five years local communities will see an innovative early years service, promoting good infant mental health by focusing on respond, cuddle, relax, play and talk.

This model of early intervention will help identify those who require further support at an earlier point. South Eastern HSCT and Bryson Charitable Group will also provide a home-school link project that will support parents and children in primary school who are experiencing emotional, behavioural and educational difficulties.

Resurgam Community Trust, in partnership with the EIL Project Manager, Bryson Charitable Group and South Eastern HSCT, is designing a social enterprise opportunity for affordable childcare in response to feedback from parents wishing to return to education or employment. This will provide employment, volunteering and student placement opportunities.

**Largymore Primary School in Lisburn celebrated the first graduation for both parents and children involved in the 'Incredible Years' programme. The programme is designed to help children manage their emotions, reduce behaviour problems and increase problem–solving skills. It includes a dinosaur school with friendly child-sized puppets for younger children and a parenting programme focused on strengthening parenting skills and promoting parent involvement in children's school experiences.**

### Key facts

In Lisburn:

- 74% of young people leave the post-primary sector without five or more A-C grade GCSEs (excluding two grammar schools).[77]
- 22% of young people go on to higher education, compared to the Northern Ireland average of 43%.[77]
- 32% of children entering primary school were identified as requiring intervention for mild speech sound and/or language difficulties.[78]

### Further information

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# Action plan addresses Kilcooley health inequalities

## Public health challenge

Reducing health inequalities experienced by people living in disadvantaged areas is a key public health priority.

Designated a neighbourhood renewal area, the Kilcooley estate in Bangor is in the top 10% of most deprived areas in Northern Ireland.

## Action

The Kilcooley community identified health and social wellbeing improvement as a key area for development within the area. With financial support from the PHA, community leaders committed to developing a three year action plan to address the most pressing health inequalities faced by those living in the estate. The plan was informed primarily by the residents themselves through a community health survey.

The community's objectives were to:

- improve the overall health and social wellbeing of residents;
- enable them to develop the skills and attitudes required to make healthier choices;
- improve their mental and emotional wellbeing;
- improve community access to health and social wellbeing services.

A wide range of health and social wellbeing improvement initiatives were subsequently delivered to address the needs of all residents, from the very young to the elderly.

Programmes in 2014 included:

- a community garden with 18 plots and a Healthy Living Centre with additional plots, poly-tunnels and training facilities;
- initiatives addressing healthy weight and nutrition, ('Weigh to Health' and 'Mood and Food'), physical activity (walking groups, yoga, circuit training), cancer awareness and prevention, relationship and sexual health education, and mental health and suicide prevention ('Positive Steps', 'Living Life to the Full', 'Safe Talk');
- community health fairs;
- arts and health programmes.

## Impact

Community participation in health and social wellbeing activities has risen dramatically within the estate since the initiative began. Interest in the allotment programme was particularly high, with all available plots in use from the outset.

In 2014 alone, 100 residents enrolled in physical activity programmes and 22 participated in a weight management support group. In addition to the 18 garden plot holders, 130 residents participated in a range of other gardening programmes such as wreath-making and spring basket design.

**Some of the participants in the 18 week seasonal gardening programme showing off their work.**

Participants in these health and social wellbeing activities cited numerous benefits, including:

- the acquisition of new skills;
- increased motivation to attend further programmes;
- the formation of new friendships.

Several residents said they were able to return to employment as a result of new skills and increased confidence.

## Next steps

The Kilcooley community is working hard to transform the horticultural project into a social economy venture. The prospects for this are promising, with a number of organisations having already availed of the horticultural therapy programme.

The Kilcooley Health Task Force, which oversees the plan, will continue to meet to monitor progress and measure impact, while the PHA will continue to support the overall implementation of the community's health and social wellbeing improvement plan.

### Key facts

- Males in the top 20% most deprived areas can expect to live 4.3 years less than the Northern Ireland average, and 7.3 years less than those in the top 20% least deprived areas.[79]
- Female life expectancy in the most deprived areas is 2.6 years less than the regional average and 4.3 years less than that in the least deprived areas.[79]
- Those living in the least deprived areas can expect to live in good health for 13 years longer than those in the most deprived areas.[79]

### Further information

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# Advice 4 Health expands northern support services

## Public health challenge

In 2011/12, there were almost 213,000 adults of working age (20%) in relative poverty in Northern Ireland (defined by household income less than 60% of UK median after housing costs) and almost 235,000 (22%) in absolute poverty (before housing costs).[80]

Insufficient income is associated with worse outcomes across virtually all domains of health. The negative effects can be caused by material and/or psychosocial factors.

While overall life expectancy has been increasing, a substantial gap remains between people living in the top 20% most deprived areas and those in the least deprived areas.

## Actions

Advice 4 Health (A4H) was developed in the Northern HSCT area in 2005 to complement existing advice services, reduce poverty and tackle disadvantage by maximising benefit uptake in the community, with a particular focus on the most vulnerable.

Since 2011, the programme expanded to provide specific benefit support, advice and guidance for clients experiencing poor emotional and mental health impacted by drugs and alcohol.

The programme is a partnership between the PHA, local Citizens Advice Bureaux (CAB), local HSC organisations, and voluntary and community organisations, working across a range of settings such as community rehabilitation centres, GP surgeries and inpatient mental health units.

The programme targets people who would not avail of core CAB services by providing dedicated support for those with mental health or addictions issues, including outreach based advice and support.

## Impacts

During 2013/14, the following support was given through the programme to clients with identified mental health or addiction issues:

- strong referral relationships established with more than 30 voluntary and community organisations, a range of professionals within HSC, the Social Security Agency and the housing sector;
- almost 5,000 client enquires were processed;
- benefits advice and support was given to more than 700 individuals, resulting in additional benefits of over £1,300,000.

Anita (pictured) was referred to the addiction outreach service. She was living on very little money and was unable to go out alone or communicate with people. She was supported to access the benefits she was entitled to, empowered to join a support group and now volunteers for a charity. She thanked the programme for getting her life back.

## Next steps

The programme continues to be supported in the Northern area, has been implemented in the Southern area (in Newry and Dungannon) since 2011 and will be piloted in Belfast.

**Advice 4 Health helped Anita access the benefits she was entitled to and encouraged her to join a local support group. Having previously been referred for addiction problems, she now volunteers for a charity.**

### Key facts

In Northern Ireland:

- people in the most deprived areas are almost six times more likely to die of an alcohol-related cause than those in the least deprived areas, and nearly five times more likely to die from drug-related causes (2007–11);[81]
- 15% of people are being dispensed drugs for mood and anxiety disorders, and this increases to 21% in our most deprived areas (provisional data 2011);[81]
- in 2013 (provisional data) the rate of suicide per 100,000 of the population in the most deprived quintile is nearly twice the Northern Ireland average and almost five times that in the least deprived areas;[81]
- there is a noticeable difference in the death rates from potentially avoidable causes between those in the most deprived quintile and those in the least deprived quintile.[82]

### Further information

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# Community networks central to suicide prevention

## Public health challenge

In 2007, the PHA began engagement with community networks in the Northern HSCT area for delivery of activities to support implementation of *Protect life – A shared vision: The Northern Ireland suicide prevention strategy 2012–March 2014* and the 'Promoting Mental Health Strategy'.[83]

The community networks are:

- Causeway Rural and Urban Network (CRUN);
- Cookstown and Western Shores Area Network (CWSAN);
- North Antrim Community Network (NACN);
- South Antrim Community Network (SACN).

There are two key areas of activity delivered by the community networks – an annual, community-focused 'Promoting Mental Health and Suicide Prevention' small grants programme, and the establishment of three Suicide Prevention Development Officer (SPDO) roles. The two areas were subject to an independent evaluation in 2012.[84]

## Actions

The small grants programme is the engagement of local community organisations and groups in taking forward small scale initiatives that:

- encourage greater awareness of the issues surrounding mental health problems, positive emotional health and suicide prevention;
- encourage communities to take a more proactive role;
- promote awareness of sources of support and encourage help-seeking behaviours;
- help establish resilient communities.

The key objectives of the SPDO roles are:

- raising awareness and education:
  - providing guidance to local communities;
  - signposting communities to support services and initiatives;
- building capacity and resilience:
  - empowering communities to get involved;
  - providing or signposting to training;
  - supporting communities to develop suicide prevention initiatives;
  - promoting and encouraging communities to apply to the 'Promoting Mental Health and Suicide Prevention' small grants scheme;
- partnership working – identifying and working with local stakeholders;
- information management:
  - contributing to new research/evidence;
  - sharing and updating local information and developments.

## Impacts

The active involvement of community networks has led to successful local engagement and the building of significant social and community capital within local areas.

The benefits of having the community networks model in place include:

- increased awareness within Northern HSCT communities of mental and emotional health, related issues, and how these can be supported;
- increased awareness of suicide and what communities can do to help reduce the risk and prevalence of suicidal behaviour;
- new and enhanced knowledge and skills in this area among a wide variety of people;
- making mental health issues and suicide easier to discuss, while also increasing understanding and reducing stigma;
- improved quality of practice and approaches;
- a platform for continuing development;
- regular examples of people accessing further help after a community-based event (some events had happened as a result of a suicide in the community);
- end beneficiaries – eg pupils, programme participants, event attendees – feeling better equipped to help themselves and support others;
- big impacts with small amounts of funding – small size of grant is important.


**PHA representatives and community network staff at a joint showcasing event on 26 February 2014. Pictured are (l-r): Ann McNickle (CRUN), Denise Doherty (CWSAN), Gabrielle Nellis (PHA), Amanda Elliot (NACN), Sandy Wilson (NACN), Wendy Kerr (SACN) and Janine Gaston (SACN).**

## Next steps

The PHA is currently working on a regionally consistent approach to support capacity building within communities for future work. The proposed key elements of the model are:

- awareness raising and education;
- capacity building and resilience;
- partnership working;
- information management.

### Key facts

- The community network model covers 10 local council areas.
- Three SPDOs are currently in post.
- 933 small grants have been awarded – more than £780,000 in total – averaging just under £850 per grant.
- There have been more than 10,200 beneficiaries and 37,000 volunteer hours.
- Cost through PHA funding per beneficiary is approximately £14.

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# Building mental health awareness through sport

## Public health challenge

A reduction of the Northern Ireland suicide rate remains a PHA priority. It is important to note the range of broad social, economic and environmental factors that have an influence on suicide. It is essential not to rely solely on a suicide reduction target as the only gauge of the impact of *Protect life – A shared vision: The Northern Ireland suicide prevention strategy 2012–March 2014*.

The stigma attached to mental disorders and suicide means that many people feel unable to seek help. Social, psychological, cultural and other factors can interact to lead a person to suicidal behaviour. It is important to acknowledge the role sport and physical activity plays in combating stress and promoting wellbeing.

Sport supports healthy lifestyles by promoting good physical and mental health. Mental health and wellbeing is a key factor for many health problems and behaviours. People with lower mental health and wellbeing are more likely to:

- smoke;
- drink above recommended limits;
- be overweight;
- engage in lower levels of physical activity;
- eat unhealthily.

All of these contribute to lower life expectancy.

## Actions

### Sport NI

The PHA is working with Sport NI to:

- raise awareness of mental health issues;
- break down the barriers and stigma within sport towards mental and emotional wellbeing;
- build resilience in local clubs and communities.

### Irish Football Association (IFA)

The PHA is working with the IFA to use football as a means of promoting health and wellbeing.

### Gaelic Athletic Association (GAA)

The PHA is working with Ulster GAA to support the six new county health and wellbeing committees in developing programmes based on needs identified locally.

### Irish Rugby Football Union (IRFU) (Ulster Branch)

The PHA is working with the IRFU on the development of the organisation's first health and wellbeing strategy, which was completed in April 2015.

### Western HSCT Area Sports Club Programme

Clubs from the Western HSCT area have been taking part in a sports club programme, through the CLEAR project. These clubs deliver activities that meet the needs of local communities and support the

five steps to emotional wellbeing, which are: connect, be active, take notice, keep learning, and give.

## Impacts

### Sport NI

More than 100 clubs from various sports received a 'Mental Health Awareness Toolkit' in the form of a large sports bag containing equipment promoting the 'Minding your head' website and self-help literature.

More than 200 people from approximately 30 different sports clubs have received mental health awareness training.

**Players from Antrim Rugby Club (above) and Carryduff GAC (below) receiving their Mental Health Awareness Toolkits as part of the Sport NI programme.**

### IFA

200 participants, including coaches, players and parents from local clubs, attended two conferences. In total, 44 seminars were held across Northern Ireland, providing practical information on mental health and nutrition. The PHA also provided support during the production of a health booklet that was distributed at the seminars.

### GAA

The PHA supported the first Ulster GAA health and wellbeing conference in November 2014, where more than 200 delegates from Ulster attended and provided positive feedback. The PHA is also represented on the first All-Ireland GAA Health and Wellbeing Committee.

### Western HSCT Area Sports Club Programme

Twenty clubs from various sports in the Western HSCT area sent approximately 110 members to complete SafeTALK and Mental Health First Aid (MHFA) training.

## Next steps

The PHA will continue to work with Sport NI and other local sports governing bodies to promote positive mental and emotional wellbeing in local clubs and communities.

### Key facts

- In 2013, 303 deaths by suicide were provisionally registered in Northern Ireland: 229 males and 74 females.[85]

### Further information

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# Support project improves young men's resilience

## Public health challenge

During 2009 the PHA commissioned a scoping study to gather information on emotional wellbeing work with young men in the Northern area. The study identified a need for focused work within the locality to build resilience among vulnerable young men.

