Foreword

Welcome to Islington’s Annual Public Health Report for 2010.

This year we focus on understanding why people in Islington continue to have a lower life expectancy than the country as a whole, and how this can be improved. Having a detailed understanding of what contributes to the inequalities gap in life expectancy in Islington is important. Going forward, it will enable us to ensure that efforts to improve health outcomes continue to be focused on the areas of greatest need and potential gain. This will be particularly important during the challenging times ahead. Ultimately, addressing these inequalities will improve the lives of all Islington residents, not just the poorest.

Life expectancy has increased over time in Islington, but it remains low compared to other London boroughs and the country as a whole. Men in Islington have the lowest life expectancy in London. Many other London boroughs with similar levels of deprivation have managed to successfully reduce the gap in life expectancy between their local area and the national average, but in Islington this has not yet happened. We want to know why and what else we need to do (or what we need to do more of) to reduce these inequalities, so that the people of Islington have better health outcomes.

It is a good time to take stock and to look in detail at the current inequalities gap. The Marmot Review “Fair Society, Healthy Lives” was published earlier this year, renewing attention nationally on health inequalities. Specifically it highlights the wider determinants of health such as poverty, employment, and education which drive these inequalities. We need to make sure that the recommendations and learning from this review are embedded into all of our work locally, through the strong partnerships that we already have across the borough. Long-standing and deep-seated problems such as poverty require large-scale, systematic, sustained, and collaborative responses over a long period of time which no one team or organisation can achieve alone. Our local Health Inequalities Strategy, published earlier this year, outlines what our partnerships in Islington will be doing to reduce health inequalities over the short, medium and long terms, and this annual public health report further builds on this.

In addition, the reduction of inequalities, including life expectancy and all-age all-cause mortality, are high on the policy agenda of the new Coalition Government. We will therefore, rightly, need to maintain our focus on this, and continue the momentum built up in previous years. A recent report from the National Audit Office shows that Islington is the only deprived London borough which is not on track to close the inequalities gap by 10% by 2010 for both men and women. We need to reflect on why this might be and to work out what we can do to address this in the short term. We should also look at what we can learn from other similar places.

Finally, there are challenging times ahead. We need to make sure that over the coming months and years we do not lose sight of the overarching aim to reduce health inequalities and to improve population health outcomes. This will not be easy. The NHS is on the brink of large-scale organisational change and all statutory organisations, including the London Borough of Islington, are facing cuts. This in turn is likely to have a knock-on effect in the voluntary sector, as well as on employment opportunities and services and support for local residents. Altogether this is likely to have a disproportionate impact on the poorest in society, further widening the inequalities gap. During these times of change therefore, we need to be mindful of this and redouble our efforts as not only do we need to prevent the gap from widening further, we need to narrow it.

I hope and trust that all those who read this report, be it colleagues in the local NHS, London Borough of Islington, the voluntary sector, or interested residents, will agree that while there has been progress to date in improving life expectancy in Islington, there is still some way to go. The times ahead may become much more challenging for us all, but it is important that we do not forget that the poorest in England – including two-thirds of Islington’s population – continue to have substantially poorer health.
outcomes than the richest. We need to continually confront this unfairness, sustaining our strong focus on reducing inequalities in all that we do, to improve health outcomes for all and to make society fairer.

As always, a report of this kind requires the hard work of many people. This report is no exception and I would like to particularly thank Sarah Dougan for undertaking the main role in bringing this year’s report to fruition, with support from Katy Scammell and Lucy Lloyd. I would also like to specifically thank Daniel Gargiulo, Dalina Vekinis and Matthew Tucker who undertook much of the epidemiological analysis, as well as Jonathan O’Sullivan, Tracy McFall-Austin, Marta Calonge-Contreras, Ian Sandford and Baljinder Heer for their contributions to the chapter writing.

We hope that you will enjoy reading the report, either as a whole or by dipping into individual chapters, and that it gives you a clear picture of what is contributing to the inequalities gap in life expectancy in Islington and what still needs to be done.

Sarah Price
Director of Public Health

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Introduction

Inequalities in life expectancy between the richest and poorest in society are long-standing and entrenched, making them difficult to change. It is well-known that those living in the country’s poorest neighbourhoods could on average expect to die seven years earlier than people living in the richest neighbourhoods.[1] The reasons for these inequalities in health are complex and multidimensional, with the determinants ranging from individual constitutional factors (e.g. gender), all the way through to the general socioeconomic, cultural and environmental conditions in which people live (e.g. the economy) (figure A). Not only do these inequalities have a marked impact on people’s health and longevity, they are also estimated to cost the NHS more than £5.5 billion each year in additional costs.[1]

Poverty has a profound impact on health inequalities. Two-thirds of Islington’s population are within the most deprived fifth of the population nationally. However, Islington is a borough with stark social extremes, with London’s richest and poorest living side-by-side. This pattern on this scale is unique to Islington, and has been well described.[2-4]. It presents substantial challenges in tackling inequalities as it makes it difficult to target people for specific interventions – geographically everyone is mixed up. These stark inequalities in society will also have a large negative impact on the health and wellbeing of all residents. At a population level, all of those in more unequal societies consistently have worse health outcomes than those in more equal societies, and so reducing inequalities needs to be a priority for the health of all, not just the poorest.[5]

Politically, reducing health inequalities has been a key focus for governments for more than a decade. From 1997 onwards, the former Labour Government put the reduction of health inequalities, including improvements in life expectancy, at the heart of creating a fairer society and reducing the costs associated with ill-health.[6-10]. The current Coalition Government is still relatively new and large-scale changes to the NHS are afoot, but a continued focus on reducing health inequalities and creating a fairer society remains part of their policy, with a focus on measuring population health outcomes including life expectancy and all-age all-cause mortality.[11,12].

Life expectancy at birth is one of the oldest public health measures and one of the best at describing population health experience. It describes how long a person who was born today would be expected to live if subjected to the same mortality experiences as today’s population. Differences in life expectancy and mortality rates between different populations and areas indicate differences in the life experiences of those people.
By looking in detail at life expectancy and specific causes of death it is possible to identify inequalities in these population health outcomes to inform where interventions should be targeted.

While life expectancy in Islington has improved substantially over time, it still remains below that of other London boroughs and the country as a whole. Indeed, for men, Islington has the lowest life expectancy of all of the London Spearhead areas. A recent report by the National Audit Office (NAO) looked at whether efforts to tackle inequalities in life expectancy in areas with the worst health and deprivation had worked\(^ {13}\). Their analysis shows that Islington is the only London Spearhead area which has not managed to reduce the gap in life expectancy compared to the England average for either men or women between 1995-97 and 2006-08 (figure B). It is unlikely therefore, that Islington will succeed in meeting the Public Service Agreement (PSA) target to reduce inequalities in life expectancy by 2010. Success against this target will be measured using deaths in 2009-11.

Given that Islington is not on track to close the gap, the aim of this report is to understand where the inequalities gap in life expectancy needs to be narrowed and what still needs to be done. This includes specifically looking at interventions for the short term (i.e. over the next year or so) but also for medium and long terms. The report seeks to answer the following questions:

- Are there specific groups (e.g. by gender, age or country of birth) or areas in the borough that have a higher excess of premature deaths requiring targeted interventions?
- What are the cost-effective interventions for reducing premature deaths and what is happening already in Islington?
- Given findings, what more should be done to narrow the inequalities gap in life expectancy in Islington in the short, medium and longer terms?

Chapter 1 on life expectancy and all-age all-cause mortality (AAACM) examines trends over time and benchmarks life expectancy and AAACM in Islington with other London boroughs. Using the Department of Health’s Health Inequalities Intervention tool, it looks at what is causing the life expectancy gap in Islington by cause of death and age group.

Chapters 2-7 look in detail at specific causes of death using the annual Office for National Statistics (ONS) mortality files which are provided to all PCTs. These causes of death are all public health priorities, either because they are leading causes of death in Islington (e.g. chapters 3-5) or because there are high levels of risk factors or need in Islington (e.g. chapters 2, 6 and 7). After a summary of the key points and an introductory paragraph explaining why we are focussing on the specific cause of death, chapters 2-7 follow this structure:

**Risk factors**
The major risk factors for developing the disease or dying from the disease are described. Risk factors are categorised into whether interventions are likely to have an impact on them in the short, medium or long term, in line with Islington’s Health Inequalities Strategy\(^ {14}\).
The Islington picture
This section looks at the epidemiological data on the specific cause of death in Islington. It describes trends over time and comparisons are made with the London and England averages, as well as London PCTs including the other Spearhead areas. Where relevant and possible, analysis has been broken down by specific causes of death (e.g. cancer types) and by different dimensions of inequalities: gender, age, area of residence, and country of birth. Information is also provided on place of death. Where there are only small numbers of deaths it is not possible to provide breakdowns, in line with ONS guidance on deductive disclosure (ability to identify individuals from small numbers).

Case for change
Here, the evidence for cost-effective interventions and the case for investing in interventions are presented. This is all in line with national strategies (e.g. the Cancer Reform Strategy) and guidance (e.g. NICE public health guidance). It builds upon NHS Islington’s Business Case for Prevention which underpins the public health elements of NHS Islington’s Corporate Strategic Plan (CSP) and recent programme budgeting work.

What is already happening in Islington?
The last section of each chapter describes what is already happening in Islington to improve population-level health outcomes, including the reduction in the inequalities gap in life expectancy. Much of this has already been described elsewhere more fully, in Islington’s Joint Strategic Needs Assessment (JSNA) and Health Inequalities Strategy as well as individual strategies and reports from teams dealing with specific areas. To give a flavour of some of the specific projects that are ongoing across the borough to tackle health inequalities, there are two or three case studies at the end of each chapter.

The last chapter of this report addresses the questions outlined above by pulling together the main findings from all of the previous chapters. It also incorporates findings for Islington from the recently published Interventions Model from the Department of Health’s National Support Team for Health Inequalities, which enables an estimation of the numbers needed to treat for key cost-effective interventions. Finally, it makes some specific recommendations for action in the short term to sustain the focus on narrowing the gap in inequalities in life expectancy in Islington by the end of 2011.

What and where are Spearhead areas?
Spearhead areas are a fixed list of local authorities in England in the bottom fifth nationally in 1995-97 for three or more of the following five factors:
- male life expectancy at birth;
- female life expectancy at birth;
- cancer mortality rate in under 75s;
- cardiovascular disease (CVD) mortality rate in under 75s; and
- deprivation (as measured using the Index of Multiple Deprivation (IMD), 2004)

The 70 spearhead areas map onto 62 Primary Care Trusts (PCTs) of which, 11 are in London, including Islington. These areas are the most deprived in England. Spearhead areas have had ‘stretch’ targets to improve population health outcomes more quickly than those with better health outcomes, as well as increased funding and support to do this.

References


14. NHS Islington (NHSI) and London Borough of Islington (LBI). *Closing the gap: tackling health inequalities in Islington 2010-2030.* NHSI and LBI, 2010

**Why 1995-97 to 2006-08?**

Wherever possible in this report, data have been presented for the period 1995-97 to 2006-08. This is because 1995-97 were the baseline years for the Labour Government’s Public Service Agreement (PSA) targets to reduce inequalities in life expectancy and death rates from all-age all-cause mortality, premature CVD and cancer deaths, infant mortality, suicides, and accidents. There has been a lot of previous work undertaken both locally, regionally and nationally using these years as the baseline and so, for consistency they are also used in this report. In some instances (e.g. for infant mortality and alcohol-specific mortality), national and regional data are not available as far back as 1995-97, so changes are monitored over a shorter period. As there is a time lag on receiving death certificates for analysis and in the calculation of comparable rates at regional and national levels, the latest data available at the time of writing this report were for 2006-08. Data for 2007-09 are expected by January 2011.

Life expectancy and death rates are calculated using three years’ worth of data (i.e. a three-year rolling average) to smooth out variations that occur by chance at a borough level because of relatively small numbers of deaths, particularly from some causes (e.g. suicide).

**95% confidence intervals**

Throughout this report, the percentages and rates are reported with 95% confidence intervals (95% CI). Confidence intervals give the range of values which quantify the imprecision in the estimate of the percentage or rate. In public health, 95% CIs are used to quantify the imprecision that results from random variation in the estimation of the value because events (e.g. deaths) are influenced by the random occurrences that are inherent in life. They do not include imprecision resulting from systematic error (i.e. bias). For example, if the rate is 500 per 100,000 residents and the 95% CI ranges from 450 to 550 per 100,000; this indicates that we would be 95% confident that the true rate lies between 450 and 550 per 100,000. By comparing the 95% CIs around estimates or a target, we can say whether statistically, there are differences or not in the estimates we are observing.

For further information on 95% confidence intervals and other public health statistics, take a look at APHO’s technical briefing on “Commonly used public health statistics and their confidence intervals” which can be found here: http://www.apho.org.uk/resource/item.aspx?RID=48457
Life expectancy and all-age all-cause mortality

Key Points

- Life expectancy is increasing in Islington but at a slower rate than the national average, so the gap between Islington and England has increased over time.
- In 2006-08, life expectancy in Islington was 75.1 years for men and 81.0 years for women: 2.8 years lower for men and 1.0 years lower for women compared to England. Within London, Islington has the lowest life expectancy for men and one of the lowest for women.
- On average, 1,147 residents died each year in Islington in 2006-08. This was 385 fewer deaths per year than in 1995-97: a reduction of a quarter. Despite these improvements, nearly half of all deaths in 2006-08 were premature – in those aged less than 75 years, and therefore, potentially preventable.
- Cardiovascular disease (CVD) causes a third of all deaths in Islington, followed by cancer (28%) and respiratory diseases (13%). In contrast, cancer is the leading cause of premature death (32%), followed by CVD (29%).
- Smoking was a risk factor in one-in-five Islington deaths in 2006-08, with nearly a third attributed to high blood pressure and high cholesterol, and just over one-in-ten to obesity.
- There are clear inequalities in life expectancy and mortality in Islington:
  - Men die younger than women: 5.9 years younger in 2006-08 with stark differences in some wards.
  - Migrant communities, particularly Irish-born, have higher crude death rates than the UK-born population.
  - Those living in the most deprived areas locally have a lower life expectancy than those in less deprived areas.

Life expectancy at birth explained
Adapted from LHO frequently asked questions

Life expectancy at birth is an estimate of the average number of years a new-born baby would survive if he or she experienced the particular area’s age-specific mortality rates for that time period throughout his or her life. This means that the figures given in this chapter reflect mortality among those living in Islington now, rather than mortality among those born in Islington. It is not the number of years a baby born in the area now could actually expect to live, both because the death rates of the area are likely to change in the future and because many of those born in the area will live elsewhere for at least some part of their lives. 

Statistically, there are relatively small numbers of deaths at a borough level each year, so life expectancy at birth and mortality rates are calculated as three-year rolling averages (e.g. 2006-08) to help smooth out short-term fluctuations which arise because of chance. This means that three years of data are used to calculate the life expectancy and death rates rather than one. It is a “rolling” average because the three-year period moves up one year at a time (e.g. 2004-06, 2005-07, 2006-08). At ward level, the numbers of deaths are even smaller, so five years of data are used, with the latest data available for 2003-07.
Why focus on life expectancy and all-age all-cause mortality in Islington?

Islington has the lowest life expectancy for men in London and one of the lowest for women too, along with other Spearhead PCTs such as Tower Hamlets, Newham, Lambeth and Lewisham (figure 1.1). In 2006-08, life expectancy at birth in Islington was 75.1 years for men and 81.0 years for women: 2.8 years lower for men and 1.0 years lower for women compared to England.
1. Life expectancy and all-age all-cause mortality

Life expectancy at birth has been increasing in Islington over time (figure 1.2), rising from 72.2 years for men in 1995-97 to 75.1 years in 2006-08 (+2.9 years), and for women, from 78.9 years to 81.0 years (+2.1 years). Nevertheless, the gap in life expectancy between Islington and England has widened, as national life expectancy has improved at a greater rate, particularly for men. This means that Islington is not on track to meet the 2010 national Public Service Agreement (PSA) target, namely to reduce the percentage difference in life expectancy at birth by 10% between Islington and the England average for either men or women.

Given the rise in life expectancy over time in Islington, all-age all-cause mortality (AAACM) has declined (figure 1.3). There were (on average) 385 fewer deaths in Islington each year over the period 2006-08 compared to 1995-97: a reduction of 25%. Now, on average, 1,147 Islington residents die each year (2006-08).

Death rates in Islington, however, remain higher than London (+22%) and England (+18%) (table 1.1), and as for life expectancy the gap between AAACM in Islington and England has not narrowed. Figure 1.4 shows that the inequalities gap in rates of AAACM for men in Islington has widened by 17% compared to England between 1995-97 and 2006-08, whereas for women it has narrowed by 3%.

Note 2010 national PSA targets are measured using three-year rolling averages which means that deaths during 2011 (data available in 2012) will be used to calculate achievement against target.
Table 1.1  All-age all-cause directly standardised mortality rate (DSR) per 100,000 resident population by gender, Islington, London and England, 2006-08

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th>Women</th>
<th>Persons</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DSR 95% CI</td>
<td>DSR 95% CI</td>
<td>DSR 95% CI</td>
</tr>
<tr>
<td></td>
<td>Lower</td>
<td>Upper</td>
<td>Lower</td>
</tr>
<tr>
<td>Islington</td>
<td>859.0</td>
<td>820.0</td>
<td>898.0</td>
</tr>
<tr>
<td>London</td>
<td>677.2</td>
<td>672.3</td>
<td>685.0</td>
</tr>
<tr>
<td>England</td>
<td>629.3</td>
<td>629.6</td>
<td>639.9</td>
</tr>
</tbody>
</table>

Figure 1.4  Inequality gap in all-age all-cause mortality, Islington and England, 1995-97 to 2006-08

Source: ONS, 2009
1. Life expectancy and all-age all-cause mortality

Table 1.2  Slope index of inequality for life expectancy, by level of deprivation, Islington and England, 2004-08
Source: APHO, 2010

<table>
<thead>
<tr>
<th></th>
<th>Difference in life expectancy between most and least deprived areas in Islington</th>
<th>95% CI</th>
<th>England median</th>
<th>Significant difference between Islington and England</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Lower</td>
<td>Upper</td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>6.7 years</td>
<td>3.4 years</td>
<td>9.9 years</td>
<td>8.6 years</td>
</tr>
<tr>
<td>Women</td>
<td>4.4 years</td>
<td>1.2 years</td>
<td>7.6 years</td>
<td>5.8 years</td>
</tr>
</tbody>
</table>

Local-level differences in life expectancy
Within Islington, there is very little difference in life expectancy by ward, probably because of the unusual spatial distribution of affluence and poverty across the borough, where rich and poor live cheek-by-jowl (map 1.1). In 2003-07, the only differences in life expectancy at ward level were that men in Clerkenwell had a significantly higher life expectancy than the Islington average (77.8 vs. 74.5 years), while women in Finsbury Park had a significantly lower life expectancy than average (78.1 vs. 80.3 years). It is unlikely, however, that this describes all of the spatial differences in life expectancy across the borough because most differences probably occur at a much lower geographical level.

The “slope index of inequality” shows the gap in life expectancy between the most and least deprived areas within a PCT at a lower geographical level — lower super output area (LSOA) which typically has about 1,500 residents. It is the key measure of the health inequalities gap in Islington’s Commissioning Strategic Plan (CSP), as in other PCTs. It shows that men and women living in the most deprived areas of Islington have a lower life expectancy than those in the most affluent areas (table 1.2). The “slope”, however, does not do justice to the large inequalities in Islington because statistically, there is no difference in the size of inequality in Islington compared to the England average. This seems unlikely given other knowledge of the population (e.g. through geodemographic segmentation using Mosaic™).
and health outcomes. There is also a great deal of imprecision around the estimates which also impacts on the ability to assess differences in health inequalities using this metric so it needs to be used with care.

**The gender gap**
Nationally there is a clear gender inequality in life expectancy with women living much longer than men, and this is also true in Islington (81.0 years vs. 75.1 years in 2006-08). In absolute terms this equates to 85 more deaths in Islington men each year than women: 616 (54%) versus 531 (46%) in 2006-08, with a corresponding higher AAACM rate among men (table 1.1).

On a more local level, gender inequality in life expectancy exists across every Islington ward, with large differences in some. These differences range from women living an extra 1.7 years in Clerkenwell compared to men, up to 9.1 years in St George’s ward, with the average gender difference in life expectancy for Islington as a whole at 5.8 years (figure 1.5). Twelve out of the sixteen Islington wards had a gender gap that was greater than that for England, highlighting the need to particularly improve the life expectancy of Islington men.

**Cause of death**
The main causes of death (across all ages) in Islington between 2006 and 2008 were cardiovascular disease (CVD) (33%), cancer (28%) and respiratory diseases (13%) (figure 1.6).

In terms of “closing the gap” in life expectancy between Islington and England, not all causes of death make the same contribution to the gap. This is because the number of years saved from averting an infant death for example, is much greater than a CVD death in an older person. Targeting the causes of death with the largest gaps will have the greatest impact on reducing the life expectancy gap between Islington and England.