The Young Men's Support Project (YMSP) is funded by the PHA in the Northern area and managed by the North Eastern Education and Library Board Youth Service.

## Actions

The young men who participate in the project are between 16–25 years of age, although exceptions are made to include some 15 year olds due to their peer group connections. This initiative focuses on building the resilience and coping skills of young men.

The YMSP contains the following elements:

- Outreach (personal development work) with young men focusing on enhancing 'protective factors', ie resilience-based work, help-seeking strategies, signposting to appropriate services/support if needed. The outreach work targets vulnerable, hard to reach young men.
- Minimum of 100 young men engaged per year by each worker (two workers).
- Between six and eight group work programmes delivered per year by each worker (each programme to last six to eight weeks, with a minimum of eight participants).
- Evidence of impact through pre- and post-programme evaluation methods and record outcomes/outputs.

## Impacts

Approximately 400 young men have participated in the project since its inception in 2010. They present with a wide range of issues and needs:

- low self-esteem;
- identity issues;
- self-harm;
- suicidal thoughts;
- recovering from attempted suicide;
- coping with the loss of a loved one.

The project supports young men to:

- develop coping skills and resilience;
- break down the barriers and stigma attached to mental health issues;
- seek help and support when needed.

Referrals to the project have come from a number of different agencies and individuals, and demand is increasing. It is encouraging that several young men who have participated have then referred friends to the project. This is evidence that young men are becoming more aware and confident in relation to mental health and emotional wellbeing, and are encouraging peers to do the same.


**Young men who attended the suicide prevention Motivation and Evaluation Day in March 2014.**

There have been instances where signposting to other services was necessary for more focused and appropriate professional help.

Workers are now trained in several interventions including Applied Suicide Intervention Skills Training (ASIST) and Mental Health First Aid (MHFA), and all hold a professional qualification in youth work.

## Next steps

The project continues to implement appropriate personal development programmes for young males, both as individuals and as part of a group.

A similar support programme for young women is an emerging requirement and this will be considered in future plans.

### Key facts

- In 2013, 303 deaths by suicide were provisionally registered in Northern Ireland – 229 males and 74 females.[86]
- The male suicide rate is three times greater than that for females (25.1 per 100,000 for males and 7.5 per 100,000 for females in 2010–2012).[86]
- The highest rate of suicide among males (2010–2012) was in the 25–29 years age group (46.4 per 100,000) followed by the 20–24 years age group (45.3 per 100,000).[86]
- The highest rate of suicide among females (2010–2012) was in the 50–54 years age group (12.9 per 100,000) followed by the 45–49 years age group (12 per 100,000).[86]

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# 'Breastfeeding Welcome Here' scheme grows further

## Public health challenge

Scientific evidence confirms that babies who are breastfed are generally at lower risk of infections, allergies, obesity, diabetes and cot death. Women who breastfeed can also have a reduced risk of developing breast cancer, ovarian cancer and osteoporosis.[87, 88]

The longer a mother breastfeeds, the more significant the health benefits to both mother and baby, which is why it is recommended that infants are exclusively breastfed for the first six months, with continued breastfeeding into the second year of life and beyond.[89]

According to the UK *Infant feeding survey*, those least likely to breastfeed include young mothers and women who have never worked.[90] The reasons why women decide not to breastfeed include:

- they don't like the idea of breastfeeding (20%);
- it suits their lifestyle not to breastfeed (19%);
- other people can feed the baby (17%).

Embarrassment is a concern, particularly for young mothers (20%), and feedback from mothers here suggests they are not comfortable with breastfeeding in public.[90, 91]


**Promoting the 'Breastfeeding Welcome Here' scheme are (l-r): Former Belfast Lord Mayor Nichola Mallon, Lynn Gallagher and baby Sadhbh, and Mary Black, Assistant Director of Public Health, Health & Social Wellbeing Improvement, PHA.**

## Actions

The PHA is the lead organisation supporting implementation of *Breastfeeding – A Great Start: A strategy for Northern Ireland 2013–2023*.[92] The strategy aims to improve the health and wellbeing of mothers and babies through increased breastfeeding rates and outlines the strategic direction to protect, promote, support and normalise breastfeeding in Northern Ireland.

The strategy sets four strategic outcomes:

1. Supportive environments for breastfeeding exist throughout Northern Ireland.
2. HSC has the necessary knowledge, skills and leadership to effectively protect, promote, support and normalise breastfeeding.
3. High quality information systems in place that underpin the development of policy and programmes, and which support strategy delivery.
4. An informed and supportive public.

The PHA is prioritising action to address each of the four outcomes through a Breastfeeding Strategy Implementation Steering Group.

Outcome 1 has seen significant progress in 2014 through the 'Breastfeeding Welcome Here' scheme. This PHA initiative provides an opportunity to highlight the importance of breastfeeding to the health and wellbeing of mothers and babies. The scheme works with businesses and local government to signpost breastfeeding families to places where they are welcome to breastfeed their baby. There are currently 401 members of this PHA scheme and a full list of the participating businesses and facilities can be seen at www.breastfedbabies.org

Scheme members are asked to display a heart-shaped sticker and a certificate that lets mothers know they are welcome to breastfeed in all public areas. Recent new members include Belfast City Council and Parliament Buildings.

## Impacts

In 2014, the 'Breastfeeding Welcome Here' scheme registered 66 new members, an increase of 19.7% on 2013 (335 members).

Engagement with businesses, local government and Parliament Buildings sends out a strong message of support to breastfeeding mothers and their families.

## Next steps

The PHA continues to promote the 'Breastfeeding Welcome Here' scheme and is seeking increased membership, particularly in areas with low uptake of the scheme.

The Breastfeeding Strategy Implementation Steering Group is working on a proposal that could introduce legislation in Northern Ireland by 2018 aimed of protecting breastfeeding in public.

### Key facts

- In 2010, Northern Ireland had the lowest breastfeeding initiation rate in the UK at 64%, compared to England (83%), Scotland (74%) and Wales (71%).[90]
- Data from the Child Health System suggest that breastfeeding rates on discharge from hospital may be gradually increasing from 40% in 2004 to 45% in 2013.[93]
- Breastfeeding rates beyond the first few weeks and months are particularly low in Northern Ireland, with only 16% of infants being breastfed at six months compared to 36% in England.[90]

### Further information

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# *Improving health through early detection*

**Overview**

Treating people with familial hypercholesterolaemia

Breast screening programme embraces digital future

New cancer campaign promotes public awareness

HPV test streamlines cervical screening programme

Changing lifestyles with 'Healthy Hearts in the West'

# Overview

Early detection of disease often produces better outcomes for patients because at an earlier stage, treatment may be more effective, reduce ill-health and, in some cases, reduce premature death.

Population screening programmes have a key role in the early detection of disease. A range of screening programmes are available to the public in Northern Ireland and the PHA has responsibility for commissioning, coordinating and quality assuring them.

Screening is not suitable for every condition. Organised screening programmes are established on the advice of the UK National Screening Committee and according to the best evidence available.

There are a number of programmes that invite adults to participate in screening. These include the screening programmes for bowel, breast and cervical cancer. There are also two other screening programmes for adults – the diabetic retinopathy screening programme and the abdominal aortic aneurysm (AAA) screening programme for men.

This section looks in more detail at:

- the introduction of digital mammography to the breast cancer screening programme;
- the screening for cervical cancers;
- the 'Be Cancer Aware' campaign, which aims to improve knowledge and awareness of the signs and symptoms of cancer;
- the 'Healthy Hearts in the West' initiative;
- detecting people who have a genetic predisposition to high cholesterol;
- improving eye health through the development of an integrated care pathway for glaucoma.

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# Treating people with familial hypercholesterolaemia

## Public health challenge

Approximately 1 person in every 500 has a very high cholesterol concentration in their blood which is due to an inherited genetic defect; known as familial hypercholesterolaemia (FH). This means we would expect around 3,700 people in Northern Ireland to have this disorder. Only around 800 had been identified before April 2014.

Most people don't know they have FH until it causes early onset heart disease. The challenge is to actively identify, and treat as many people as possible who have FH. Treatment has been shown to reduce the risk of heart disease and premature death in people with this disorder.

## Actions

The PHA, in a partnership arrangement with the HSCB and Northern Ireland Chest Heart and Stroke (NICHS), introduced a new service to identify people with FH in 2014.

This new service uses a system known as cascade testing to detect undiagnosed cases. The process begins when blood cholesterol measurement and DNA tests are carried out on someone with heart disease who is suspected as having FH.

If a genetic mutation is found, tests can then be carried out on their first degree relatives and subsequently other relatives. In this way, the testing is cascaded through the wider family circle in an effort to identify all those who have the disorder.

## Impacts

The development of this service should result in an additional 1,000 people with FH being diagnosed and treated over the first four years of the programme. This will prevent around 170 premature cardiovascular deaths.

**Launching the new FH cascade testing programme are (l-r): Andrew Dougal, NICHS; FH patient Frances Willey; FH nurse Moyra Cather; and Dr Adrian Mairs, PHA.**

Northern Ireland is one of only a small number of countries that have an organised system for identifying people with FH. Our aim is to identify as many people as possible with this genetic disorder so they can get the advice and treatment they need to prevent the early development of cardiovascular disease and avoid premature death.

Diagnosis of FH is also crucial to the patient's family. Any child of an FH sufferer has a 50% chance of inheriting the disease. Once one family member is identified as having it, on average another five will be diagnosed through cascade testing.

## Next steps

The PHA will be monitoring the impact of this new service using the following performance indicators:

- percentage of the expected number of people with FH in Northern Ireland who have been identified;
- percentage of adult FH patients achieving a greater than 50% reduction in (low density lipoprotein) cholesterol concentration.

### Key facts

- 50% of men with undiagnosed and untreated FH will develop heart disease by the age of 50.
- 30% of women with undiagnosed and untreated FH will develop heart disease by the age of 60.
- It is estimated that cascade testing will result in the identification and appropriate treatment of at least 50% of people with FH.

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# Breast screening programme embraces digital future

## Public health challenge

Breast screening in Northern Ireland is routinely offered to women between the ages of 50 and 70 years. This population is projected to rise by 16% by 2021. The service also has a high uptake – 77% of invited women attended in 2013/14.

Women aged over 70 years are encouraged to self-refer for screening, which will lead to a further increase in demand for the service.

The challenges facing the Northern Ireland Breast Screening Programme (BSP) were to:

- replace the existing analogue mammography machines with state-of-the-art digital equipment, and ensure that the programme continued to provide a high quality service to women during the transition;
- upgrade the mobile screening units and static units at Altnagelvin Area Hospital and Linenhall Street in Belfast in order to improve the experience of breast screening for women;
- further promote uptake of the service by improving access in rural areas.

## Actions

During 2014, the PHA, in association with the HSCTs, replaced all the analogue mammography units in the BSP with new digital equipment. Digital mammograms are easier to read and can be stored electronically (unlike the older x-ray films, which require physical storage space), so these images will be stored on the Northern Ireland Picture Archive and Communications System (PACS) where they will be easily available.

An objective of the programme is to ensure the needs of all participating women are met, as far as possible, in terms of location and the screening environment. This was achieved by commissioning seven new mobile screening units to replace the five existing units, and by providing mobile units at new screening locations in some rural areas. In addition, the new mobiles have disability access and are all fitted with a hearing loop system.

The fixed sites at Altnagelvin Area Hospital, Belfast City Hospital and Linenhall Street in Belfast were also refurbished and new digital mammography equipment was installed.


**Former Health Minister Jim Wells visited one of the new mobile breast screening units at Lurgan Hospital in January 2015. From the left are: Margaret Holland (Southern HSCT), Nicola Kelly (PHA), Jim Wells, Gillian Sandford (Southern HSCT) and Dr Adrian Mairs (PHA).**

## Impacts

Programmes elsewhere that have moved to digital-only screening have reported:

- a reliable and sustainable service, with improved turnaround times;
- a reduced number of recalls due to poor images;
- an increase in breast cancer detection rates;
- improved quality and access to images for use in treatment;
- improved user experience, with increased satisfaction among women attending for mammography;
- a reduction in administrative time due to ease of storage and retrieval of breast images;
- increased physical storage space for clinical use (by eliminating the dependence on conventional film technology);
- improved health and safety, and a better working environment for staff (by removing exposure to hazardous chemicals and reducing manual handling activities).

We expect to see similar impacts in Northern Ireland. In addition, women with mobility problems can now access the service at the mobile units. Women with breast implants can also attend for breast screening at the mobile units, as digital equipment allows staff to see immediately if they have obtained good images. Previously, these groups of women had to attend hospital sites for screening.

## Next steps

- Monitor and report on quality improvements in the service.
- Explore ways of streamlining the service further.
- Identify and develop further sites for mobile units to visit.
- Undertake customer satisfaction surveys post-improvement.
- Continue with exercises to encourage uptake of screening among the population.