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**Figure 1.5** Gender gap in life expectancy at birth between women and men, Islington wards, 2003-07
Source: ONS, 2009

<table>
<thead>
<tr>
<th>Ward</th>
<th>Number of years extra women live compared to men</th>
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<tbody>
<tr>
<td>Clerkenwell</td>
<td>1</td>
</tr>
<tr>
<td>St Peter’s</td>
<td>2</td>
</tr>
<tr>
<td>Finsbury Park</td>
<td>3</td>
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<tr>
<td>Hillrise</td>
<td>4</td>
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<tr>
<td>Highbury East</td>
<td>5</td>
</tr>
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<td>Barnsbury</td>
<td>6</td>
</tr>
<tr>
<td>Caledonian</td>
<td>7</td>
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<tr>
<td>Mildmay</td>
<td>8</td>
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<tr>
<td>Holloway</td>
<td>9</td>
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<tr>
<td>St Mary's</td>
<td>10</td>
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<tr>
<td>Tollington</td>
<td>11</td>
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<tr>
<td>Junction</td>
<td>12</td>
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<tr>
<td>Bunhill</td>
<td>13</td>
</tr>
<tr>
<td>Canonbury</td>
<td>14</td>
</tr>
<tr>
<td>Highbury West</td>
<td>15</td>
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<tr>
<td>St George’s</td>
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Number of years extra women live compared to men

<table>
<thead>
<tr>
<th>Increasing gender inequality</th>
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<tr>
<td>England gender gap (4.1 years)</td>
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0 1 2 3 4 5 6 7 8 9 10

<table>
<thead>
<tr>
<th>Islington ward</th>
<th>Number of years extra women live compared to men</th>
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<tr>
<td>Clerkenwell</td>
<td>1</td>
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<td>St Peter’s</td>
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<td>Finsbury Park</td>
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<td>Highbury West</td>
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<td>St George’s</td>
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</table>
1. Life expectancy and all-age all-cause mortality

Figure 1.6 Causes of death in Islington, 2006-08

Source: ONS, 2009
## Table 1.3
Number of deaths and relative life expectancy at birth gap for Islington compared to England, by gender and cause of death, 2006-08

**Source:** DH, Health Inequalities Intervention Spearhead Tool, LHO, March 2010

<table>
<thead>
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<th>Number of deaths</th>
<th>Excess deaths compared to England</th>
<th>Contribution to the gap</th>
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<tbody>
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<td>Men</td>
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<td></td>
<td></td>
<td></td>
<td>Women</td>
</tr>
<tr>
<td>CVD</td>
<td>379</td>
<td>57</td>
<td></td>
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<tr>
<td>Coronary heart disease (CHD)</td>
<td>181</td>
<td>30</td>
<td>18.2%</td>
</tr>
<tr>
<td>Stroke</td>
<td>92</td>
<td>5</td>
<td>4.2%</td>
</tr>
<tr>
<td>Heart failure</td>
<td>27</td>
<td>12</td>
<td>4.9%</td>
</tr>
<tr>
<td>Other CVD</td>
<td>79</td>
<td>10</td>
<td>10.2%</td>
</tr>
<tr>
<td>Cancer</td>
<td>316</td>
<td>41</td>
<td></td>
</tr>
<tr>
<td>Lung cancer</td>
<td>85</td>
<td>26</td>
<td>10.7%</td>
</tr>
<tr>
<td>Bowel cancer</td>
<td>26</td>
<td>0</td>
<td>0.9%</td>
</tr>
<tr>
<td>Breast cancer</td>
<td>26</td>
<td>3</td>
<td>0.9%</td>
</tr>
<tr>
<td>Oesophageal cancer</td>
<td>16</td>
<td>3</td>
<td>1.0%</td>
</tr>
<tr>
<td>Stomach cancer</td>
<td>10</td>
<td>1</td>
<td>..</td>
</tr>
<tr>
<td>Other cancers</td>
<td>153</td>
<td>8</td>
<td>8.6%</td>
</tr>
<tr>
<td>Respiratory diseases</td>
<td>144</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>Bronchopneumonia</td>
<td>61</td>
<td>9</td>
<td>6.5%</td>
</tr>
<tr>
<td>Chronic obstructive pulmonary disease (COPD)</td>
<td>58</td>
<td>13</td>
<td>2.8%</td>
</tr>
<tr>
<td>Other respiratory disease</td>
<td>25</td>
<td>0</td>
<td>..</td>
</tr>
<tr>
<td>Digestive diseases</td>
<td>67</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>Chronic liver disease including cirrhosis</td>
<td>24</td>
<td>7</td>
<td>5.1%</td>
</tr>
<tr>
<td>Stomach/duodenum ulcer</td>
<td>5</td>
<td>0</td>
<td>..</td>
</tr>
<tr>
<td>Other digestive diseases</td>
<td>38</td>
<td>6</td>
<td>3.1%</td>
</tr>
<tr>
<td>External causes</td>
<td>60</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Suicide and undetermined injury</td>
<td>23</td>
<td>6</td>
<td>1.7%</td>
</tr>
<tr>
<td>Land transport accidents</td>
<td>5</td>
<td>0</td>
<td>..</td>
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<tr>
<td>Other accidents</td>
<td>25</td>
<td>4</td>
<td>2.5%</td>
</tr>
<tr>
<td>Other external causes</td>
<td>7</td>
<td>4</td>
<td>2.6%</td>
</tr>
<tr>
<td>Infectious and parasitic diseases</td>
<td>23</td>
<td>8</td>
<td>2.1%</td>
</tr>
<tr>
<td>Other causes</td>
<td>148</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>Mental and behavioural disorders</td>
<td>32</td>
<td>0</td>
<td>2.4%</td>
</tr>
<tr>
<td>Diseases of nervous system</td>
<td>24</td>
<td>0</td>
<td>..</td>
</tr>
<tr>
<td>Genitourinary diseases</td>
<td>23</td>
<td>2</td>
<td>0.6%</td>
</tr>
<tr>
<td>Endocrine, nutritional, metabolic diseases</td>
<td>18</td>
<td>3</td>
<td>1.1%</td>
</tr>
<tr>
<td>Musculoskeletal diseases</td>
<td>6</td>
<td>0</td>
<td>..</td>
</tr>
<tr>
<td>Congenital anomalies</td>
<td>3</td>
<td>0</td>
<td>0.7%</td>
</tr>
<tr>
<td>Perinatal conditions</td>
<td>1</td>
<td>0</td>
<td>..</td>
</tr>
<tr>
<td>Ill-defined conditions</td>
<td>32</td>
<td>12</td>
<td>7.9%</td>
</tr>
<tr>
<td>Other</td>
<td>10</td>
<td>0</td>
<td>..</td>
</tr>
<tr>
<td>Neonatal deaths (deaths under 28 days)</td>
<td>10</td>
<td>1</td>
<td>2.1%</td>
</tr>
<tr>
<td>Total</td>
<td>1,147</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

**Note:** Excess deaths were calculated for each cause of death separately and should not be totalled across the different cause of death categories. This is why the total for this column is blank.

.. The calculated contribution to the gap with England is negative.
Figure 1.7 shows that in 2006-08, the main contributor to the life expectancy gap between Islington and England for men was CVD (38%) followed by cancer (21%). In contrast, for women, it was cancer (24%) followed by CVD (22%). This was equivalent to an excess of 57 deaths from CVD and an excess of 41 cancer deaths each year in Islington compared to England (table 1.3). Specific causes of deaths with large excesses in Islington compared to England were coronary heart disease (CHD) (30 excess deaths); lung cancer (26 excess deaths); chronic obstructive pulmonary disease (COPD) (13 excess deaths); and heart failure (12 excess deaths). Deaths from these causes in Islington are explored in greater detail in the CVD, cancer, and COPD chapters in this report.

**Risk factors contributing to deaths in Islington**

To close the inequalities gap in life expectancy in Islington, it is important to understand the contribution that different preventable risk factors have on deaths in the borough and ensure that appropriate interventions can be put into place. Using a model based on the results of epidemiological studies and developed by the World Health Organisation (WHO), it is possible to work out how many deaths were attributable to different selected risk factors. In some cases, there may be a clear causal pathway between a single risk factor and disease development, accounting for most cases of disease (e.g. smoking causes about 90% of lung cancer deaths). For other causes of death, there may be several different risk factors each accounting for a different and sometimes overlapping share of the cause of death (e.g. smoking, high blood pressure, high cholesterol, physical inactivity, and obesity all account for varying amounts of CHD deaths).

The leading risk factor for death in Islington is smoking, contributing to one-in-five deaths in 2006-08 (figure 1.8). Smoking is the main cause of deaths from lung cancer and COPD as well as being a key risk factor for CVD, particularly CHD. The substantial contribution of smoking to deaths in Islington reflects the high prevalence of smoking within the borough. After smoking, high blood pressure and high cholesterol together contributed to 30% of deaths in Islington in 2006-08. Like smoking, these are both major risk factors for the development of CVD. Similarly, obesity – another risk factor for CVD and also some cancers (e.g. breast cancer) – contributes to about one-in-ten
deaths each year. Low fruit and vegetable intake and physical inactivity both make smaller but significant contributions, as well as mediating the development of other key risk factors (e.g. obesity).

There are several limitations to the model, which need to be borne in mind. While figure 1.8 clearly illustrates the fraction of deaths in Islington that are attributable to a range of behavioural and clinical risk factors, not all known risk factors are included. The contribution of poor mental health for example, is underestimated. Only some deaths associated with more severe mental health problems – suicide and deaths directly related to alcohol – are explicitly captured, whereas deaths due to CVD linked to depression are not. At the other end of the spectrum, poor mental health is often a key underlying cause of unhealthy behaviours (e.g. poor diet/lack of exercise) and limited engagement with health services. Previous local work has also clearly established that many of those living with long term conditions in Islington have poor mental health and that a high proportion of premature CVD deaths are in people with long term depression or serious mental illness (e.g. CVD\textsuperscript{(1)}), and this is explored further in chapter 6 (deaths from mental health-related conditions) of this report.

Secondly, as epidemiological evidence improves, our understanding of the amount of disease attributable to different risk factors changes too. For instance, in the past few years, understanding of the contribution of smoking and alcohol to disease development and a range of diseases has significantly widened. Finally, figure 1.8 describes risk factors for the current pattern of deaths, and it is important to recognise that preventive work for conditions and patterns of health service use that are not, or only rarely, directly related to mortality, is also a significant need. For example, HIV causes a substantial burden of ill-health with high costs associated with treatment and care and, while it is unlikely to directly result in death, infection may lower life expectancy.

Figure 1.8 Risk factors contributing to deaths in Islington, 2006-08

Note: not all risk factors for death are included in this diagram. This is why the percentages do not add up to 100%. In addition, more than one risk factor may contribute to a single death.
Age at death and cause of death by age
Nearly half of deaths in Islington are premature — under 75 years of age — and potentially preventable. In 2006-08, of the 1,147 deaths each year, 537 were premature. Of all deaths, 5% were in residents aged less than 35 years; 23% among those aged 35-64 years; and 19% among those aged 65-74 years.

There are variations in cause of death by age group in Islington: CVD is the main cause of death among those aged over 75 (37% or 225 deaths per year in 2006-08), whereas cancer accounts for a larger proportion of premature deaths (32% or 172 deaths per year in 2006-08) (figure 1.9). In contrast, the leading cause of death for those less than 35 years was “external causes” (35% of deaths or 18 deaths per year), with an equal split between deaths from suicide and undetermined injury and accidents. A high proportion (12%; 31 deaths per year) of those aged 35-64 years died of digestive diseases (including chronic liver disease, peptic ulcer, intestinal obstruction and perforation) compared to other age groups.

Examining Islington’s life expectancy gap by age shows that three-quarters of the male life expectancy gap can be explained by deaths in men aged 50-74 years (table 1.4; figure 1.10). For women, contribution to the gap is more dispersed across different age groups, with 36% from deaths in those aged 65-74 years. For men and women combined, the largest numbers of excess deaths each year, on average (2006-08), were in those aged 65-69 years (29 deaths) and 70-74 years (30 deaths).

Deaths in older people (75+ years)
While CVD and cancer are the main causes of death for older people in Islington, there was a higher proportion of deaths from respiratory diseases (mainly bronchopneumonia and COPD) in this age group in 2006-08: 17% or 101 deaths per year. In fact, 82% (50 deaths per year) of all bronchopneumonia deaths in Islington in 2006-08 occurred in older people. Other underlying diseases were present in half of all bronchopneumonia deaths: the main ones were CVD (14%) and chronic renal failure (10%). As would be expected, almost all deaths classed as dementia in Islington were in older people in 2006-08: there were 23 deaths from dementia each year. For the majority (96%) of dementia deaths other underlying diseases were present, mainly pneumonia, a complicating factor in 41% of all dementia deaths.
Figure 1.10  Relative life expectancy at birth gap for Islington compared to England, by gender and age group, 2006-08

Source: DH, Health Inequalities Intervention Spearhead Tool, LHO, March 2010

Table 1.4  Relative life expectancy at birth gap for Islington compared to England, by gender and age group, 2006-08

Source: DH, Health Inequalities Intervention Spearhead Tool, LHO, March 2010

Note: Excess deaths should not be totalled across the different age groups. This is why the total for this column is blank.

.. The calculated contribution to the gap with England is negative.
1. Life expectancy and all-age all-cause mortality

Country of birth

Death records collect information on the deceased’s country of birth, but not ethnicity. Examination of deaths by country of birth can highlight potential inequalities among different communities, and particularly differences between migrant and UK-born populations. Analysis of deaths in Islington by country of birth shows that those born in the Republic of Ireland have significantly higher crude death rates than residents born in the UK or elsewhere (figure 1.11). However, this metric does not take into account differences in the age structures of the different populations so should be interpreted with some caution (i.e. the Irish community may be older than the UK-born population and so more deaths would then be expected, leading to a higher crude death rate).

In 2006-08, 43% of deaths in Islington were in UK-born residents (487 deaths per year), 11% of deaths were in Irish-born residents (129 deaths per year), and 46% were in residents born elsewhere (515 deaths per year)². The cancer and CVD chapters that follow show that those born outside the UK are dying at a younger age from cancer and CVD compared to those born in the UK.

Figure 1.11 Crude death rate by place of birth, Islington, 2006-08

Source: ONS, 2009; Census 2001; GLA population estimates, 2007

Are people dying because they are not registered with an NHS general practice?

One hypothesis about why there are a high number of deaths in Islington is that some residents are not registered with a general practice and therefore, preventable or treatable conditions are not being picked up in primary care. To explore whether or not this was the case, death records linked to NHS general practices from the Primary Care Mortality Database (PCMD) were examined.

Analysis showed that in 2006-08, only 2% of the deaths among Islington residents were among people not registered with an NHS general practice. This equated to 82 deaths over the three years or 27 deaths per year. Nearly 40% of these deaths (31 in total) were neonates who had not left hospital.

Of the remaining 60% of people dying without being registered with an NHS GP (51 in total or 17 per year), proportionately more were men (76% vs. 52%) and aged less than 35 years 29% vs. 2%) when compared to those registered with an Islington GP.

A higher proportion of deaths were also caused by external factors (suicide and accidents) when compared to deaths in registered people (24% vs. 4%).

In conclusion, only a very small proportion of all deaths occur in Islington residents who are not registered with a general practice.

² For 17 residents, place of birth was not reported, which is why sub-totals do not add up to 1,147.
Place of death

Three-fifths of deaths in Islington occur in hospital, with a further fifth at home (figure 1.12). Increasing the proportion of people dying at home in those who express a preference for dying at home, has been a focus of NHS Islington’s End of Life Care strategy in 2008 – 2013[2]. Comparative data show that the proportion of people dying at home in Islington is similar to London and England averages, but that a higher proportion of men die at home compared to women (24% vs. 18% in 2006-08). It is not clear from death certificates alone, however, whether the pattern of place of death is related to choice of place of death or unexpected death for example, due to a vascular event. Looking at cause of death by place of death in Islington suggests that deaths in hospitals broadly reflect overall patterns in cause of death, whereas a higher proportion of deaths at home are from CVD, while the majority of deaths in hospices are from cancer (figure 1.13).
1. Life expectancy and all-age all-cause mortality

**Conclusion**

In summary, life expectancy in Islington is low compared to London and England, particularly for men. Nearly half of all deaths in the borough each year are premature and therefore, potentially preventable. CVD is the leading cause of all deaths and cancer is the leading cause of premature deaths. The main modifiable risk factors that lead to deaths in the borough are smoking, high blood pressure, high cholesterol, and obesity. To close the life expectancy gap between Islington and England levels of these risk factors need to be reduced through behaviour change, and earlier diagnosis and intervention, particularly among men, migrant communities, and those living in the most deprived areas locally.

**References**


Infant mortality

**Key Points**

- For every 250 births in Islington, one child dies within the first year of life. This equates to about 13 infant deaths each year in the borough.
- The main risk factor for infant death and inequalities in infant death is poverty, and poverty reduction – particularly child poverty – remains a key focus for statutory partners in Islington.
- Infant death rates in Islington are similar to London and England, but Islington continues to prioritise infant mortality because of the high risks within the borough from deprivation.
- Most of the infants dying in Islington die within the first seven days of life. The major cause of these deaths is prematurity, followed by congenital abnormalities and neurological conditions.
- Pregnancy and early years are a crucial stage in influencing lifetime health and social outcomes. There is scope to increase the coverage of cost-effective interventions, such as immunisations, breastfeeding and support to stop smoking, particularly for at risk groups.
- The local NHS and other partners in Islington are working in several areas to reduce infant mortality in Islington, including improvements to antenatal services, supporting of healthy lifestyles, reducing teenage pregnancy and promoting the healthy development of infants.

**Measures of infant deaths**

- **Infant mortality** includes deaths occurring within one year of a live birth.
- **Neonatal mortality** includes deaths occurring within 28 days of a live birth.
- **Early neonatal mortality** includes deaths occurring within the first week after a live birth.
- **Postneonatal mortality** includes deaths occurring between 28 days and one year of a live birth.
- **Perinatal mortality** includes deaths occurring within the first week after a live birth and stillbirths. Note that stillbirths do not contribute to the life expectancy gap but are an important indicator of maternal and child health, so are discussed in a separate box in this chapter.

**Why focus on infant mortality in Islington?**

“Infant mortality” refers to the death of a baby before his or her first birthday, excluding stillbirths. Many, although not all, of these deaths are potentially preventable. Infant death is associated with a wide range of determinants, but particularly poverty, and has long been regarded as an indicator of the general health of an entire population. Although infant mortality is not a major contributor to lower life expectancy in Islington when compared to the rest of the country, the widespread and very high levels of deprivation and other risk factors within Islington means that reducing infant mortality remains a priority for NHS Islington and its partners.
2. Infant Mortality

**Local service provision and quality of local services**
Booking by 12 weeks’ gestation Booking for maternity care after 12 weeks may be more common in women who have a neonatal death; this may be related to issues such as maternal social deprivation and poor access to health services.

**Clinical and behavioural risk factors**
Maternal obesity Women who are obese (BMI $\geq 30$ kg/m$^2$) are at greater risk of neonatal mortality.
Maternal ethnicity Black and Asian ethnicities have been associated with increased risk of neonatal death however, ethnicity is likely to be associated with deprivation and should not be regarded as an independent variable.
Gestational age Babies born at less than 37 weeks’ gestation have an increased risk of mortality compared to term babies.
Birth weight Preterm birth, very low birth weight (<1,500g) and small-for-gestational age (SGA) are all recognised as contributors to neonatal death. These may be linked to other factors (e.g. smoking during pregnancy).
Multiple births The infants of multiple births have higher perinatal mortality rates than those of singletons.

**Risk factors for infant mortality in Islington**
The major risk factor for infant mortality is poverty, and two-thirds of Islington residents live in areas identified as the fifth most deprived in England. At a regional level, modelling also indicates that poverty makes the single largest contribution to the inequalities gap in infant mortality between those in routine and manual groups and the more affluent (figure 2.1).
Deprivation is also a mediator of many other risk factors for infant mortality. For example, overcrowding increases the risk of Sudden Unexplained Death in Infancy (SUDI), as does sleeping position and smoking status of the parent. Smoking during pregnancy,

*Although the Health Inequalities Infant Mortality target specifies reducing the gap with England and Wales, the gap illustrated is that between the routine and manual group in London and all births within marriage and joint registrations in England.*

**Table 2.1 Risk factors associated with infant mortality**

<table>
<thead>
<tr>
<th>Risk factor</th>
<th>What increases the risk?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternal age (inc. teenage pregnancy)</td>
<td>Mothers over 35 years have increased risk of neonatal mortality.</td>
</tr>
<tr>
<td>Mothers aged less than 20 years have the highest risk of neonatal deaths. This may be partially explained by higher levels of deprivation and an increased risk for preterm delivery in these women.</td>
<td></td>
</tr>
<tr>
<td>Maternal ethnicity</td>
<td>Black and Asian ethnicities have been associated with increased risk of neonatal death however, ethnicity is likely to be associated with deprivation and should not be regarded as an independent variable.</td>
</tr>
<tr>
<td>Gestational age</td>
<td>Babies born at less than 37 weeks’ gestation have an increased risk of mortality compared to term babies.</td>
</tr>
<tr>
<td>Birth weight</td>
<td>Preterm birth, very low birth weight (&lt;1,500g) and small-for-gestational age (SGA) are all recognised as contributors to neonatal death. These may be linked to other factors (e.g. smoking during pregnancy).</td>
</tr>
<tr>
<td>Multiple births</td>
<td>The infants of multiple births have higher perinatal mortality rates than those of singletons.</td>
</tr>
</tbody>
</table>

**Figure 2.1 Contribution of risk factors to inequalities gap in infant mortality*, London, 2006-08**

<table>
<thead>
<tr>
<th>Risk factor</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poverty</td>
<td>49%</td>
</tr>
<tr>
<td>SUDI</td>
<td>27%</td>
</tr>
<tr>
<td>Obesity</td>
<td>21%</td>
</tr>
<tr>
<td>Teenage pregnancy</td>
<td>2%</td>
</tr>
<tr>
<td>Smoking in pregnancy</td>
<td>1%</td>
</tr>
<tr>
<td>Not breast fed</td>
<td>0%</td>
</tr>
</tbody>
</table>

Source: APHO, Infant Mortality Interventions Tool, 2010

**Risk factor**

<table>
<thead>
<tr>
<th>Age, sex and constitutional factors</th>
<th>49%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternal age</td>
<td></td>
</tr>
<tr>
<td>Maternal ethnicity</td>
<td></td>
</tr>
<tr>
<td>Gestational age</td>
<td></td>
</tr>
<tr>
<td>Birth weight</td>
<td></td>
</tr>
<tr>
<td>Multiple births</td>
<td></td>
</tr>
</tbody>
</table>

**What increases the risk?**

| Maternal age (inc. teenage pregnancy) | Mothers over 35 years have increased risk of neonatal mortality. |
| Maternal obesity                     | Women who are obese (BMI $\geq 30$ kg/m$^2$) are at greater risk of neonatal mortality. |
| Smoking in pregnancy                 | Smoking in pregnancy increases infant mortality by about 40%. Those who are more deprived are more likely to smoke. |
| Failure to initiate breastfeeding     | Breastfeeding reduces the rate of postneonatal mortality. Again, there is an association with deprivation (women from routine and manual worker backgrounds are less likely to breastfeed). |
| Maternal social deprivation          | Women with greater levels of deprivation are more likely to have a pregnancy outcome of infant death. |

**Short term**

| Local service provision and quality of local services | 27% |
| Booking by 12 weeks’ gestation                         |     |

| Booking for maternity care after 12 weeks may be more common in women who have a neonatal death; this may be related to issues such as maternal social deprivation and poor access to health services. |

**Medium term**

| Clinical and behavioural risk factors | 21% |
| Maternal obesity                     |     |
| Smoking in pregnancy                 |     |
| Failure to initiate breastfeeding     |     |

**What increases the risk?**

| Maternal obesity | Women who are obese (BMI $\geq 30$ kg/m$^2$) are at greater risk of neonatal mortality. |
| Smoking in pregnancy | Smoking in pregnancy increases infant mortality by about 40%. Those who are more deprived are more likely to smoke. |
| Failure to initiate breastfeeding | Breastfeeding reduces the rate of postneonatal mortality. Again, there is an association with deprivation (women from routine and manual worker backgrounds are less likely to breastfeed). |

**Long term**

| Socioeconomic determinants of health | 0% |
| Maternal social deprivation         |     |

**What increases the risk?**

| Maternal social deprivation | Women with greater levels of deprivation are more likely to have a pregnancy outcome of infant death. |

Sources
The evidence in the table above is taken from the following two sources which contain further details and references:
1. DH Health Improvement Analytical Team. Factors contributing to the gap in infant mortality: the evidence, APHO, December 2009
maternal obesity, teenage pregnancy, and failure to initiate breastfeeding, are all more common among those of lower socioeconomic status. Islington has particularly high levels of teenage pregnancy, and levels of obesity for example, are rising which will further increase the risk for infant deaths.