### Key facts

- Mammography in the Northern Ireland BSP has been completely digital since October 2014.
- Approximately 1,300 lives are saved each year in the UK as a result of breast screening programmes.
- 230,000 women are due to be invited for screening across Northern Ireland over the next three years.
- The seven new mobile units will visit each of the 24 sites across Northern Ireland many times over that three year period.
- The PHA has published an online video to show women what to expect when attending for breast screening. It can be viewed at: www.cancerscreening.hscni.net/Breast%20Screening%20video.htm

### Further information

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# New cancer campaign promotes public awareness

## Public health challenge

The PHA is currently running a cancer awareness programme to improve the public's knowledge of the signs and symptoms of cancer. The rationale for the campaign is that people with cancer will have significantly better outcomes if they are diagnosed and treated as early as possible. It is therefore important that people know and understand what to look out for as possible early symptoms of cancer.


## Actions

Campaign planning has included the compilation of a comprehensive evidence review, including epidemiological analysis of cancer incidence and mortality in Northern Ireland. There has also been an appraisal of major European studies on factors associated with cancer survival and an evaluation of European strategies for raising public awareness of cancer symptoms.

In addition, the PHA has completed a baseline quantitative research study exploring the attitudes, knowledge and awareness of cancer, including signs and symptoms, of the Northern Ireland public.

The PHA has worked closely with key stakeholders in planning the campaign. Two stakeholder engagement sessions were held and attended by a broad range of individuals from HSC, voluntary and/or community groups, and the charities sector. The sessions explored the evidence and rationale for developing a public information campaign and confirmed that widespread support existed for contributing to implementation of the programme.

## Impacts

The key findings from the quantitative research on public attitudes, knowledge and awareness of cancer reinforced many of the results of a recent international cancer benchmarking study in which Northern Ireland participated:

- Unprompted awareness of cancer signs and symptoms is relatively low in Northern Ireland. The warning signs most commonly mentioned included:
  - a change in the appearance of a mole (38%);
  - a lump/swelling (33%);
  - being generally unwell (27%).[94]
- A cough or hoarseness was only mentioned by 16% of the survey population.[94]

- Barriers to seeking help need to be addressed – 49% of respondents said they would put off going to a doctor because of worry about what the doctor might find (if they had a sign or symptom they thought might be serious) and 42% said they would put off making an appointment due to embarrassment. There is strong evidence that barriers to seeking help will, if left unchecked, continue to prevent early diagnosis.[94]
- Awareness of cancer survival rates was generally poor – the majority of individuals failed to identify life expectancy levels for common cancers.[94]

## Next steps

The findings and learning from the initial work and stakeholder engagement have been used to inform the cancer awareness campaign strategy, 'Be Cancer Aware', which was launched earlier this year.

The PHA will continue to engage on the proposed campaign strategy and enable stakeholders to contribute to delivery of the campaign programme as it progresses.

Although the programme plans include a focus on a number of prioritised major cancer tumours, they will also incorporate information relating to a wide range of cancers and promote better awareness and early detection of these.

The website www.becancerawareni.info was launched in February this year and is a key aspect of the campaign. It provides information about cancer signs and symptoms, explains what to do when possible signs or symptoms appear, and signposts people to recommended sources of support or further information.

### Key facts

- In 2013, 4,200 people in Northern Ireland died of cancer.[94]
- The most common sites for cancer deaths across both genders were the trachea, bronchus and lung, with 969 deaths or 23% of all cancer deaths. These were followed by prostate cancer for males (272 deaths) and breast cancer for females (320 deaths).[95]
- In 2012, there were 9,034 new cases of cancer in Northern Ireland (excluding non-melanoma skin cancer NMSC).[95]
- An estimated 51,000 people in Northern Ireland are living with cancer.[96]
- The most recent cancer survival rates (for those diagnosed between 2003 and 2007) show that more than half of those diagnosed were still alive after five years.[96]

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# HPV test streamlines cervical screening programme

## Public health challenge

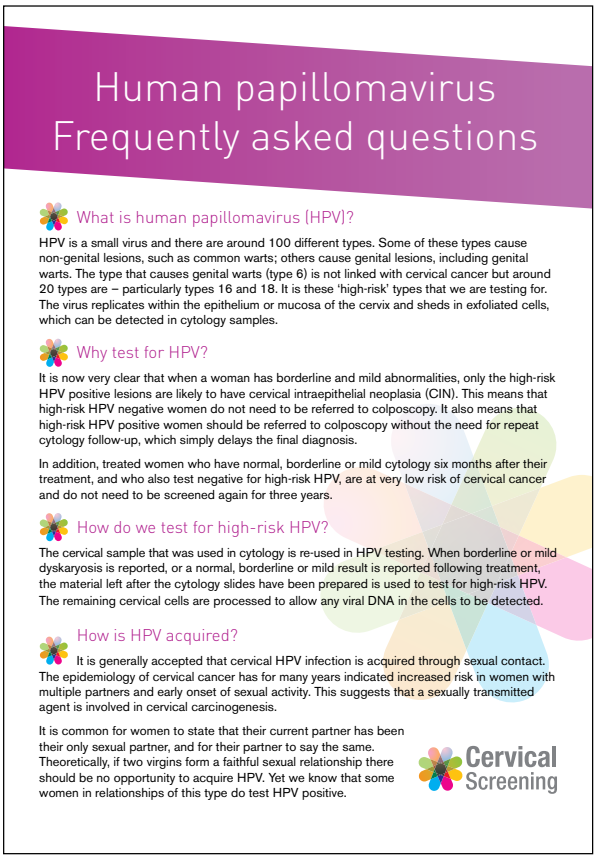
Over recent years, the link between human papillomavirus (HPV) and cervical cancer has become clearer. Thirteen types of HPV are deemed 'high risk' (HR-HPV) and are found in over 99% of diagnosed cervical cancers. This means that women who do not have HR-HPV infection are extremely unlikely to develop cervical cancer in the short to medium term.

Most people who become infected with HPV do not have symptoms and do not even know they have it. HPV is spread by close skin to skin contact. Infection with HPV is very common, but in most cases the infection is cleared naturally by the body's immune system. It is only when the virus persists that a woman is at increased risk of cervical abnormalities and cancer.

Screening for cervical cancer is offered to women aged 25–64 years. Because the screening test (smear test) looks for early changes in the cells lining the cervix, the aim is to prevent future cancers by treating these changes early.

Although over 90% of smears are reported as negative, the rest show some degree of abnormality. This ranges from low grade changes (mild or borderline) to an obvious cancer. Many low grade changes will resolve themselves and only 15–20% of women with a low grade result will have an abnormality that needs treatment.

The challenge is to improve how we identify those women with low grade changes who need treatment and ensure they receive this without undue delay. It is also important that women don't have treatments or repeat smears they don't need.



Human papillomavirus
Frequently asked questions

### What is human papillomavirus (HPV)?

HPV is a small virus and there are around 100 different types. Some of these types cause non-genital lesions, such as common warts; others cause genital lesions, including genital warts. The type that causes genital warts (type 6) is not linked with cervical cancer but around 20 types are – particularly types 16 and 18. It is these 'high-risk' types that we are testing for. The virus replicates within the epithelium or mucosa of the cervix and sheds in exfoliated cells, which can be detected in cytology samples.

### Why test for HPV?

It is now very clear that when a woman has borderline and mild abnormalities, only the high-risk HPV positive lesions are likely to have cervical intraepithelial neoplasia (CIN). This means that high-risk HPV negative women do not need to be referred to colposcopy. It also means that high-risk HPV positive women should be referred to colposcopy without the need for repeat cytology follow-up, which simply delays the final diagnosis.

In addition, treated women who have normal, borderline or mild cytology six months after their treatment, and who also test negative for high-risk HPV, are at very low risk of cervical cancer and do not need to be screened again for three years.

### How do we test for high-risk HPV?

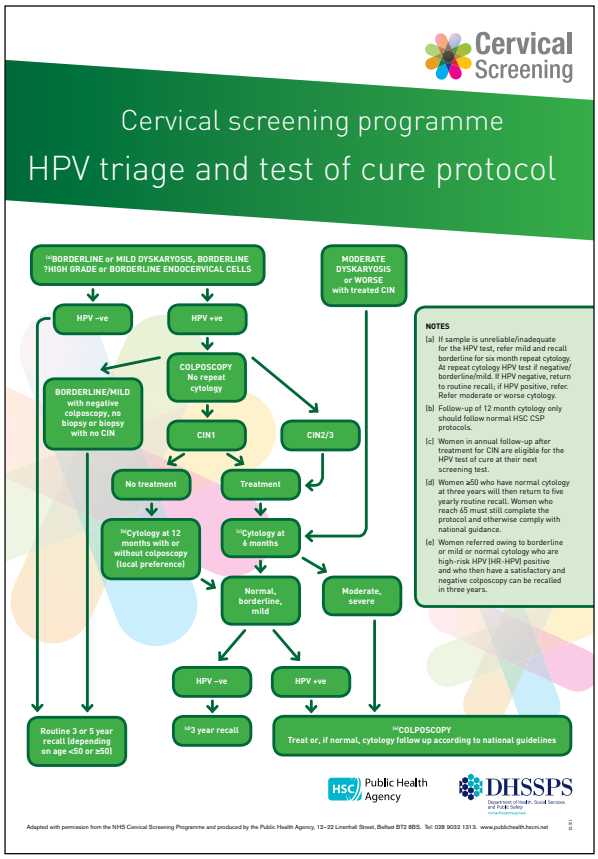
The cervical sample that was used in cytology is re-used in HPV testing. When borderline or mild dyskaryosis is reported, or a normal, borderline or mild result is reported following treatment, the material left after the cytology slides have been prepared is used to test for high-risk HPV. The remaining cervical cells are processed to allow any viral DNA in the cells to be detected.

### How is HPV acquired?

It is generally accepted that cervical HPV infection is acquired through sexual contact. The epidemiology of cervical cancer has for many years indicated increased risk in women with multiple partners and early onset of sexual activity. This suggests that a sexually transmitted agent is involved in cervical carcinogenesis.

It is common for women to state that their current partner has been their only sexual partner, and for their partner to say the same. Theoretically, if two virgins form a faithful sexual relationship there should be no opportunity to acquire HPV. Yet we know that some women in relationships of this type do test HPV positive.

Cervical Screening



Cervical Screening

Cervical screening programme

HPV triage and test of cure protocol

[1a]BORDERLINE or MILD DYSKARYOSIS, BORDERLINE ?HIGH GRADE or BORDERLINE ENDOCERVICAL CELLS

MODERATE DYSKARYOSIS or WORSE with treated CIN

HPV –ve

HPV +ve

COLPOSCOPY No repeat cytology

BORDERLINE/MILD with negative colposcopy, no biopsy or biopsy with no CIN

CIN1

CIN2/3

No treatment

Treatment

[1b]Cytology at 12 months with or without colposcopy (local preference)

[1c]Cytology at 6 months

Normal, borderline, mild

Moderate, severe

HPV –ve

HPV +ve

Routine 3 or 5 year recall (depending on age <50 or ≥50)

[1d]3 year recall

[1e]COLPOSCOPY Treat or, if normal, cytology follow up according to national guidelines

NOTES

(a) If sample is unreliable/inadequate for the HPV test, refer mild and recall borderline for six month repeat cytology. At repeat cytology HPV test if negative/borderline/mild. If HPV negative, return to routine recall; if HPV positive, refer. Refer moderate or worse cytology.

(b) Follow-up of 12 month cytology only should follow normal HSC CSP protocols.

(c) Women in annual follow-up after treatment for CIN are eligible for the HPV test of cure at their next screening test.

(d) Women ≥50 who have normal cytology at three years will then return to five yearly routine recall. Women who reach 65 must still complete the protocol and otherwise comply with national guidance.

(e) Women referred owing to borderline or mild or normal cytology who are high-risk HPV (HR-HPV) positive and who then have a satisfactory and negative colposcopy can be recalled in three years.

HSC Public Health Agency

DHSSPS

Adapted with permission from the NHS Cervical Screening Programme and produced by the Public Health Agency, 12–22 Linenhall Street, Belfast BT2 8BS. Tel: 028 9032 1313. www.publichealth.hscni.net

## Actions

Testing for HR-HPV was introduced to the cervical screening programme in Northern Ireland in January 2013 to help identify which women are most likely to need treatment. HR-HPV testing is carried out on smear samples that are reported as low grade. If HR-HPV is found in the sample, the woman is referred to colposcopy without the need for further smears. If there is no HR-HPV present, the woman can safely be followed up in three to five years' time for her next smear.

Women who have already had treatment for cervical abnormalities may also be tested for HR-HPV at their follow-up smear six months after treatment. This allows many women with no HR-HPV infection to return to a schedule of one smear test every three years, rather than having these on an annual basis.

## Impacts

HR-HPV testing was carried out on 9,587 samples with a low grade result in 2013/14. HR-HPV was present in 49.5% of these samples.

HR-HPV testing has improved the pathway for women with low grade changes who don't need treatment. Up to 4,840 women with a low grade smear in 2013/14 were safely returned to routine recall within the screening programme as a result of a negative HR-HPV test. Previously, these women would have been offered repeat tests or referral to colposcopy.

Testing has also ensured that women who may need treatment are referred to colposcopy in a more streamlined way. The 4,747 women with a positive HR-HPV test result were referred to colposcopy without the need for repeat smears.

## Next steps

Further research suggests that HR-HPV testing may be an appropriate and effective first line screening test. Pilot studies are underway in England to explore the feasibility of changing the screening pathway. The Northern Ireland programme will watch these developments closely and consider the findings of the pilot when they are published.