There are also clinical risk factors associated with infant mortality. Infant and maternal infections such as rubella impact on infant mortality so in this instance, high coverage rates for immunisation are important. Among some communities, congenital abnormalities as a result of consanguineous relationships (e.g. cousins in a relationship) is a leading cause of infant death, but this does not seem to be a major factor in Islington. Finally, the quality of antenatal services is important, along with safeguarding and child protection arrangements. Table 2.1 broadly describes the risk factors for infant mortality within the context of whether or not changes to them would likely result in short, medium or long terms.

The Islington picture

There are about 13 infant deaths each year in Islington, which is equivalent to about one death in every 250 babies under one year old. In 2006-08, over two-thirds of infant deaths in Islington occurred within the first week of life (table 2.2).

Islington's infant, neonatal, and early neonatal mortality rates in 2006-08 were all similar to London and England (table 2.3), and most other London PCTs. Over time, infant mortality has been decreasing steadily in London and England. As figure 2.3 shows, in the period since 1999-01 the infant mortality rate in Islington peaked at 6.9 per 1,000 live births in 2003-05, before falling to 4.6 in 2006-08; this suggests some evidence of a decline in recent years but because of the relatively small numbers of infant deaths there is substantial variation around the estimates.

### Table 2.2
Numbers of early neonatal, neonatal and infant deaths, Islington, 2006-08 (yearly average)

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Month of death</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt;7 days</td>
<td>&lt;28 days</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Early neonatal deaths</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Neonatal deaths</td>
<td></td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infant deaths</td>
<td></td>
<td></td>
<td>13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: ONS, 2009

### Table 2.3
Infant, neonatal, and early neonatal mortality rates per 1,000 live births, Islington, London and England, 2006-08

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Rate</th>
<th>95% CI</th>
<th>Rate</th>
<th>95% CI</th>
<th>Rate</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lower</td>
<td>Upper</td>
<td>Lower</td>
<td>Upper</td>
<td>Lower</td>
<td>Upper</td>
</tr>
<tr>
<td>Infant mortality</td>
<td>4.6</td>
<td>3.3</td>
<td>6.3</td>
<td></td>
<td>4.6</td>
<td>4.4</td>
</tr>
<tr>
<td>Neonatal mortality</td>
<td>3.6</td>
<td>2.6</td>
<td>5.2</td>
<td></td>
<td>3.1</td>
<td>2.9</td>
</tr>
<tr>
<td>Early neonatal mortality</td>
<td>3.1</td>
<td>2.1</td>
<td>4.5</td>
<td></td>
<td>2.3</td>
<td>2.2</td>
</tr>
</tbody>
</table>

Source: ONS, 2010
2. Infant Mortality

Figure 2.2 Infant mortality rate per 1,000 live births, Islington, London and England, 1999-01* to 2006-08
Source: NCHOD, 2009

Figure 2.3 Primary cause of neonatal deaths using the CMACE neonatal classification; England, Wales and Northern Ireland and the Crown Dependencies: 2008 (excluding terminations of pregnancy)

Causes of death
Given the relatively small numbers of infant deaths each year in Islington, it is difficult to determine local patterns in the causes of death or to look in more detail at the characteristics of infants who are dying within a year of birth (e.g. place of birth for postneonatal deaths). It is known, however, that 82% of infant deaths in Islington (about 10 deaths each year) are due to conditions originating in the perinatal period (commences at 24 completed weeks’ gestation and ends before seven completed days after birth), which includes premature births. Prematurity will be the underlying cause in many of these deaths. Nationally, the main causes of neonatal death are respiratory disorders, of which the single largest cause is severe pulmonary immaturity (24%) resulting from premature birth (figure 2.3). After respiratory disorders, the most common causes are major congenital abnormalities and neurological conditions.

*Comparative data were only available for 1999-01 onwards.
Stillbirths

Stillbirths are not included in infant mortality rates or the calculation of the life expectancy gap. There are, however, more stillbirths in Islington each year (17 stillbirths per year in 2006-08) than infant deaths, and the risk factors associated with stillbirths are similar to infant mortality. These include the age of the mother, ethnicity, lifestyle and clinical factors, and the quality of antenatal services, as well as the wider determinants of health, in particular, poverty.

Over the past couple of years, the stillbirth rate has decreased in England (figure 2.4). At a local level, the numbers of stillbirths are too small to ascertain whether there has also been a decreasing trend, but in 2006-08, there were 6.1 stillbirths per 1,000 births in Islington, which was not significantly different to the rate for London or England (6.0 and 5.2 deaths per 1,000 births, respectively). Stillbirths also contribute to the perinatal mortality rate (deaths within a week of birth and stillbirths). In Islington, two-thirds of perinatal deaths were stillbirths in 2006-08. The perinatal mortality rate over this period was 9.1 deaths per 1,000 births. Again, this was not significantly different from the perinatal mortality rate for England or London (7.8 and 8.4 per 1,000 births, respectively).

The causes of stillbirths are complex, and in 23% of cases unexplained. Figure 2.5 describes the primary cause/associated factors for stillbirths nationally. Leading specific causes of stillbirths are haemorrhages (severe bleeding); intra-uterine growth restriction (the baby starts growing normally and then growth slows); specific placental conditions; and major congenital abnormalities (e.g. heart defects).
Case for change
The mother’s overall health and wellbeing and high quality care during and after pregnancy are important factors in reducing the risk of adverse outcomes in pregnancy. High quality sex and relationship education and accessible contraceptive and sexual health services, provided through primary care or community health services, are important in supporting women to make informed choices and providing control over fertility. Pre-conceptual health, including smoking status, nutrition, physical activity, obesity, mental health, sensible drinking, drug use and sexual health, are important factors for maternal health and some may in turn also affect fertility.

Action to improve early booking for antenatal care is important to improve outcomes in pregnancy. The most recent data on timely booking with antenatal services indicated that 60.3% of women in Islington who had babies during the second half of 2009-10 had booked by 12 weeks and six days of pregnancy, compared to a London average of 75.1%. Timely booking is important so that any risks or problems in pregnancy can be identified early and women can receive the right levels of support, care and screening for their needs. Late booking and insufficient antenatal care increase the risk of poor outcomes for infants, particularly when the mother is very young, socially deprived, or from black and ethnic minority groups. The reasons why women book late are complex: national evidence points to a range of reasons which interact, reflecting both population and organisational factors. Finally, women with a history of mental health problems or with problem alcohol and substance use are also at increased risk of adverse outcomes for both themselves and their baby. They need additional support and careful co-ordination with other clinical services to ensure a safe and successful pregnancy, together with ongoing help and support through the postnatal and infancy period.

CASE STUDY: Lifestyle advice in pregnancy
Rachel Ambler, Consultant Midwife in Public Health, NHS Islington

At the Whittington, all women are given verbal and written advice about diet and nutrition during their first appointment, ideally before three months of their pregnancy. They also have their body mass index (BMI) calculated and recorded. The Royal College of Obstetricians and Gynaecologists (RCOG) “Green Top Guideline” (clinical best practice) recommends that women with a BMI above 30 should be referred to an obstetrician, who will assess the woman’s risk factors and prescribe her a care plan. However, owing to the high numbers of women using the service who fall into this category, the Whittington guideline recommends obstetric referral only for BMIs of over 35, unless the woman has other conditions too. These women are also referred to dieticians who prescribe higher doses of vitamins and daily aspirin to reduce the risk of blood clots. The women also have their glucose tolerance tested (test for diabetes), as obese women are more at risk of gestational or type 2 diabetes.

Maternity staff may find it difficult to advise obese pregnant women as, unlike smoking, obesity in pregnancy is often deemed acceptable both to women and society in general. Consequently, a group of Whittington midwives worked with NHS Islington during 2009 towards developing a toolkit for midwives working with obese women. The Whittington is also taking part in the Healthy Eating and Lifestyle in Pregnancy multi-centre randomised control trial, which will compare women with BMIs greater than 30 who continue with their normal pattern of care with those who are offered a programme of education and peer support. Pilot study results from Cardiff have been very encouraging.
There are no overall national estimates of the economic and social costs of infant mortality, but it is estimated that smoking in pregnancy alone costs the NHS between an extra £12 million and £23.5 million a year, with the majority of the extra cost associated with caring for low birth weight babies\(^5\). Recent NICE guidance has reiterated the health and economic benefits of behaviour change in improving outcomes in pregnancy and reducing costs, specifically with regard to smoking and weight management.

Stop Smoking interventions in pregnancy are cost-effective and result in increased average birth weight and a reduction in the proportion of low birth weight\(^6\). Brief advice as part of usual care in maternity services for women still smoking at the time of their first antenatal appointment has been shown to result in between 6%-10% stopping, which in Islington translates into between 12-20 women expected to quit, at an imputed cost of approximately £370-£616 per quit, making it one of the most cost-effective health service interventions with significant positive health and economic benefits for both mother and child. For women who need more intensive one-to-one support in pregnancy, Stop Smoking Services are available. In 2008-09, local services saw 48 referrals from maternity services (equivalent to about one in five pregnant smokers), of whom almost half (22/48) quit smoking\(^7\). It is therefore important to ensure that staff in maternity services and universal children’s services are trained to Level 1 in smoking advice, able to discuss smoking during pregnancy confidently as part of routine contact and care with women and refer where indicated.

Maternal obesity is linked to increased risk of complications in pregnancy as well as poorer longer term outcomes\(^8\). Risks include gestational diabetes (associated with subsequent increased risk of diabetes in both mother and child), complications during delivery, and increased risk of pre-eclampsia. Unchecked, the increase in obesity among women of childbearing age will increase complications in pregnancy, increasing the risk of maternal and infant morbidity or death and increasing the costs of care. Effective interventions include evidence-based behaviour change techniques used in pre-conceptual brief advice, information and support on diet and physical activity, pre-conceptually or in pregnancy, as well as community-based opportunities for recreation and weight management interventions\(^8\).

**CASE STUDY: Working for parents**

Barbara Faria, Parent Officer for Islington Working for Parents

As a Parent Officer for Islington Working for Parents my role is to work with parents living in poverty to increase their employability, ensuring that they have the confidence and the skills to be able to move into work when the time is right for them.

Much of my time is spent working with parents at two designated children’s centres but I also actively engage in outreach to encourage parents who are not using the centres to participate in the wide range of services on offer.

Some of my clients have very young children. For these parents especially, the services they can access through the Children’s Centre are extremely valuable and can have an incredibly positive impact on their lives. In addition to working with me to make positive plans for their future, I enable parents to access family support workers (who can help them with issues such as sleeping patterns and registering their children with a dentist), stay & play sessions, parenting courses, healthy eating sessions and even pregnancy yoga.

I work with parents for up to six months and during that time I address any barriers identified during their initial assessment, which are preventing the parent from improving their employability. These barriers can be multiple and might include housing problems, financial hardship, access to childcare, lack of skills or work experience and mental health issues.

I refer the parent to the relevant organisations, whilst at the same time staying in contact with them to work through other areas where they need support.
Breastfeeding is protective against infant mortality, although it accounts for a relatively small part of the estimated gap in infant mortality in London. There are significant health gains for mother and baby in the short and longer term, underlining local importance of supporting continuation of breastfeeding. There is clear economic evidence of significant health service benefits during the first year of life associated with breastfeeding, which translate into reduced health service attendances within A&E and other settings compared to non-breastfed babies (9-12).

Improving immunisation uptake protects against diseases that can kill or cause serious long term ill health. There have been significant recent improvements in immunisation coverage in Islington against some diseases, evidence points to the need to sustain these if immunisation rates are to be maintained, but MMR and booster immunisations, although much improved, remain well below ‘herd immunity’ levels.

Local action to address child poverty provides a strong opportunity to ensure all agencies work together on the broader social determinants of infant mortality. Health professionals, including in maternity and health visiting, through their universal contact and trusted status with the public, are often in a strong position to signpost and assist with actions to reduce or mitigate the effects of poverty. This should include targeted action with teenage parents, whose babies are at higher risk of infant mortality and a range of other longer term health, social and economic problems. Structured, nurse-led programmes, such as the local Family Nurse Partnership, have demonstrated long term improvements in outcomes and cost savings to public services and society (13). Ensuring the capacity and capability of children’s services to address health deprivation is a core part of action on child poverty. This is supported through local initiatives such as Islington’s Healthy Children’s Centres, which develops the ability of all agencies working together in Children’s Centres to improve health outcomes and address inequalities.

What is happening in Islington to reduce infant mortality?

Both Islington’s 2009-10 Joint Strategic Needs Assessment (JSNA) (14) and 2010 Health Inequalities Strategy (HIS) (15) made specific recommendations to reduce infant mortality. These are in line with national guidance (16) and are summarised below.

• Improving antenatal services
  Ensure standards set out in ‘Maternity Matters’ (17) are delivered, including promoting earlier booking to maternity services, access to and uptake of antenatal education, and support and advice for breastfeeding.

• Supporting healthy lifestyles
  Support healthy lifestyles, pre-conceptually and in pregnancy, including advice and support on smoking cessation, healthy balanced diets, alcohol and drug use.

• Reducing teenage pregnancy
  Ensure access to high quality sex and relationships education (SRE), contraceptive advice and services to support informed decisions about fertility, particularly for young women and young men from socially excluded communities.

• Promoting the healthy development of infants
  Promote healthy development and reduce risk of infant death through reducing exposure to smoking, high immunisation coverage, sleeping position advice, timely screening and supporting high levels of continued breastfeeding and healthy weaning.
CASE STUDY: Promoting health in early childhood
Aku Baah, Health Visitor – Team Leader, NHS Islington

A key aspect of my role is to promote health and prevent ill-health in early childhood. In line with this role, I address safety issues with parents of new babies, in particular around Sudden Unexpected Death in Infancy (SUDI), one of the causes of infant mortality in a child’s first year. Although a concern for parents, since the introduction of safety guidelines, mortality rates linked to SUDI have dropped dramatically over the years.

The three main areas in reducing the incidence of SUDI is through sleep position, preventing overheating and avoiding smoking in the baby’s environment. At the introductory home visit, I raise the topic of overheating and discuss the recommended ambient temperature range, the baby’s layers of clothing and type of bedding, and the importance of ensuring babies’ heads are left uncovered while asleep indoors. Other issues I discuss include sleep position, the protective benefits of breastfeeding and safety advice surrounding bed sharing.

Many parents and carers, at the initial home visit, are aware of the safety guidelines. Nevertheless, first-time parents in particular welcome the opportunity for a discussion. Parents of subsequent children are not always conversant with the guidelines and this might be because English is not their first language or they have not encountered the topic area in their country of origin. On the rare occasion I meet a parent who will make a decision contrary to the preventative advice, I believe as a health professional that it is important to raise awareness of SUDIs and offer parents or carers evidence-based knowledge on which they can make an informed decision.

Conclusion
Currently, the infant mortality rate in Islington is no different to London and England. Nevertheless, infant mortality needs to remain a priority in Islington because of the high levels of poverty which is a major risk factor for infant deaths and inequalities in infant deaths. NHS Islington and partners therefore, need to sustain current cost-effective activities, including the improvement of antenatal services, reductions in teenage pregnancies, and provision of lifestyle advice to expectant mothers and those who have given birth.
References
(14) NHS Islington (NHSI) and London Borough of Islington (LBI). "Joint Strategic Needs Assessment 2009/10." NHSI and LBI, 2010
(15) NHS Islington (NHSI) and London Borough of Islington (LBI). "Closing the gap: tackling health inequalities in Islington 2010-2030." NHSI and LBI, 2010
Cancer

Key Points

• Cancer is the leading cause of premature death in Islington. There were 316 deaths per year in Islington from cancer between 2006-08, of which 172 (54%) were premature and therefore, potentially preventable.

• After cardiovascular disease (CVD), cancer makes the second highest contribution to Islington’s life expectancy gap, with 41 excess deaths in the borough each year. This accounts for 21% and 24% of the male and female life expectancy gaps, respectively.

• Cancer mortality in Islington is high because of a high prevalence of risk factors for cancer development, most notably, smoking. For some cancers, there is evidence that relatively poorer survival may have a disproportionate impact on mortality in Islington, mainly due to a lack of awareness and poor uptake of cancer screening.

• Premature cancer mortality has been falling in Islington, but at a slower rate than elsewhere, so the gap in inequalities has widened by 6% between Islington and England from 1995-97 to 2006-08. Islington may also not meet the target to reduce premature cancer mortality by 20% by 2010. To date, there has been a 16% reduction in the death rate.

• Lung cancer is the leading cause of cancer death in Islington and the high numbers of lung cancer deaths (85 deaths per year) explain Islington’s high cancer death rate. In 2006-08, there were 26 “excess” lung cancer deaths in Islington each year.

• While breast and bowel cancers are common causes of premature cancer death in Islington (16 and 12 deaths per year, respectively), the numbers of deaths from these cancers were not unexpectedly high compared to the England average.

• Reducing smoking prevalence is both the most effective and cost-effective method available for having an impact on cancer mortality. Increasing awareness of other risk factors for cancer and cancer symptoms are also effective interventions, as is encouraging people to go for cancer screening.

• To reduce premature cancer mortality in the borough, NHS Islington is working with partners to prevent cancer, improve the uptake of cancer screening, and increase early detection.

Why focus on cancer mortality?

Cancer makes a substantial contribution to Islington’s life expectancy gap. It is the leading cause of premature death in Islington, with about one in every 1,000 Islington residents prematurely dying of cancer each year. Reducing smoking prevalence is fundamental to reducing premature cancer mortality in the borough, as lung cancer is the single leading cause of cancer death. Compared to England, there are an excess of 41 cancer deaths each year in the borough. Preventing these deaths would help to close the inequalities gap in life expectancy in Islington.
### Factors leading to cancer mortality in Islington

Cancer mortality in an area may be high for two reasons: either cancer itself is more common so more people die from it (high incidence), or the chances of surviving after being diagnosed with cancer are lower (poor survival). A high incidence is the result of a high prevalence of risk factors for cancer development for example, smoking, physical inactivity, and diet. On the other hand, poor survival is attributable to a problem somewhere in the cancer journey. This could include: poor uptake in screening; a delay in initial diagnosis and treatment; a delay in offering the appropriate treatment; or the patient not receiving the appropriate treatment.

#### Table 3.1 Risk factors associated with the development of cancer and cancer mortality

<table>
<thead>
<tr>
<th>Risk factor</th>
<th>What increases the risk?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age, sex and constitutional factors</strong></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>For the vast majority of cancers, incidence increases with age and cancer survival decreases with age.</td>
</tr>
<tr>
<td>Sex</td>
<td>Adjusting for women’s longer life expectancy, men are diagnosed with more cancers and have a higher mortality from cancer.</td>
</tr>
<tr>
<td>Family history</td>
<td>Genetic factors are estimated to account for between 5% and 10% of all cancers.</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>Cancer incidence varies between ethnic groups which is likely to be the result of a mixture of lifestyle and genetic factors.</td>
</tr>
<tr>
<td><strong>Local service provision and quality of local services</strong></td>
<td></td>
</tr>
<tr>
<td>Screening programmes</td>
<td>Premature mortality from cancer can be reduced through population-based cancer screening programmes for bowel, breast and cervical cancers. These programmes aim to detect early stage cancer or pre-malignant disease. Effective treatment at an earlier stage in the disease process greatly improves prognosis and reduces the risk of premature mortality from cancer.</td>
</tr>
<tr>
<td>HPV vaccination</td>
<td>Clinical trials of the HPV vaccine used in the UK (Cervarix) have shown that in adult women, between 15-25 years of age, it protects against HPV types -16 and -18 which together cause about 70% of cases of invasive cervical cancer.</td>
</tr>
<tr>
<td><strong>Clinical and behavioural risk factors</strong></td>
<td></td>
</tr>
<tr>
<td>Smoking</td>
<td>Tobacco smoking accounts for nearly a third of all cancer deaths nationally each year. Smoking causes nine in ten cases of lung cancer and is also a risk factor for other cancers including cancers of the mouth, larynx, pharynx, nose and sinuses, oesophagus, liver, pancreas, stomach, kidney, bladder, cervix and bowel, as well as one type of ovarian cancer and some types of leukaemia.</td>
</tr>
<tr>
<td>Diet</td>
<td>Diet influences the risk of many cancers, including cancers of the bowel, stomach, mouth, oesophagus and breast. Eating fewer than five portions of fruit and vegetables each day increases the risk of all types of cancer. Eating lots of red or processed meat is associated with an increased risk of bowel cancer.</td>
</tr>
<tr>
<td>Alcohol</td>
<td>Alcohol is estimated to cause about 6% of cancer deaths in the UK. Alcohol is a risk factor in cancers of the mouth, pharynx, oesophagus, larynx, breast, bowel and liver.</td>
</tr>
<tr>
<td>Inactivity</td>
<td>Low levels of physical activity can increase the risk of certain cancers including breast and bowel cancers. Physical inactivity also increases the likelihood of obesity, another risk factor for many cancers.</td>
</tr>
<tr>
<td>Obesity and overweight</td>
<td>Many types of cancer are more common in people who are overweight or obese.</td>
</tr>
<tr>
<td>Hormone exposure</td>
<td>Levels of some hormones are associated with some cancers (e.g. oestrogen and breast cancer), and reproductive factors (e.g. breastfeeding: age at menarche) and external sources (e.g. HRT: contraceptive pill) can influence these levels. Hormones may also modulate the effects of other risk factors for cancer such as obesity, inactivity, and alcohol.</td>
</tr>
<tr>
<td>Sun and UV exposure</td>
<td>Malignant melanomas are usually linked with intense exposure to sunlight or sunbeds, especially in childhood.</td>
</tr>
<tr>
<td>Virus exposure</td>
<td>Viruses can cause or are associated with some cancers (e.g. HPV and cervical cancer).</td>
</tr>
<tr>
<td><strong>Socioeconomic determinants of health</strong></td>
<td></td>
</tr>
<tr>
<td>Deprivation</td>
<td>The incidence and mortality of cancer is considerably higher in deprived groups compared with more affluent groups. A large part of this is likely to be attributable to lifestyle factors, and especially the higher smoking rates in deprived groups. The excess mortality may also be linked to later presentation/diagnosis in more deprived groups.</td>
</tr>
<tr>
<td>Environmental exposure to chemicals</td>
<td>Pollution and chemicals in the environment are estimated to account for about 3% of all cancers. Most of these cancers develop in people who work in certain industries and are exposed to high levels of chemicals in their jobs.</td>
</tr>
</tbody>
</table>

Sources: The evidence in the table above is taken from the following sources which contain further details and references:
presentation; delay in diagnosis; delay in time to definitive treatment; inappropriate or inadequate treatment or poor after-care.