In the meantime, the PHA continues to encourage uptake of the HPV vaccine for teenage girls as a means of protecting against cervical cancer. The PHA also promotes informed choice in relation to screening. Further information is available on our website: www.helpprotectyourself.info

### Key facts

- 134,705 smears were reported in Northern Ireland in 2013/14.
- 77.3% of eligible women had a smear test in the five years up to the end of March 2014.
- Up to 80% of the population will have HPV infection during their lifetime.

### Further information

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# Changing lifestyles with 'Healthy Hearts in the West'

## Public health challenge

Premature death rates for cardiovascular disease (CVD) in west Belfast are 50% higher than the Northern Ireland average.[97] The Healthy Hearts in the West (HHW) Initiative uses a community assets-based approach to change this.

Led by the West Belfast Partnership Board, it involves collaboration between Belfast HSCT, the HSCB, the PHA and Belfast City Council.

Established in 2012, it raises people's awareness of CVD risk factors and helps change individual lifestyles. It improves the use of existing resources and adds value by connecting service providers from statutory, community, voluntary and private sectors through partnership working.


**The Belfast Taxis Community Interest Company Health Event took place on 15 February 2013 and was attended by more than 200 people, predominantly taxi drivers working for the company. The event was planned to coincide with the anniversary of the launch of the Healthy Hearts in the West Initiative and the unveiling of the Healthy Hearts taxi painted with the HHW logo. Pictured are (l-r): Geraldine McAteer, CEO WBPB, Dr Eddie Rooney, CEO Public Health Agency, and Harry, Healthy Hearts taxi driver**

The initiative has been robustly evaluated, with support from the PHA and UK Clinical Research Collaboration (UKCRC) Centre of Excellence for Public Health at Queen's University Belfast, to demonstrate its potential to generate sustainable health improvement and reduce health inequalities.

## Actions

HHW has supported delivery of services and programmes, piloted new interventions and added heart health awareness into existing activities by:

- working with services and groups to set up community-wide programmes, activities and events;
- delivering workplace interventions in a training centre, a call centre, a local taxi company, and with staff in a post-primary school;
- piloting cardiovascular risk assessment and weight management programmes in 10 local pharmacies;
- supporting provision of cardiac rehabilitation programmes in a community setting;
- promoting the weekly 5km Falls Park Run as part of a national movement.

## Impacts

To date, more than 10,000 people have participated in programmes linked to HHW, including those that encourage people to stop smoking, be physically active, eat healthily, and watch their weight and alcohol intake. Approximately 750 people have engaged in workplace heart health events.

Following health days, lifestyle surveys and physical activity programmes, the training centre, supported by HHW, developed an organisation-wide health strategy.

The participating taxi company supported the start-up of walking and physical activity groups for drivers.

Three months after the HHW post-primary school staff health day, 95% of staff (n=40) reported making lifestyle improvements. The school opened a small keep-fit suite for staff, their families and local residents.

More than 750 people accessed vascular risk assessments in community pharmacies. Over 20% were referred to their GPs because they were found to be at risk of CVD. Pharmacists also supported community events, at which more than 600 people had health checks. Over 25% were referred to HHW community pharmacy programmes.

Seventy six people completed the six month community pharmacy weight management programme. HHW in collaboration with one pharmacy and Belfast HSCT also delivered a 12 week weight management programme at a local women's centre. Eight of the 10 women who participated lost almost 25kg between them.

Cardiac rehabilitation uptake after the move to the community centre in 2012 was 42% which compared favourably against a Northern Ireland average of 38%, and patients accessed co-located supportive therapies and services. Encouragingly, the majority of cardiac rehabilitation participants continued programmes to maintain healthy lifestyles.

**At the St Valentine's Day Park Run in Falls Park in February 2014, people of all ages and abilities were encouraged to walk, jog or run 1km–5km through the Falls Park and take part in fun activities designed to improve their heart health. Participants were also encouraged to learn more about how they can get involved with Healthy Hearts in the West and the weekly Park Run. Pictured are (l-r): Ciara McKay, Upper Springfield Healthy Living Centre, Janine Crawford, HHW, and Holly Burns, HHW.**

The number of people registered with the Falls Park Run increased from 500 to more than 800.

## Key facts

- In 2013, 3,917 people died from CVD in Northern Ireland. At 26% of all deaths, it was second only to cancer as a cause of death.[98]
- Although standardised death rates for CVD in people aged under 75 have declined (from 119 per 100,000 in 2004–08 to 93 per 100,000 in 2008–12), the difference between those who live in the least deprived areas (61 per 100,000 in 2008–12) and the most deprived areas (150 per 100,000) remains substantial.[99]
- CVD contributes two years of the 7.6 years difference in life expectancy between those living in the least and most deprived areas.[100]
- Those living in the most deprived areas are 10% more likely to be admitted to hospital and 14% more likely to be on antihypertensive prescriptions than those living in the most affluent areas.[101]

## Next steps

HHW has recently completed a Belfast-wide scoping study of health improvement interventions in smoking cessation, physical activity, nutrition, and mental health improvement. Findings will inform the design of a city-wide community chronicdisease prevention and management model, taking account of lessons learnt in west Belfast.

## Further information

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# *Improving health through high quality services*

**Overview**

Providing high-quality maternity services for everyone

Radiotherapy centre developed at Altnagelvin

Improving quality and safety during the birth process

Care pathway to treat glaucoma in the community

Cook it! adapted for people with learning disabilities

Emergency PCI to reduce damage from heart attacks

# Overview

High quality, safe services are very important to everyone. Although service use may be more common in the early years and later life, it's still crucial that services for adults are available when they need them.

This section covers some significant developments in available services including:

- the expansion of cardiac catheterisation capacity and the establishment of an immediate intervention for heart attacks called primary percutaneous coronary intervention;
- the development of a radiotherapy unit to be based at Altnagelvin Hospital;
- quality improvement for maternity services.

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# Radiotherapy centre developed at Altnagelvin

## Public health challenge

Radiotherapy is a treatment that many people with cancer receive. It can be used to cure many cancers, but is also used to control the spread of cancer and to manage cancer-related symptoms such as back pain.

Radiotherapy services are currently provided for Northern Ireland patients at the regional Cancer Centre at Belfast City Hospital, but it is anticipated that by 2016 the facilities at the Cancer Centre will be at full capacity because of the growing need for radiotherapy.

Following an announcement by the Health Minister in April 2008 that a new satellite radiotherapy centre would be established at Altnagelvin Hospital by 2016, the HSCB and PHA have worked closely with the Western HSCT on the establishment of a radiotherapy service at Altnagelvin. Construction is underway and the service will commence in the autumn of 2016.

## Actions

The establishment of a radiotherapy service at Altnagelvin creates a unique opportunity for cross-border working with the Republic of Ireland as it will provide treatment for patients both north and south of the border.

There has been extensive collaborative work carried out with colleagues from the Republic on this matter and a memorandum of understanding (MOU) and service level agreement (SLA) have been agreed and signed between relevant parties.

Recent appointments have included consultant oncologists and the medical physics lead for the service.

## Impacts

The new centre will increase radiotherapy capacity through the provision of services to people in the west and northwest of Northern Ireland. It will also offer services to a number of people from Donegal. The centre will greatly improve patient travelling times by providing more locally accessible services.

Radiotherapy treatment, both single and combination radiotherapy/chemotherapy, will be delivered at the Altnagelvin site for both palliative and curative purposes.

Care of patients with rare and/or complex cancers will continue to be provided at the specialist centres in Belfast or Dublin. Treatment and care will be delivered in line with current regional Northern Ireland Cancer Network (NICaN) protocols.

## Next steps

The new centre will require a large number of staff from a variety of disciplines. The HSCB and PHA have worked closely with the Western HSCT to agree robust workforce plans and advanced recruitment for the required core disciplines is well underway.

Capital building works are also well advanced and all project plans are progressing in line with the anticipated opening of the unit in mid-2016.

The real value and importance of the new centre is that across Northern Ireland, radiotherapy provision will be much more geographically accessible. Almost all of the population will be within one hour's travel time of radiotherapy services.

As many patients attend for radiotherapy on a daily basis over a number of weeks, this improved accessibility will contribute to improved patient experience. Currently, people who live more than an hour's journey from Belfast often opt to stay at the overnight facilities at Belfast HSCT when undergoing treatment. Although this avoids lengthy travel on a daily basis, it also means people are away from home during a period of time when they may be unwell. With the addition of the Altnagelvin facility, very few people will need to remain in overnight accommodation close to either Belfast or Western HSCT radiotherapy facilities.

### Key facts

- The Altnagelvin development will include three linear accelerators, housed in four bunkers.
- It will also include diagnostic facilities and 14 additional inpatient beds.
- Importantly, there will be additional staffing in the following specialty areas:
  - oncology;
  - therapeutic radiography;
  - medical physics;
  - nursing;
  - allied health professions (AHP) specialties;
  - admin/support staff.

### Further information

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# Improving quality and safety during the birth process

## Public health challenge

The aim of the regional maternity strategy is to provide high-quality, safe, sustainable and appropriate maternity services in order to ensure the best outcome for all women and babies.[102]

Although total births in Northern Ireland are projected to decrease, there are growing challenges due to a relative increase in:

- the number of births to older mothers;
- multiple births;
- births to women who are significantly overweight or have a pre-existing chronic condition such as diabetes.

These factors increase the risk of complications during, or at the end of, pregnancy.

Overall, the rate of (clinical) intervention in labour and birth is higher in Northern Ireland than in other parts of the UK and shows significant variation across our maternity units. A focus on normalising birth and reducing unnecessary caesarean sections would result in better quality, safer care for mothers and their babies.

## Actions

Recognising these challenges and the ambitions of the maternity strategy, the HSC Safety Forum established a maternity quality improvement 'breakthrough collaborative'. All HSCTs, commissioners and the DHSSPS actively contribute to the collaborative.

An advisory group, chaired by a frontline senior obstetrician, guides the strategy and direction of the collaborative. Three collaborative learning sessions were held during 2013/14. These are focused events at which frontline teams from all HSCTs share learning and best practice, and develop a plan for further actions focused on improving quality and safety for mothers and babies. Teams test and implement changes in their own settings and collect local data to measure whether or not there is improvement.

## Impacts

Using the tools and techniques of improvement science, the maternity collaborative has focused on three key areas:

- promoting the normalisation of pregnancy and childbirth;
- effective communication, both between healthcare staff and with women and families;
- safe labour and delivery.

Regional outputs from the collaborative include the following:

- All HSCTs run, or are developing, 'birth choice' clinics. These enable women who have previously had a caesarean section or difficult birth to explore birth choices for the current pregnancy.
- A regional maternity quality improvement dashboard to which all HSCTs contribute data. This provides clinicians and managers with up-to-date information on clinical activity and outcomes, which assists decision-making and improves the quality of patient care.
- Integrated antenatal/post-natal obstetric early warning score. This provides a standardised approach to the documentation of clinical observations (such as heart rate and blood pressure) and the escalation of appropriate clinical concerns.
- Standardised evaluation stickers to assess a baby's heartbeat before and during labour.

## Next steps

In 2015/16, the collaborative will consolidate their improvements to date and start two new areas of work:

- prevention and management of severe tears during vaginal delivery;
- a 'care bundle' to reduce the number of stillbirths (a care bundle is a set of interventions that, when used together, significantly improve outcomes).

### Key facts

- In 2013, there were 24,387 births registered to mothers resident in Northern Ireland (24,277 live births and 110 stillbirths).[103]
- In 2012/13, 29.8% of births in Northern Ireland were by caesarean section. The rate by hospital ranged from 22.9%–35.8%.[104]
- Over the past 30 years, birth rates for women aged 20–24 years have more than halved and rates for women aged 25–29 years have fallen by a third. In contrast, birth rates for women aged 35–39 years increased by 34% between 1983 and 2013.[103]
- An audit of the Maternity Early Warning Score Chart showed that 86% of respondents were confident that the chart contributed to the management of women on the ward.

### Further information

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# Care pathway to treat glaucoma in the community

## Public health challenge

Glaucoma is a common and potentially sight-threatening condition. It is usually asymptomatic until advanced, which means someone with glaucoma could be unaware there is a problem with their eyes until severe visual damage has occurred.

Regular eye tests are important for detecting eye conditions such as glaucoma. Once diagnosed, people with glaucoma or ocular hypertension need effective monitoring and treatment.

*Developing eyecare partnerships*, in line with *Transforming your care*, aims to improve the commissioning and provision of eyecare services over a five year period.[105,106]

The *Developing eyecare partnerships* strategy highlighted four aims:

1. Identify potential sight-threatening problems at a much earlier stage.
2. Contribute to the independence of adults and maintain them well in the community, for as long as possible, by improving access to current HSC treatment for acute and/or long-term eye conditions.
3. Contribute to the improvement of life chances for children, including those living with disabilities, through improving access to eyecare services and treatment for acute and long-term conditions.
4. Maximise use of HSC resources in both primary and secondary care services.[105]

## Actions

One of the objectives being delivered by *Developing eyecare partnerships* is a regional approach to the development of integrated care pathways for a number of long-term eye conditions, including glaucoma.

Following publication of NICE guidelines on glaucoma, the HSCB, in partnership with stakeholders, redesigned the referral pathway for glaucoma.[107]


**Service user John Perry with Clinical Nurse Specialist Alice Kennedy at the one-stop glaucoma clinic.**

During 2013/14, a referral refinement service was launched. Community optometrists were supported to purchase state-of-the-art equipment and offered training to develop their skills. By increasing community optometrists' ability to make eye examinations more accurate, it is possible to reduce unnecessary anxiety and the need for patients to visit consultants in hospital.

For those diagnosed with glaucoma or ocular hypertension, a one-stop glaucoma clinic has been introduced in Shankill Health and Wellbeing Centre in Belfast. This allows patients to get all their tests and treatment in one place on the same day, without having to go to hospital.

## Impacts

Referral refinement has resulted in fewer patients being referred to hospital ophthalmology clinics and more patients being managed closer to home as recommended in *Transforming your care*.[106]

The one-stop glaucoma clinic illustrates how primary and secondary care clinicians are working together to improve services for users. A consultant, community optometrists with a special interest and others are working together to provide a better patient-centred experience with improved outcomes.

John Perry, a service user, said: "It is great to get all my tests done and receive the results on the same day, and to know what treatment I require.

"Having everything done on the same day suits me as I don't have to travel all over the place to have tests carried out at different times and locations.

"I also don't have to take as much time off work and I'm receiving my treatment much quicker now."

## Next steps

*Developing eyecare partnerships* is continuing work on integrated care pathways for other long-term eye conditions including cataracts and macular degeneration.

### Key facts

- Approximately 10% of UK blindness registrations are attributed to glaucoma.[107]
- Around 2% of people aged over 40 years have glaucoma, rising to almost 10% in those aged over 75 years.[107]
- Glaucoma accounts for 15–19% of all referrals into hospital ophthalmology clinics and 25% of ophthalmology review appointments.
- 65% of patients who underwent referral refinement between December 2013 and July 2014 were managed without referral to hospital ophthalmology clinics.

### Further information

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# *Cook it!* adapted for people with learning disabilities

## Public health challenge

Learning disability is defined as "a significantly reduced ability to understand new or complex information, to learn new skills (impaired intelligence), with a reduced ability to cope independently (impaired social functioning), which started before adulthood, with a lasting effect on development".[108]

People with learning disability experience more ill health and are at higher risk of premature death than the general population.[109] Unemployment, poverty and social exclusion are higher among the learning disabled and these contribute to significant health inequalities when compared with the general population.[110]

Research estimates that 50–90% of people with a learning disability have significant communication problems that make it difficult to read and understand written material, thereby creating barriers to accessing health information.[109]

The Northern Ireland *Learning Disability Service Framework* recommends that "people with a (learning) disability should be provided with healthy eating support and advice appropriate to their needs".[109]

## Actions

The *Cook it!* programme is delivered by trained facilitators within local communities. It aims to increase people's knowledge and understanding of good nutrition and food hygiene, and help people develop the skills and confidence to cook healthy meals and snacks using inexpensive and readily available ingredients and equipment.

In recognition of the challenges experienced by people with learning disabilities and the need to provide them with health information in appropriate formats, an advisory group was established to guide the modification of the *Cook it!* programme. The group included service users, support workers, health professionals and Mencap NI.

Following results from an initial pilot, which informed further modification of the draft materials, a second pilot was undertaken by community dietitians and a dietetic student in the Western HSCT.

Materials for the new programme, called 'I can *Cook it!*', will be available from 2015/16. They include:

- a background manual for facilitators;
- full colour A1 posters with step-by-step photographic recipes for use in the weekly sessions;
- full colour recipe books for participants, featuring the pictorial recipes;
- certificates of achievement for participants that outline the key messages and skills developed during 'I can *Cook it!*' sessions.

## Impacts

The new materials will be disseminated to support workers and others working with people with learning disabilities. This will be done through training provided by locally based *Cook it!* teams in the five HSCTs. Training will help support workers gain knowledge and skills to provide nutrition information and basic cooking skills sessions for their clients in an enjoyable, interactive and social environment.

People with learning disabilities will benefit from enhanced knowledge about healthier eating and good food hygiene, and will develop skills and confidence in cooking healthy meals and snacks.

By providing pictorial recipe books and certificates to record their achievements, it is anticipated that parents and carers will support and encourage individuals with learning disabilities to further develop their new skills in the home environment.

Ultimately, it is anticipated that the programme will have a positive impact on eating patterns and the health and wellbeing of people with learning disabilities.

### Key facts

- In Northern Ireland, the prevalence of learning disability is reported to be 9.7 people per 1,000 of the population.[111]
- Actual prevalence may be higher than this as a large proportion of individuals with learning disability do not present to services.[111]
- The Bamford Action Plan 2009–2011 estimated that there were 26,500 people with a learning disability in Northern Ireland. This was based on a prevalence of 1.5%.[112]

## Next steps

Evaluation of the programme will be undertaken to assess impacts among this vulnerable population group.

### Further information

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# Emergency PCI to reduce damage from heart attacks

## Public health challenge

The *Programme for Government 2011–15* included a target to expand cardiac catheterisation capacity and develop a new primary percutaneous coronary intervention (pPCI) service model to reduce mortality and morbidity arising from myocardial infarction (heart attack).[113]

Approximately 40% of hospitalised heart attack patients have an ST-elevation myocardial infarction (STEMI). This type of heart attack happens when the blood supply to one of the heart's arteries is cut off completely as a result of a blood clot.

Until recently, most STEMIs in Northern Ireland were treated by giving patients a clot-busting drug (thrombolysis) followed by transfer a few days later to a catheterisation laboratory (cath lab) for a procedure called percutaneous coronary intervention (PCI). In PCI, a cardiologist uses a small balloon to inflate a narrowed coronary artery. The balloon compresses the blockage allowing the blood to flow more easily. A metal stent is then inserted to hold open the narrowed blood vessel.

Evidence has shown that if an emergency PCI can be given as the first (primary) treatment instead of receiving thrombolysis, then the risk of death, stroke and a further heart attack within the next 30 days is significantly reduced.[114]

## Actions

A PHA/HSCB team brought together a group of lead cardiologists and service managers from the five HSCTs providing cardiology services, along with the Northern Ireland Ambulance Service (NIAS).

The group:

- reached a consensus on geographical and population catchments to deliver two pPCI centres at the Royal Victoria and Altnagelvin Hospitals;
- developed clinical protocols for NIAS crews and Emergency Department staff;
- developed systems for rapid return (repatriation) of patients to their local hospitals.

In tandem, additional daytime cath lab sessions were commissioned, resulting in lower waiting times, both for urgent in-patients and elective cases.

**Former Health Minister Edwin Poots with staff from the Western HSCT at the opening of a new cardiac cath lab at Altnagelvin Hospital in September 2014.**

## Impacts

From September 2014, all patients in Northern Ireland who have a STEMI heart attack are taken directly by ambulance to either the Royal Victoria or Altnagelvin Hospital where they receive pPCI from skilled teams and, after six hours and once stable, can be transferred back to their local coronary care unit for recovery and rehabilitation.

Patient and relative feedback has been very positive. In the past, most patients with STEMI would have required a daytime PCI at some point during their stay. In the new emergency service, patients are treated at whatever time they first present, so two thirds are outside normal working hours. This has released daytime cath lab capacity to treat more patients from planned waiting lists.

## Next steps

All hospitals in Northern Ireland are now contributing data to the Myocardial Infarction National Audit Project (MINAP). This will allow comparison of the pPCI service in Northern Ireland with similar units elsewhere. Examples of the features measured are 'call to balloon' time, 'door to balloon' time, and the extent to which evidence-based drug treatments are used to prevent recurrence. These results will be discussed with the Cardiac Network to ensure standards are achieved and maintained.

**At the launch of pPCI for the east of Northern Ireland at the RVH in September 2013 are (l-r): Dr Tony Stephens, formerly Belfast HSCT; Veronica Gillen, HSCB; Dean Sullivan, HSCB; Lynne Charlton, HSCB; Dr Diane Corrigan, PHA; Colm Donaghy, HSCB; Dr Niall Herity, Belfast HSCT, and former Health Minister Edwin Poots.**

### Key facts

- There are approximately 950 STEMIs each year in Northern Ireland.
- When compared with thrombolytic therapy, pPCI reduces 30 day mortality from STEMI from 9% to 7%, non-fatal reinfarction from 7% to 3%, and stroke from 2% to 1%.[114]
- Catchments of the two pPCI centres have been agreed to minimise travel times for patients. The Royal Victoria Hospital (RVH) centre covers 75% of the population in the east and south-east of Northern Ireland, while Altnagelvin serves the western area stretching from Fermanagh to Ballycastle.

### Further information

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# *Improving health through research*

**Overview**

*Brain Manual* to tackle stroke risk and rehabilitation

Social networks play role in driving behaviour change

LAMP sheds light on children's meningococcal infection

Each Step Counts for people at risk of type 2 diabetes

# Overview

The PHA continues to support HSC research in its widest sense. The research funded may be commissioned in response to specific needs or may be supported in response to a proposal put forward by a research team. The overriding aim is to fund research that can secure lasting improvements in the health and wellbeing of the entire Northern Ireland population.

By including representatives of service users and the public in the evaluation of research proposals, the HSC Research and Development (R&D) Division aims to ensure that the research involves these stakeholders in a meaningful and appropriate way at every stage – from design and evaluation through to dissemination of the results.

The Northern Ireland Public Health Research Network (NIPHRN) has continued to flourish during 2014 and has demonstrated success in securing external funding through collaboration with diverse stakeholders. The network draws together research development groups (RDGs), which create research proposals to secure funding for studies that address key public health priorities.

The HSC R&D Division continues to support the HSC research community in the acquisition of funds from the National Institute for Health Research (NIHR) Evaluation, Trials and Studies (NETS) research programmes. Northern Ireland-based researchers are increasingly benefitting from DHSSPS investment in NETS programmes by successfully leading studies across all programmes. During 2014/15, funding commitments have been secured for a further three Northern Ireland-led studies worth approximately £3.34 million. This income is supplemented through involvement in other studies as co-investigators. Research led by Northern Ireland researchers, worth a total of £2.17 million, has been funded through the Public Health Research Programme.

The HSC R&D Division often works in partnership with other funders to help bring additional research funding into Northern Ireland. During 2014, the HSC R&D Division commissioned seven research projects in dementia care in partnership with The Atlantic Philanthropies, with a total budget of over £2m. A commissioned schools-based research study in partnership with Cancer Focus NI is examining a smoking prevention intervention. In addition, a joint investment with Prostate Cancer UK is supporting the Movember Centre of Excellence at Queen's University Belfast, which is focused on enhancing prostate cancer treatment through radiotherapy clinical trials.

**Further information**

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# *Brain Manual* to tackle stroke risk and rehabilitation


## Public health challenge

Cerebrovascular disease is common, with 152,000 strokes occurring every year in the UK. One quarter of all strokes occur in people aged under 65 years. In Northern Ireland, 2% of males and 1% of females have had a stroke.

Stroke is the leading cause of adult disability. More than half of all stroke survivors are dependent on others for everyday activities. However, strokes are preventable events. In the 90 days before a stroke many people experience transient ischaemic attacks (TIAs), which are warning signals that a stroke may occur. Treating TIAs urgently and tackling risk factors are crucial, as these actions can reduce the risk of a stroke by approximately 80%.

Strokes and heart attacks share common underlying risk factors and both can potentially be avoided through lifestyle changes such as stopping smoking, or through medication to treat high blood pressure for example.

Cardiac rehabilitation is an effective form of prevention following a heart attack and halves the chances of a further heart attack. The *Heart Manual* is a validated home-based cardiac rehabilitation programme supported by NICE.[115]

However, people who have had a TIA or stroke are not currently offered cardiac rehabilitation programmes. The importance of determining how best to help prevent stroke is increasing.

## Actions

Our research team plans to develop a novel home-based rehabilitation programme for patients who have just suffered their first TIA or minor stroke. It will do this by adapting the *Heart Manual*.

To test the feasibility of delivering a randomised controlled trial of the novel *Brain Manual*, a 12 week pilot study will compare the programme's effectiveness to standard care in improving physical fitness after a first TIA or minor stroke.

Finally, we want to explore how acceptable the *Brain Manual* is among patients and health professionals for tackling stroke risk.

## Impacts

It is anticipated the *Brain Manual* will help support patients with TIA or minor stroke in relation to changing their lifestyle behaviour and working with health professionals during their ongoing treatment.

It is also hoped the programme will be acceptable to patients and the pilot study will show that its effectiveness could be tested in a large-scale trial.

In addition to promoting high quality care and self-management to the patients involved in this pilot project, the *Brain Manual* also has the potential benefit of reducing their subsequent risk of stroke and all vascular events.

## Next steps

Following the development of the *Brain Manual* and completion of this pilot project, the next stage will be to conduct a large-scale trial to test its effectiveness in preventing further vascular events in people who have just suffered a TIA or minor stroke.

The protocol and intervention will be described clearly using recommended checklists.[116, 117] If found to be effective through the large trial, the next step will be to incorporate the *Brain Manual* into routine clinical practice, while continuing to assess its impact on patients and the HSC system.

Our final aim will be to explore the use of the *Brain Manual* in other countries as we try to improve people's health internationally.

### Key facts

- A stroke occurs every three and-a-half minutes in the UK.
- 22% of stroke survivors are left with a severe or very severe disability.
- Strokes can be prevented by taking action following a TIA or mild stroke, but there is a need to improve prevention in everyday practice.

### Further information

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# Social networks play role in driving behaviour change

## Public health challenge

Physical inactivity is responsible for 6–10% of all deaths from chronic diseases, at a cost to the NHS of £1.06 billion per year, and so the potential public health dividend of increasing physical activity in the population is substantial.[118-120] Previous initiatives have had only modest effects, with long-term changes in physical activity behaviour proving difficult to achieve. We therefore need to re-think our approach to public health interventions.