A significant amount of work has already been undertaken in Islington to determine whether a high incidence or poor survival, or a mixture of both, are responsible for Islington’s high cancer mortality\(^1-3\). The conclusion of all of these investigations is that for the most part, cancer mortality is high in Islington because of a high incidence of disease as the result of a high prevalence of risk factors for cancer development. The exceptions are breast cancer, bowel cancer, melanoma, and leukaemia, for which there is some evidence that relatively poorer survival may also have an impact on mortality, mainly because of a lack of patient awareness and presentation to primary care or uptake of cancer screening, and also some missed opportunities for diagnosis in primary care\(^3\).

Islington’s major risk factor for developing cancer is smoking. Smoking remains the single largest preventable cause of death from cancer, accounting for around one third of all cancer deaths and up to 90% of lung cancer deaths in England\(^4\). It is the primary reason for the gap in healthy life expectancy between rich and poor. Unfortunately, it is difficult to accurately measure local smoking prevalence in populations and particularly between different social groups, but modelled estimates from the Health Survey for England suggest that 27% of Islington adults (aged 16+) smoke, or 45,500 people in 2010. Statistically, this is no different to the London average, but high levels of smoking-related morbidity and mortality in the borough suggests that lifetime exposure to smoke is higher among Islington residents than the London average.

Other risk factors for cancer development vary by site/type but include other lifestyle factors, environmental factors, and genetics. The key ones, including smoking, are described in table 3.1 in terms of whether or not changes to them could be realistically made in the short, medium or long term, in line with the model adopted in Islington’s Health Inequalities Strategy\(^6\). Deprivation, however, is the overarching determinant of health within the borough: Islington is the fourth most deprived area in London and eighth most deprived in England, which substantially impacts on behavioural and clinical risk factors for developing cancer but also early presentation and utilisation of services.

The Islington picture
Cancer is the leading cause of premature death in Islington and a major cause of all deaths after cardiovascular disease (CVD). There were, on average, 316 cancer deaths in Islington each year between 2006-08: 172 (54%) of these were premature and therefore potentially preventable. Compared to England, there are an excess of 41 cancer deaths in Islington each year, contributing to the borough’s life expectancy gap. Cancer mortality has decreased over time in Islington among both men and women, for all-age and premature cancer deaths (figure 3.1). There were 67 fewer cancer deaths (56 of which were premature) in Islington each year over the period 2006-08 compared to 1995-97. This was a reduction in the number of all deaths by 18%, and a reduction of 25% in the number of premature deaths.

Figure 3.1 All-age and premature mortality from cancer, directly standardised rate (DSR), Islington, London and England, 1993-95 to 2006-08
Source: ONS, 2009

![Figure 3.1](image-url)
Nationally, the Public Service Agreement (PSA) target was to reduce the premature cancer death rate by 20% between 1995-97 and 2009-11, and to close the inequalities gap in life expectancy for premature cancer by 6%. While the rate of premature cancer death in Islington remains higher than regional and national averages, there has been a reduction of 16% in premature cancer death rates to date, and the gap has increased by 6%, (table 3.2; figure 3.2). Islington is currently therefore, not on track to close the gap with England, as prescribed by the Public Service Agreement (PSA) target, but may meet the target to reduce premature mortality over time if numbers of premature cancer deaths continue to fall.

Islington was only one of three London PCTs in 2006-08 which had significantly higher cancer death rates (all ages) for both men and women. The other two PCTs were also Spearhead PCTs: Tower Hamlets and Barking & Dagenham. Over the same period, Islington also had a significantly higher rate of premature cancer mortality as did seven other London Spearhead PCTs (map 3.1). Without detailed investigation it is not clear why Islington has similar patterns in cancer death rates to these other Spearhead PCTs, but given that lung cancer is a key cause of cancer death it is most likely to be related to levels of smoking. Analysis by gender shows that this is being driven by a high rate of premature deaths among men in Islington, again highlighting the gender inequality in population health outcomes within the borough. Of cancer deaths in 2006-08, 53% (169) were in men and 47% (147) in women, while for premature deaths, 58% (99) were in men and 42% (73) in women.

### Table 3.2 Premature mortality from cancer, directly standardised rate (DSR) per 100,000 resident population, Islington, London and England, 2006-08

<table>
<thead>
<tr>
<th></th>
<th>Men DSR</th>
<th>Men 95% CI</th>
<th>Women DSR</th>
<th>Women 95% CI</th>
<th>Persons DSR</th>
<th>Persons 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lower</td>
<td>Upper</td>
<td>Lower</td>
<td>Upper</td>
<td>Lower</td>
<td>Upper</td>
</tr>
<tr>
<td>Islington</td>
<td>167.7</td>
<td>148.5</td>
<td>186.8</td>
<td>104.4</td>
<td>118.4</td>
<td>133.3</td>
</tr>
<tr>
<td>London</td>
<td>124.3</td>
<td>122.0</td>
<td>126.7</td>
<td>97.2</td>
<td>99.2</td>
<td>109.8</td>
</tr>
<tr>
<td>England</td>
<td>126.3</td>
<td>125.5</td>
<td>127.1</td>
<td>102.7</td>
<td>103.4</td>
<td>114.0</td>
</tr>
</tbody>
</table>

Source: ONS, 2009
There are some differences in premature cancer mortality rates by Islington ward (Map 3.2). Over a five-year period, Caledonian, St George’s, and St Mary’s wards all had a significantly higher number of deaths than would be expected. This equated to between three and four excess deaths in these three wards each year over the period compared to the England average.

Cancer mortality by cancer type/site

Figure 3.3 describes the cancer type causing cancer deaths in Islington and Table 3.3 describes the five major causes of premature cancer death for men and women. Most cancer deaths in Islington are from lung cancer: 85 deaths per year (2006-08) of which 44 (52%) were premature. Where specified, breast cancer is the second most common cause of premature cancer death in Islington after lung cancer, accounting for nearly one-in-ten of all premature cancer deaths in 2006-08 and one-in-five of premature cancer deaths among women. Bowel cancer is the third most common cause of death (7% of premature deaths), but is only a major cause for men and not women.

In addition to the specific causes of cancer death, there are a substantial number of Islington residents who died of cancer over the past few years who did not have the primary site of cancer that caused their death specified on their death certificate. After lung cancer and breast cancer, this is the third largest category of cancer death in Islington along with bowel cancer: 7% of all deaths from cancer. Just over two thirds of these deaths with primary site unknown were premature deaths, with half of the...
3. Cancer

Death registrations from hospitals. While the proportion of deaths with a primary site unknown is substantially higher than the proportion of cancer cases coded as primary site unknown at diagnosis (1%), it is no different to the London average. Nevertheless, such a lack of information on cause of death will result in underestimates of cancer-specific death rates, and better recording on death certificates needs to be encouraged.

In terms of the life expectancy gap between England and Islington, there are on average, an excess of 26 lung cancer deaths each year in the borough, with numbers of excess deaths from other specific cancers being much lower (three or fewer) (figure 3.4). There were eight excess deaths per year from "other" cancers, but this a mixture of very different cancers each of which alone is relatively uncommon and may also include cancers where the primary site was unknown. As mentioned above, a large number of primary site unknown cases will result in underestimates of cancer-specific deaths.

Table 3.3 Top five causes of premature cancer death by gender, Islington, 2006-08 (yearly average)

<table>
<thead>
<tr>
<th>Gender</th>
<th>Cancer Type</th>
<th>Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td>Lung</td>
<td>27</td>
<td>27%</td>
</tr>
<tr>
<td>Women</td>
<td>Lung</td>
<td>17</td>
<td>23%</td>
</tr>
<tr>
<td>Persons</td>
<td>Lung</td>
<td>44</td>
<td>26%</td>
</tr>
<tr>
<td></td>
<td>Primary site unknown</td>
<td>11</td>
<td>11%</td>
</tr>
<tr>
<td></td>
<td>Breast</td>
<td>16</td>
<td>21%</td>
</tr>
<tr>
<td></td>
<td>Primary site unknown</td>
<td>5</td>
<td>7%</td>
</tr>
<tr>
<td></td>
<td>Breast</td>
<td>16</td>
<td>9%</td>
</tr>
<tr>
<td></td>
<td>Primary site unknown</td>
<td>7</td>
<td>7%</td>
</tr>
<tr>
<td></td>
<td>Ovary</td>
<td>4</td>
<td>6%</td>
</tr>
<tr>
<td></td>
<td>Ovary</td>
<td>4</td>
<td>5%</td>
</tr>
<tr>
<td></td>
<td>Head and neck</td>
<td>6</td>
<td>5%</td>
</tr>
</tbody>
</table>

Numbers and percentages for men in this table are the same because there were 99 cases of premature cancer deaths among men.
Age at death

Examination of Islington’s age-specific rates shows that these excess deaths from cancer are occurring mostly in men aged 65-74 years and women aged 75 years and over compared to regional and national averages (figure 3.5). The excess deaths among men aged 65-74 years explain why Islington has a significantly higher premature cancer death rate compared to England, and prevention of deaths among men in this age group needs to be the focus to reduce the premature deaths from cancer in Islington.

The type of cancer causing death varies by age, mainly related to the time it takes for cancer to develop (i.e. there is a dose-response relationship between tobacco smoking and lung cancer) but also associated with length of survival with the cancer. Figure 3.6 shows that in Islington, while numbers remain relatively small, proportionately more deaths in those less than 65 years are due to breast and brain cancers compared to those over 65 years. In contrast, lung and prostate cancers cause proportionately more deaths in those aged over 65 years compared to younger people.

Examination of age at death suggests implications for cancer screening programmes in Islington. Improving the uptake of cancer screening and extending screening to include other age groups, as is ongoing, may help to reduce these deaths in the future. Breast cancer screening has historically begun at 50 years and finished at 70 years, but in 2006-08, 23% (six deaths per year) of breast cancer deaths occurred in those aged less than 50 years in Islington and 50% (13 deaths per year) in those aged over 70 years. The age range for breast cancer screening is currently being extended to include women aged 47-49 years to 71-73 years. Similarly, there are on average, four deaths per year from bowel cancer in those aged under 60 years. A further six deaths per year fell within the screening age group of 60-69, out of a total of 25 deaths. This may reflect the low uptake of bowel cancer screening in Islington (only 38% as of March 2009).
3. Cancer

Figure 3.6 Percentage of deaths from cancer by age group and cancer type, Islington, 2006-08 (yearly average)

Source: ONS, 2009

Country of birth

About half of all cancer deaths in Islington in 2006-08 were among residents who were born outside of the UK or Ireland (148 deaths per year, 84 premature), with 40% of cancer deaths in UK-born residents (124 deaths per year, 62 premature) and 15% in Irish-born residents (41 deaths per year, 24 premature). There were only small differences in place of birth by gender: 41% of male cancer deaths were among UK-born men compared to 33% for women. There was little variation by specific cancer type.