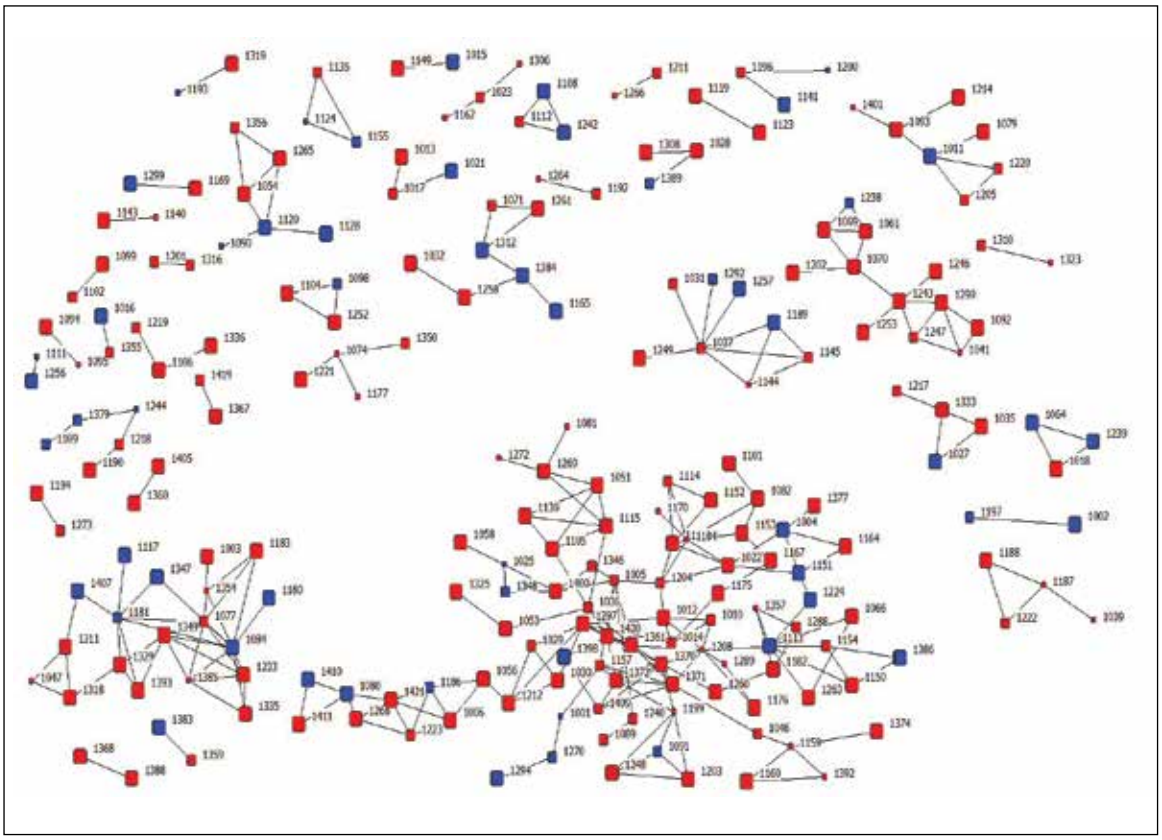
We know that social networks (connections to friends/family/colleagues) have a significant impact on health and behaviours. However, we know little about how to use social networks for behaviour change. Such interventions, if proven effective, could have significant potential for public health.

## Actions

We conducted a study to investigate if social networks were evident in a physical activity behaviour change intervention, and if so, to investigate the structure and characteristics of the networks and how they change over time.[121]

Social network and physical activity data were collected over 12 weeks from a financial incentive intervention that involved sensors being placed along footpaths in the workplace environment.[122] Employees scanned a card at the sensors when undertaking physical activity such as walking, and this logged their activity. Social networks were assumed if participants swiped their card on the same day, at the same sensor (at three or more co-occurrences) and within 30 seconds of each other.

**Figure 18: Network graph showing the derived social networks aggregated over the 12 week intervention period and their relation to achieved level of physical activity.**



Node size = physical activity level, where the size of the node indicates the categories of 'none' (small node, 0 minutes per week), 'some' (medium node, 1–149 minutes per week) and 'sufficient' (large node, 150 minutes or more per week).

Blue node = male
Red node = female

**Note:** The mean degree centrality is 1.4 (SD 1.8) and ranges from 0 to a maximum of 10, meaning that the average participant (from all 406 participants) engaged in physical activity with 1.4 others.

## Impacts

Results from the study provide evidence of social networks in a physical activity intervention and illustrate how networks evolve over short time periods and impact on behaviour.

Findings demonstrate that those who exercised in pairs or groups maintained higher levels of physical activity than those who did not. Therefore, harnessing and using such networks could help promote and maintain behaviour change.

To our knowledge, this is the first study to provide explicit evidence of social networks' role in behaviour change interventions. We argue that these networks have typically been overlooked, unobserved and subsequently underused in behaviour change interventions.

The collection of such data is relatively straightforward and could (and should) be incorporated into future interventions for a range of behaviours including physical activity, diet, alcohol and smoking.

### Key facts

- Of the 406 participants in the study, 225 engaged in physical activity involving social interactions with at least one other participant (as opposed to those doing physical activity alone or not at all);
- 5,578 social interactions were inferred over the 12 week intervention, with 282 distinct pairings of participants;
- Figure 18 illustrates that certain participants formed clear physical activity clusters, including pairs (19 groups) and groups of three people (nine groups);
- The social network structure evolved over time. Dyadic (two people) and triadic (three people) structures were evident at each time point (weeks 1, 6 and 12), illustrating a sustained pattern of participants walking with the same people.
- Results suggest that those engaged in physical activity with others maintained higher activity levels (ie 150 minutes per week) throughout the intervention, reflected by the larger node size.

## Next steps

Such interventions present various methodological and implementation challenges, which have yet to be explored.

Dr Ruth Hunter has been awarded a prestigious NIHR Career Development Fellowship to undertake development work prior to large-scale trials. This fellowship aims to do the pilot testing necessary to adequately design and evaluate novel social network-enabled interventions. This work will involve:

- reviewing previous research;
- analysing social networks for workplace physical activity;
- simulation of network factors to design an optimal intervention;
- pilot-testing the intervention.

This fellowship will address important knowledge gaps and build skills, capacity and evidence for social network-enabled interventions for physical activity behaviour.

### Further information

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# LAMP sheds light on children's meningococcal infection

## Public health challenge

Meningococcal meningitis and septicaemia are serious and much feared infections that can rapidly progress to circulatory shock and death.

Early diagnosis is essential but very difficult because the early features are notoriously non-specific, especially in young children. Most patients initially report symptoms like those of an ordinary cold or flu-like illness, and up to half of all cases are falsely reassured by a doctor the day before they become seriously ill.

The current hospital laboratory tests can take 48 hours, so they cannot help doctors diagnose the infection. Many children who do not have the disease are also admitted to hospital and treated with antibiotics as a precaution while doctors wait for test results.

We need a rapid and accurate diagnostic test that can be used to identify and treat children with meningococcal disease early, and to avoid overtreatment of children who do not have the disease.

## Actions

With HSC research funding, Drs James McKenna and Tom Bourke developed a novel 'near patient test' for diagnosis of meningococcal disease. The new test uses a method called LAMP, and was validated in the laboratory before being transferred to the Emergency Department of the Children's Hospital in Belfast.

The test was then evaluated to determine whether it could be used by a doctor or nurse, and most importantly, whether it could quickly and accurately diagnose meningococcal disease in children.


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**Charlotte Cleverley-Bisman, who survived amputations of all four limbs after being diagnosed with meningitis and became 'the face' of New Zealand's meningococcal meningitis vaccination campaign. Charlotte is now 11 years old and a huge inspiration to meningitis survivors around the world.**

## Impacts

The study confirmed that meningococcal LAMP testing:

- could be used in a clinical setting by staff without specialist laboratory training;
- could quickly deliver useful results to the clinical team (ie within one hour);
- could be used on different specimen types (blood and nose / throat swabs were tested);
- was very accurate (sensitive and specific) for diagnosis of meningococcal infection.

In a previous study, we showed the non-specific symptoms of early meningococcal disease were due to meningococcus infecting the nose and throat. This study confirmed that testing of nose / throat swabs can help with diagnosis of this serious infection, especially in very young children. This is important because a longer-term goal is to develop a cheap and simple test using a nose / throat swab or blood spot for children.

The LAMP test used in this study is now patented and being used routinely in the Belfast HSCT laboratory as a confirmatory test for meningococcal disease. Smaller hospital laboratories without specialist molecular diagnostic equipment could use the LAMP test as a frontline laboratory test for meningococcal disease.

## Next steps

The LAMP test is being developed into a kit that could be used in any hospital, and possibly also in Emergency Departments, pharmacies or even GP practices.

We are developing a similar LAMP test for Group B streptococcus (GBS), which causes serious infections in newborn babies. We believe LAMP could be used in the labour ward, where a rapid GBS test result would allow targeted preventative treatment with antibiotics during delivery where needed, and we are seeking research funding to evaluate this.

We also believe LAMP tests could be useful in developing countries where there are often no laboratories. We have secured an initial research grant from the McClay Foundation (Northern Ireland) to develop tests to diagnose serious infections in Malawi, and work to field trial these tests in Africa is planned.

Findings from this study have been published in the *Lancet Infectious Disease* journal. We believe this may help influence future NICE recommendations on meningococcal diagnosis.

### Key facts

- Meningococcal meningitis and septicaemia are notifiable diseases in Northern Ireland.
- In 2013, there were 57 cases of suspected and confirmed meningococcal disease in Northern Ireland reported to the PHA.[123]

### Further information

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# Each Step Counts for people at risk of type 2 diabetes

## Public health challenge

Type 2 diabetes is one of the most prevalent non-communicable diseases and is characterised by an inability to regulate blood glucose levels adequately. It is typically preceded by an intermediate or 'at risk' stage, often referred to as pre-diabetes.[124,125]

Group-based educational programmes that promote self-management and provide follow-up are recognised as an appropriate method of support to help prevent or delay onset of diabetes.[126]

Current recommendations are that those at risk of developing type 2 diabetes should aim to undertake moderate-intensity physical activities (such as brisk walking) for at least 150 minutes per week and maintain a healthy BMI.[127] However, little is known about how to successfully implement these recommendations in everyday practice.[128]

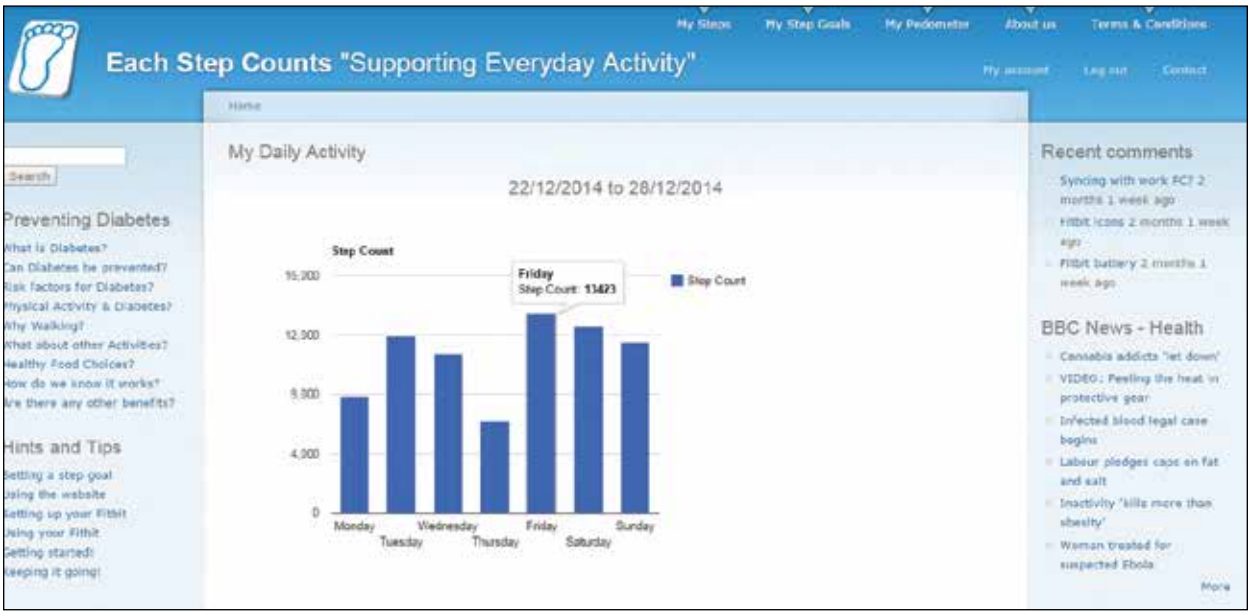
## Actions

In 2014, the HSC R&D Division funded a knowledge exchange project to develop an online physical activity tool for people at risk of diabetes: www.eachstepcounts.co.uk

This is a collaborative project between South Eastern HSCT and the UKCRC Centre of Excellence for Public Health at Queen's University Belfast. The website has been developed to complement the existing community-based group intervention based on the 'Walking Away from Diabetes' programme.[129]

Existing evidence has been reviewed to identify components of previous programmes and examine the quality and content of online resources promoting activity in people with, or at risk of, type 2 diabetes. Goal-setting and self-monitoring have been identified as commonly used techniques.

Version 1.0 of the website has been completed and tested. Individuals attending the group programme can choose to use a pedometer (Fitbit Zip) to record their physical activity and upload this information to the website for review and goal-setting.[130]




**Website screenshot showing individual step data uploaded for one week.**

## Impacts

The website provides information and advice on physical activity and its role in preventing diabetes, complementing information provided in the group-based programme. It also provides a tool by which individuals can monitor their own step data and has information on key local resources, including walking groups. The programme has successfully engaged with more than 60 people (since September 2014) who have attended the sessions across a range of locations.

The current web platform, which integrates automated uploading of physical activity data with goal-setting tasks, could easily be modified and developed further for use in this or other populations. Overall, the project provides valuable information relating to the effective integration of an online physical activity promotion tool into a community group-based intervention.

## Next steps

Semi-structured telephone interviews are currently being carried out, asking people for their thoughts and experiences of using the pedometer and website to respond to the health promotion messages delivered in the group-based programme. These interviews will explore the level of user engagement with the website and how this could be improved.

Although active strategies have been put in place, additional technical support is needed for users to be able to use the Fitbit pedometer and website more effectively within the community. We therefore intend to further improve the usability of the website with the intention that it will be offered to all future participants in the South Eastern HSCT pre-diabetes prevention programme.


**Some of the resources used in the group meeting to show fat and sugar content of different types of food.**

### Key facts

- Website analytics for www.eachstepcounts.co.uk show high visibility and access (more than 2,500 hits per month).
- Those who chose to use a Fitbit pedometer accessed the website on average 2.5 times per week during the first four weeks.
- This group showed a high level of self-efficacy for exercise (SEE = 82/90), good physical health (SF-8 = 52.2) and above average mental wellbeing (WEMWBS = 58).

SEE (Self-Efficacy for Exercise Scale)
SF-8 (Short Form 8 Health Survey)
WEMWBS (Warwick-Edinburgh Mental Wellbeing Scale)

### Further information

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# *Protecting health*

**Overview**

PHA leads Ebola preparedness across Northern Ireland

Coordinated action to reduce hepatitis C diagnoses

Raising public awareness key to treatment of tuberculosis

SSI surveillance improving safety of caesarean sections

# Overview

The Health Protection Service within the Public Health Directorate of the PHA provides a high quality service to protect the population of Northern Ireland from threats posed by communicable diseases and environmental hazards.

These efforts are directed at all sections and age groups of the population. In the articles in this year's report, you will see how the Health Protection Service undertakes work to protect all adults in the community from infectious diseases.

Ebola preparedness has featured heavily in the work programme of the Health Protection Service. Ebola was declared a global public health emergency by WHO in August 2014. All countries, including Northern Ireland, were required to actively prepare for cases of Ebola Virus Disease (EVD). An active programme has been underway with the DHSSPS, HSCTs, primary care and others to ensure that Northern Ireland is prepared in the event that we see an Ebola case here. This includes the development of care pathways for patients who may present with EVD.

Tuberculosis (TB) infection continues to challenge us and we are seeing a change in the epidemiology of this infection. Notably, we are seeing an increased number of infections and we have seen some cases of multi-drug resistance TB in Northern Ireland. It is imperative that we raise public awareness of TB and the risk factors for transmission, and also ensure that arrangements are in place for early diagnosis and treatment.

Surveillance of communicable diseases is a key function of the Health Protection Service. This report highlights two infections of particular relevance to adults in the community – hepatitis C and surgical site infections (SSIs) post-caesarean section. It is important that we keep these diseases under surveillance to ensure that we can determine appropriate interventions. For example, in the case of caesarean section infections, the antibiotic prophylaxis guidance has been updated and an audit was undertaken during 2014.

**Further information**

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# PHA leads Ebola preparedness across Northern Ireland

## Public health challenge

Ebola virus disease (EVD) is a serious illness with a high mortality rate, which originated in Africa. The current outbreak in West Africa (Guinea, Sierra Leone and Liberia) is one of the most challenging global public health threats in recent times.

The incubation period (the time between catching an infection and developing symptoms) is 2 to 21 days and the likelihood of contracting EVD is extremely low unless the person has come into contact with body fluids (eg blood, vomit, diarrhoea, semen) of a symptomatic person. People with EVD do not become infectious until they have developed symptoms, such as a fever.

An infected person will typically develop a fever, headache, joint and muscle pain, sore throat, and intense muscle weakness.

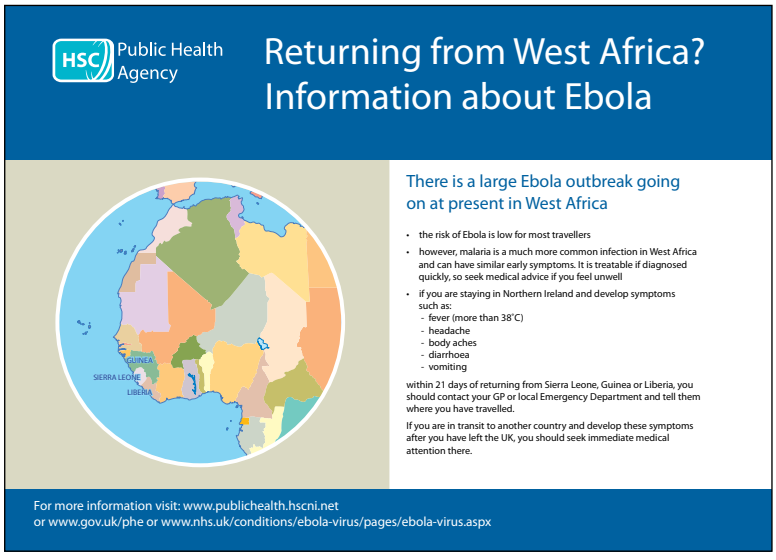
Ebola has had a major impact on the affected countries and on those providing care for infected patients. High attack rates and death rates have devastated communities, caused fear and anxiety, and affected cultural burial arrangements. Healthcare workers from Africa and the multiple aid agencies in the field have struggled to contain the outbreak given local living conditions, customs and the standard of health facilities.

Action has been taken to halt the course of the outbreak in the affected countries and the international effort, including some input from Northern Ireland as part of the UK response, is beginning to produce positive results.

Although the direct risk to Northern Ireland remains low, our health services must be prepared for the possibility of a person who has arrived from an affected country becoming ill when in Northern Ireland. During 2014, the challenge for health protection was to lead and ensure preparedness across all health services.

## Actions

The PHA has been working with HSCTs and others to strengthen and test our preparedness to respond to a case of EVD. We also work closely with our health protection colleagues in Public Health England, sharing plans for response and undertaking surveillance of healthcare and other workers returning from the affected areas.




In October 2014, we led a comprehensive exercise to prepare for the possible importation of suspected cases of EVD to Northern Ireland. Exercise Gueckedou (named after the area in Guinea where the first case in the current outbreak was diagnosed) was a half-day multi-agency exercise aimed at testing local and regional

preparedness for a suspected Ebola case in Northern Ireland. This exercise was jointly organised by the DHSSPS and the Health Protection Service of the PHA to provide organisations with an opportunity to discuss their local plans and regional coordination arrangements.

The plans cover the specific actions to be taken in the event of suspected or confirmed EVD cases in Northern Ireland. This also covers the vital public health action of monitoring contacts of confirmed cases including, where necessary, monitoring returning healthcare workers and other travellers from the affected countries.


## Impacts

The planning process has involved all HSCTs and has required a significant amount of work, in particular for the Regional Virus Laboratory and the Regional Infectious Disease Service at Belfast HSCT.

Although the overall risk to the population of Northern Ireland remains low, planning, training and exercising will ensure that a case of EVD presenting in Northern Ireland will be rapidly identified, isolated and treated.

Clear patient pathways for diagnosis and care have been developed and are being used by HSCTs and primary care. This is important, not only for the individual, but to prevent others in close contact also becoming infected.

## Next steps

The PHA and health services in Northern Ireland will continue to plan in accordance with the emerging evidence around EVD and strategies for containing this outbreak.

### Key facts

- In early 2015, there were more than 21,000 confirmed or suspected cases associated with this EVD outbreak, and more than 8,000 deaths.
- A small number of confirmed cases have occurred outside West Africa, either in returned travellers from the affected countries or healthcare workers who treated those infected. This includes the first case diagnosed in the UK.

### Further information

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# Coordinated action to reduce hepatitis C diagnoses

## Public health challenge

Hepatitis C is a viral disease that mainly affects the liver. Infected people can have no symptoms for 10–20 years but infection can lead to end-stage liver disease, cirrhosis and liver cancer. It is a worldwide problem and places with the highest rates of infection include some countries in Africa, Asia and South America.

The virus is mainly spread through contact with infected blood, so risks include injecting drug use, tattoos, and medical treatment and blood transfusions in high-risk countries. Diagnoses of hepatitis C in Northern Ireland have increased significantly to about 120 new cases each year, with the majority of these in the 15–64 years age group.

## Actions

Actions to reduce hepatitis C infection fall into four main categories:

- prevention of new infections;
- raising awareness;
- increasing testing and diagnosis;
- improving treatment and care.

Current actions in Northern Ireland include:

- the Northern Ireland Hepatitis B & C Managed Clinical Network coordinates activities related to hepatitis C across the province;
- needle exchange sites in 17 locations across Northern Ireland to prevent new infections and reduce the spread of hepatitis C among people who inject drugs;
- raising awareness (through press releases, leaflets distributed to GPs and translated materials) of hepatitis C in the general population to encourage people who may have put themselves at risk in the past to seek testing;
- raising awareness among GPs (through GP education sessions) of the importance of offering testing for hepatitis C;
- a pilot education and testing session with the Chinese community in Belfast where 55 people were tested for hepatitis B and C;
- the Northern Ireland Hepatitis B & C Managed Clinical Network coordinator ensures all new diagnoses of hepatitis C are referred to hepatology services for assessment and treatment.

## Impacts

- Northern Ireland needle exchange programmes issued 28,284 needle packs during 2013/14 to people who inject drugs, including an increase in needles for injecting performance and image enhancing drugs.[131]
- Approximately 200 GPs and practice nurses received training on hepatitis C in 2014, with sessions continuing in 2015.
- Before 2009, around 25% of people newly diagnosed with hepatitis C were not referred to specialist services. With the follow-up programme by the Northern Ireland Hepatitis B & C Managed Clinical Network, only 5% of people newly diagnosed with hepatitis C are not now referred to specialist services. This work received a commended award at the Quality in Care Hepatitis C Awards 2014.

## Next steps

We will continue to raise awareness of hepatitis C and the importance of early testing among healthcare workers and other groups who work with those at greatest risk.

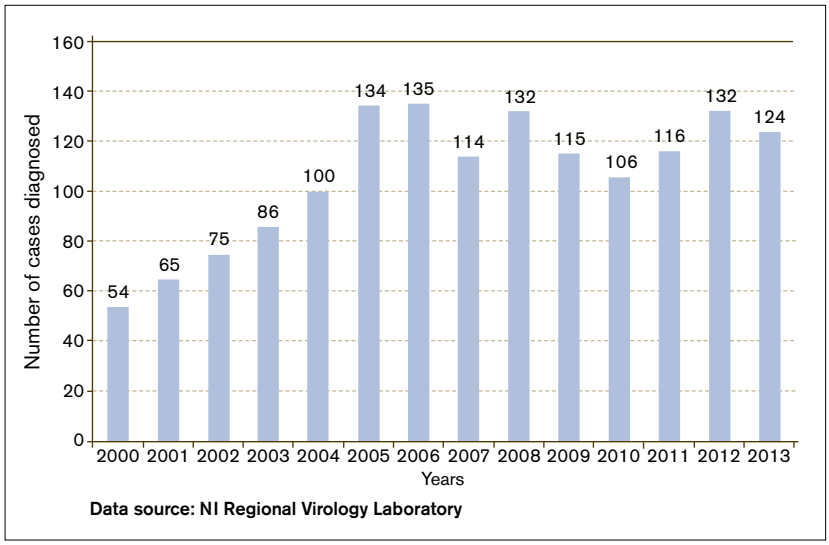
We will also work with drug and alcohol services to increase testing of clients, including the introduction of dried blood spot testing.

As new treatments for hepatitis C become available, work will continue across the health service to ensure the maximum number of patients can be treated to reduce the risk of chronic liver disease and transmission of hepatitis C to others.

hepBC
Northern Ireland Hepatitis B & C Managed Clinical Network

www.hepbandcni.net

**Figure 19: Laboratory-confirmed cases of hepatitis C in Northern Ireland, 2000–2013**




Data source: NI Regional Virology Laboratory

### Key facts

- Hepatitis C is a global health problem, with an estimated 150 million people chronically infected worldwide.[132]
- WHO estimates that more than 350,000 people will die each year from hepatitis C-related liver diseases.[132]
- Death rates from liver disease are increasing in the UK and most liver disease is due to alcohol, obesity and viral hepatitis.
- Around 214,000 people in the UK have long-term hepatitis C infection, and hepatitis C-related end-stage liver disease is rising.[132]
- The number of confirmed cases of hepatitis C in Northern Ireland has more than doubled in the past 13 years.

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# Raising public awareness key to treatment of tuberculosis

## Public health challenge

Tuberculosis (TB) is an infection caused by bacteria and usually affects the lungs, but can affect other parts of the body when the TB infection becomes active. It is spread from person to person when someone who has active TB of the lungs coughs or sneezes.

Incidence of active TB has increased in Northern Ireland in recent years, especially among younger people. This reflects the greater proportion of cases among people born outside the UK, who tend to be younger than locally-born cases. The increasing incidence of active TB among people aged 15–44 years and 45–64 years is shown in Figure 20, represented by the upward trend in green and red lines.

## Actions

Public health measures to control TB depend on public awareness (especially among high-risk groups), enabling early diagnosis and treatment of active TB.

It is also possible to offer TB screening to people at high risk, eg people from high-incidence countries, to detect TB infection before the disease becomes active (latent TB infection).[133]

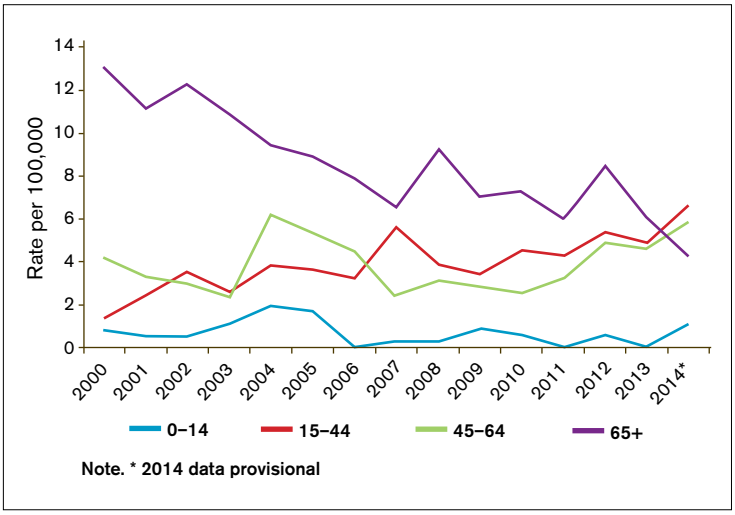
BCG vaccination is not recommended for everyone but is recommended for young babies and children who:

- have one or more parents or grandparents born in a high-incidence country;
- will be living in a high-incidence country for more than three months;
- have a member of their household or family circle who has TB, is suspected of having TB, or has had TB in the past five years.

## Impacts

TB is usually curable with a six month course of antibiotics but can be fatal if not treated. Prompt treatment is important to allow the person to recover quickly and also to prevent onward spread of the infection. TB treatment is free for patients in the UK.

**Figure 20: Age-specific rates of TB in Northern Ireland**




By detecting and treating TB infection before the disease becomes active, it is possible to reduce a person's risk of developing active TB. Studies on the effectiveness of BCG vaccination have given varying results. However, BCG has been shown to be 70–80% effective against the most severe forms of the disease, such as TB meningitis in children.

BCG vaccination for those in the recommended groups, and the detection and treatment of latent TB infection in those at increased risk, including new entrants from high incidence countries, are essential for the prevention and control of TB in Northern Ireland.

## Next steps

Any of the following signs and symptoms may suggest active TB and may require further specialist investigation:

- fever and night sweats;
- persistent cough;
- losing weight;
- blood in your sputum (phlegm or spit) at any time.

All suspected cases of TB should be referred for urgent assessment by the designated physicians within each HSCT.

TB is a notifiable disease. Clinicians are required to report all confirmed or suspected cases to the PHA Duty Room to enable appropriate public health measures.

### Key facts

- There were 97 cases of active TB reported in Northern Ireland in 2014 (provisional figure).
- 55% of the people diagnosed with active TB in Northern Ireland in 2014 were born outside the UK.*
- TB cases born outside the UK tend to be younger than UK-born cases, with an average age of 36 years compared with 54 years.*

* Does not include four cases for whom UK-born status is currently unknown.

### Further information

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# SSI surveillance improving safety of caesarean sections

## Public health challenge

More than a quarter (29%) of all births in Northern Ireland are by caesarean section – a larger proportion than that recorded in other parts of the UK and Republic of Ireland.

The PHA coordinates a programme of surgical site infection (SSI) surveillance following caesarean section. SSI may occur following a surgical procedure and range in severity from infections involving the skin and tissue under the skin, to infections of the muscles or surrounding organs. SSIs represent a significant burden in terms of patient morbidity, mortality and cost to health services.

SSIs are relatively rare. The likelihood of developing an SSI depends on factors related to both the patient and the surgical procedure. Targeting modifiable risk factors, such as those related to the patient (eg appropriate hair removal, obesity and diabetes) and the healthcare setting (eg hand hygiene, wound dressing and prophylactic antibiotics) are crucial in minimising the risk of SSI following surgery.

Routine surveillance of SSIs, with feedback of appropriate data to healthcare staff and providers, is an important component of strategies to reduce SSI risk.[134-137]

## Actions

Surveillance of SSI following caesarean section is mandatory in Northern Ireland. Data from this programme are analysed by the PHA and reported back to programme participants, to enable them to monitor and implement actions that reduce the risk and occurrence of post-operative SSI.

Women who deliver by caesarean section are reviewed during their inpatient stay. Most SSIs will not become apparent until after discharge from hospital, so community midwives follow up all women who deliver by caesarean section for up to 30 days post-delivery.

A key aim of this SSI surveillance programme is to improve the safety and quality of patient care. Programme outputs provide participating hospitals with robust infection rates to inform service planning and delivery, and to facilitate comparison and benchmarking with other similar services. Feedback of risk-adjusted SSI rates can inform many steps taken to minimise the risk of post-operative infection, and can help communicate the risks to patients.

Each quarter, the PHA provides participants with a summary of SSI infection rates relating to their caesarean section procedures. Data are presented by hospital and HSCT. Rates of infection are related to risk factors including BMI, nature of procedure (planned/elective), duration of procedure, and antimicrobial prophylaxis (agent and timing of administration).

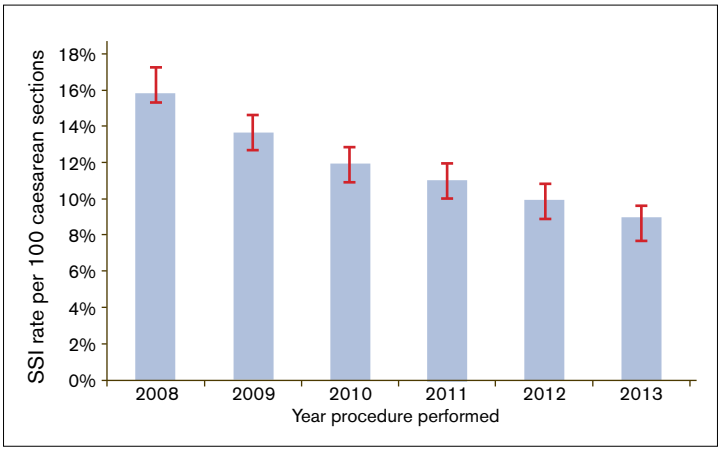
## Impacts

This SSI surveillance programme was introduced in 2008 and continues to provide timely feedback to assist clinical teams in minimising the occurrence of SSI following caesarean section. In 2013, the PHA received information on over 80% of caesarean section procedures performed (with some providers achieving 100% compliance).

SSI rates following caesarean section surgery have declined year-on-year since the programme was established (Figure 21). The rate of infection has almost halved over the past six years, from 1 in 6 women developing an SSI in 2008 to 1 in 11 women in 2013.

HSCTs and clinical teams have used surveillance results to improve their practices. SSI surveillance programme outputs have also been used to assist and monitor the implementation of NICE Clinical Guideline 132 on caesarean section.[138]

**Figure 21: Caesarean section SSI rate 2008–2013 (95% confidence interval)**




## Next steps

All hospitals and clinical teams are encouraged to develop a clear strategy for actively disseminating information and learning that emerges through the caesarean section SSI surveillance programme, particularly information relating to their own service.

The PHA will continue to focus on translating evidence into practice, working with clinical teams to further reduce SSIs following caesarean section. The overall aim is to use SSI data, linked with quality improvement methodologies, to reduce post-operative SSIs and to share best practice and lessons learned.

The PHA will continue to investigate the use of electronic data (from existing information sources) combined with web-based reporting of infection-related information to develop this SSI surveillance programme.

### Key facts

In 2013:

- 510 women developed SSIs following caesarean section surgery. This represents 9% of all women who had a caesarean section.
- 95% of these SSIs were identified following discharge from hospital.
- 29% of women who had a caesarean section had a BMI of 30 or more, which is considered obese. Obese women were twice as likely to develop an SSI as women with a BMI less than 30.
- 90% of these SSIs involved the skin and/or tissue under the skin. The other 10% were more serious infections, involving deep tissue and muscle or surrounding organs.
- 34 women were re-admitted to hospital for treatment of an SSI, adding an average of four days in hospital for each woman.

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# List of core tables 2013



These tables are available to download as a PDF from the PHA website at www.publichealth.hscni.net

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# List of figures

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# Abbreviations and acronyms

## A

| | |
|---|---|
| A4H | Advice 4 Health |
| AAA | Abdominal aortic aneurysm |
| AHP | Allied health professions |
| AIDS | Acquired immunodeficiency syndrome |
| ASIST | Applied Suicide Intervention Skills Training |
| ASMR | Age-specific mortality rate |

## B

| | |
|---|---|
| BITC | Business in the Community |
| BMI | Body mass index |
| BSO | Business Services Organisation |
| BSP | Breast Screening Programme |

## C

| | |
|---|---|
| CAB | Citizens Advice Bureau |
| CAWT | Cooperation and Working Together |
| CHNI | Council for the Homeless NI |
| CRUN | Causeway Rural and Urban Network |
| CVD | Cardiovascular disease |
| CWSAN | Cookstown and Western Shores Area Network |

## D

| | |
|---|---|
| DARD | Department of Agriculture and Rural Development |
| DCAL | Department of Culture, Arts and Leisure |
| DE | Department of Education |
| DH | Department of Health |
| DHSSPS | Department of Health, Social Services and Public Safety |
| DPH | Director of Public Health |

## E

| | |
|---|---|
| ED | Emergency department |
| EIL | Early Intervention Lisburn |
| EVD | Ebola Virus Disease |

## F

| | |
|---|---|
| FH | Familial hypercholesterolaemia |
| FSA | Food Standards Agency |

## G

| | |
|---|---|
| GAA | Gaelic Athletic Association |
| GBS | Group B streptococcus |
| GDM | Gestational diabetes |
| GP | General practitioner |
| GUM | Genito Urinary Medicine |

## H

| | |
|---|---|
| HHW | Healthy Hearts in the West |
| HIV | Human immunodeficiency virus |
| HPV | Human papillomavirus |
| HSC | Health and Social Care |
| HSCB | Health and Social Care Board |
| HSCIMS | Health and Social Care Inequalities Monitoring System |
| HSCT | Health and Social Care Trust |

## I

| | |
|---|---|
| IFA | Irish Football Association |
| IRFU | Irish Rugby Football Union |

## J

| | |
|---|---|
| JSA | Job Seekers Allowance |

## L

| | |
|---|---|
| LCG | Local Commissioning Group |
| LGB | Lesbian, gay or bisexual |
| LGB&T | Lesbian, gay, bisexual and/or transgender |

## M

| | |
|---|---|
| MHFA | Mental Health First Aid |
| MINAP | Myocardial Infarction National Audit Project |
| MOU | Memorandum of Understanding |

## N

| | |
|---|---|
| NACN | North Antrim Community Network |
| NETS | NIHR Evaluation, Trials and Studies |
| NHS | National Health Service |
| NI | Northern Ireland |
| NIAS | Northern Ireland Ambulance Service |
| NICaN | Northern Ireland Cancer Network |
| NICE | National Institute for Health and Care Excellence |
| NICEM | Northern Ireland Council of Ethnic Minorities |
| NICHS | Northern Ireland Chest Heart and Stroke |
| NICR | Northern Ireland Cancer Registry |
| NIHR | National Institute for Health Research |
| NINES | Northern Ireland New Entrant Service |
| NIPHRN | Northern Ireland Public Health Research Network |
| NISRA | Northern Ireland Statistics and Research Agency |
| NMSC | Non-melanoma skin cancer |

## P

| | |
|---|---|
| PACS | Picture Archive and Communications System |
| PCI | Percutaneous coronary intervention |
| PDF | Portable document format |
| PHA | Public Health Agency |
| PHE | Public Health England |
| pPCI | Primary percutaneous coronary intervention |
| PYLL | Potential years of life lost |

## R

| | |
|---|---|
| R&D | Research and Development |
| RDG | Research development group |
| ROI | Republic of Ireland |
| RSU | Research Support Unit |
| RVH | Royal Victoria Hospital |

## S

| | |
|---|---|
| SACN | South Antrim Community Network |
| SEE | Self-Efficacy for Exercise |
| SF-8 | Short Form 8 |
| SLA | Service Level Agreement |
| SPDO | Suicide Prevention Development Officer |
| SSI | Surgical site infection |
| STEMI | ST-elevation myocardial infarction |
| STI | Sexually transmitted infection |

## T

| | |
|---|---|
| TB | Tuberculosis |
| TIA | Transient ischaemic attack |

## U

| | |
|---|---|
| UK | United Kingdom |
| UKCRC | UK Clinical Research Collaboration |

## W

| | |
|---|---|
| WEMWBS | Warwick-Edinburgh Mental Wellbeing Scale |
| WHO | World Health Organization |

## Y

| | |
|---|---|
| YMSP | Young Men's Support Project |

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