Crude death rates from cancer (all-age and premature) were significantly higher for residents born in the Republic of Ireland than for residents born in the UK, as were crude death rates for residents born in other countries (Figure 3.7). This metric, however, is only crude – it does not take into account differences in the age structure of the different populations. Islington’s Irish population for example, is likely to have an older age structure than the UK-born population on average, so more deaths would be expected leading to a higher crude rate.

Place of cancer death

In recent years (2006-08), half of cancer deaths among Islington residents have occurred in hospitals (154 deaths per year). A further 28% (90 deaths per year) of deaths were at a hospice; 18% (56 deaths per year) at home; and 4% (13 deaths per year) in residential homes or nursing homes.
Case for change
Actions to reduce excess deaths from cancer in Islington must focus on sustained and continued reductions in smoking, as it is the main cause of cancer death and the primary reason for the inequalities gap in life expectancy between rich and poor\(^6\). Focussing on smoking will reduce the number of lung cancer deaths in the borough, as well as other cancers where smoking is a risk factor, such as oesophageal cancer. Reducing smoking prevalence to fully impact on lung cancer incidence (new cases) rates\(^8\). To an extent, therefore, the cancer deaths seen in Islington in recent years are the result of longer term smoking patterns in Islington, and the full impact of current smoking cessation activities and Smokefree initiatives on lung cancer rates will be seen in the coming years.

Reducing the prevalence of other risk factors is important too, as the prevalence of many of these is increasing (e.g. obesity and alcohol intake), increasing the risk of developing cancer. Their impact on cancer incidence rates will only become apparent over the medium to long term. While people are generally aware that excess exposure to the sun, excess alcohol use, and being overweight are risk factors for cancer development, there is a lack of awareness about the role of diet and exercise\(^9\).

This all highlights the need for continued investment in prevention and also raising awareness about all cancer risk factors, if premature cancer mortality rates are to be reduced and the inequalities gap in life expectancy narrowed.

Another way that premature mortality from cancer can be reduced is through the population-based cancer screening programmes for breast, bowel and cervical cancers\(^6\). Looking at Islington’s excess mortality pattern and one-year cancer survival rates, improving the uptake of breast and bowel screening will have the greatest potential impact on narrowing the inequalities gap. At present, the levels of participation in all three cancer screening programmes by Islington residents are below national targets and well below national averages, although they are not dissimilar to other
deprived London boroughs with highly mobile populations. Estimates of cost effectiveness for screening programmes range from £3,000 per quality adjusted life year (QALY) gained for breast cancer screening\textsuperscript{(10)} to £2,600-£6,000 per QALY gained for bowel cancer screening\textsuperscript{(11)} and up to £9,000-£10,000 per QALY gained for cervical cancer screening\textsuperscript{(12)}.

A review of the evidence about what actions in primary care can promote higher levels of coverage of screening programmes and a survey of local women who had not attended breast screening found that promoting screening in general practice, collecting accurate patient contact information, and contacting patients to encourage patients to re-book their appointment at a convenient time has the potential for increasing participation in cancer screening in Islington\textsuperscript{(13)}. Extending mammography unit opening times, making re-booking of appointment times easier, digital reminders for screening appointments, and the new fixed site at the Whittington Hospital should extend choice and improve access, helping to improve breast screening coverage. Finally, uptake of cancer screening needs to be specifically promoted among groups that are less likely to engage with these services including for example, those with learning disabilities\textsuperscript{(6)}.

Using one-year survival as a proxy measure of stage of disease at presentation indicates the need to improve awareness of the early warning signs of cancer and to encourage earlier presentation in primary care to improve survival and reduce mortality rates in Islington. As mentioned previously, one-year survival rates for breast, bowel, skin cancer (melanoma) and leukaemia have been statistically lower in Islington than national survival rates. For most other cancers, survival rates at one-year were either no different from, or in pancreatic and prostate cancers slightly higher, than national averages. Screening can make an important contribution to breast and bowel cancer mortality, however, many cancer cases present symptomatically and the lower survival rates highlight the need to raise the population’s awareness of early warning signs of cancer symptoms, and to encourage people to go to their GP if they are experiencing these symptoms. Primary care, therefore, has a central role in identifying potential cancer cases and ensuring appropriate investigation and prompt referral where indicated.

CASE STUDY: The work of the primary care cancer lead
Dr Karen Sennett, GP at Killick Street Health Centre and Primary Care Cancer Lead for Islington

I’ve worked as Primary Care Cancer Lead for Islington since 2002. I work across the whole cancer pathway from prevention through to palliative care, and work with the cancer network, sector, public health colleagues, hospital cancer clinicians and local practices. Part of my role has been championing prevention and early detection of cancer.

Islington has a high mortality from cancer and in particular from lung cancer. Although we know that this is related to high smoking prevalence in Islington, very little data was available about the early part of the patient pathway.

In 2009, I led practices across the sector taking part in the national RCGP cancer audit along with the sector, primary care and prevention board. 24 out of the 38 GP practices in Islington took part. The audit reviewed all cancer diagnoses in the previous year and looked at patient notes to identify any possible delays. The audit found that 24% of Islington patients’ cancers had spread by the time of diagnosis, with this rising to 37% for lung cancer patients. The most common reason for delay was that the patient had delayed presenting to primary care. There were also some patients who presented with unusual symptoms that didn’t lead to the GP to suspect a cancer diagnosis. The GPs undertaking the audit found it a useful learning experience and a useful reminder about the importance of using the cancer two week referral pathway.

The multifaceted approach of smoking cessation, patient education and work with GPs on early referral should lead to earlier presentation and therefore decreased mortality for cancer.
Cancer treatment is an area of significant expenditure for NHS Islington. National estimates of future trends in incidence suggest that there may be an annual increase of around 1.5% per year as premature deaths from CVD continue to reduce and the population ages, resulting in more people developing cancer\(^{(14)}\). Adjusted for population need and higher local costs, Islington spent the equivalent of £6,918 per 1,000 needs-weighted population in 2008-09 on cancers and tumours, which was lower than other similar inner London PCTs (£7,797), London (£8,235) or England (£9,455)\(^{(14)}\). The expenditure figures concern treatment only and do not include expenditure on lifestyle interventions or screening programmes. Given that the evidence shows that Islington’s high cancer mortality rate is driven by a high incidence rather than low five-year survival rates, investment in prevention should be prioritised above increasing expenditure on treatments to improve life expectancy.

**What’s happening in Islington to prevent premature mortality from cancer?**
To reduce premature mortality from cancer, NHS Islington in partnership with clinicians and the North London Cancer Network (NLCN) has a systematic approach to its work programme which focuses on the whole cancer pathway as identified by the National Awareness and Early Diagnosis Initiative (NAEDI) which is part of the Cancer Reform Strategy\(^{(15)}\) (figure 3.8). The initiative aims to coordinate a programme of activity to support local interventions to raise public awareness of the signs and symptoms of early cancer and encourage people to seek help sooner.

The work programme is divided into three main components: cancer prevention, cancer screening, and early detection.

**Cancer prevention**
The primary prevention of lifestyle risk factors that cause or are associated with the development of cancer is a major focus for public health in Islington. This includes smoking, diet and physical activity. In particular, reducing smoking is a key priority for preventing premature mortality in Islington because it is the main cause of lung cancer death as well as being associated with the development of several other cancers. Activities to reduce smoking and other lifestyle risk factors within Islington are described in Islington’s Joint Strategic Needs Assessment (JSNA) and Health Inequalities Strategy\(^{(5,16)}\).

In addition, Islington has commissioned a “Sun Smart” social marketing project to raise awareness, particularly among teenagers, of the dangers of sunbeds – a key risk factor for skin cancer (melanoma). Finally, the vaccination programme to reduce transmission of human papillomavirus (HPV), the main cause of cervical cancer, is ongoing among young women aged 12-13 years, with 66%

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**Figure 3.8 The National Awareness and Early Diagnosis (NAEDI) pathway for cancer**

- Difficulty accessing primary care
- Late presentation to a GP
- Low public awareness and/or negative beliefs about cancer
- Late presentation to hospital services
- More advanced disease at diagnosis
- Poor survival rates
- Avoidable deaths

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CANCER 41
uptake reported in Islington in 2008-09. During 2009-10 a catch-up campaign is also being run, offering HPV immunisation to young women aged 12-18 years.

Cancer screening
As previously mentioned, at present, the levels of participation in cancer screening programmes among Islington residents are below national targets and national averages. In addition to low participation compared to other areas, inequalities in participation exist between social groups within Islington.

NHS Islington is working with primary care colleagues to improve the uptake of screening for breast, bowel and cervical cancers and also to better understand who is not taking up screening and why so that any gaps in service delivery can be identified and rectified. Age extensions to breast and bowel cancer screening are also being rolled out across the borough, and a new digital mammography unit has just opened at the Whittington for breast cancer screening. Further information on cancer screening in Islington can be found in the JSNA (16).

Early detection
This includes a social marketing project to encourage people to recognise the symptoms and signs of COPD and lung cancer (i.e. persistent cough) and to seek medical help from their GP. In addition, as part of a national initiative led by the Royal College of General Practitioners (RCGP), an audit of the diagnosis of new cancer cases in primary care has been undertaken across the NLCN to identify and learn from missed opportunities in the early detection of different types of cancer.

CASE STUDY: Using social marketing to increase early detection of lung cancer
Dennis Chimenya, Public Health Strategist, NHS Islington

Social marketing is the systematic application of marketing, alongside other concepts and techniques, to achieve specific behavioural goals to improve health and to reduce inequalities. There is considerable potential to improve symptom awareness and encourage early detection for COPD and lung cancer in Islington.

Studies have shown that symptom recognition and psychological factors both correlate with the time taken to present for investigation (17). In a survey testing the recall of warning signs and symptoms of cancer (18), most people recalled a ‘lump’, but there was very low recall for other symptoms including ‘cough’. The survey also found associations between recognising more warning signs with presenting early. Perceiving barriers to visiting the GP was associated with more reported delay.

In Islington, we are working with Corporate Culture to engage resident middle aged current and ex-smokers (especially those from neighbourhoods with high density social housing) to ascertain awareness levels and their barriers and issues with primary care, which impact on the likelihood of presenting early with symptoms of COPD and lung cancer. We will use the insight to develop a mix of interventions which may include community outreach, direct marketing, and primary care engagement. These interventions will be delivered from September 2010.

NHS Doncaster run a related social marketing activity (Doncaster Cough Project) which significantly increased the early detection of lung cancer in the target group of men aged over 50 in six deprived wards. Like in Doncaster, we hope we will be successful in contributing to improving life expectancy and reducing health inequalities in the local population. The project will be evaluated by February 2011.
Conclusion

Cancer is the leading cause of premature death in Islington and a high number of excess deaths from lung cancer are the main cause of the high premature cancer mortality rate compared to other London PCTs. The need for continued investment in interventions to reduce smoking prevalence within the borough cannot be emphasised enough, particularly among non-UK born communities (e.g. the Irish), to close the inequalities gap in life expectancy.

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(1) Islington Primary Care Trust. Public health report 2005: Cancer in Islington: how to save more lives. Islington Primary Care Trust, 2005
(2) North London Cancer Network (NLCN). Local Awareness and Early Diagnosis Initiative (LAEDI) analysis for NLCN. NLCN, 2010
(5) NHS Islington (NHSI) and London Borough of Islington (LBI). Closing the gap: tackling health inequalities in Islington 2010-2030. NHSI and LBI, 2010
(9) Knowles, J. Hamilton W; Knowledge of risk factors in cancer. BJGP, 2008, 58: 650-1
(10) NHSBSP. Screening for breast cancer in England: Past and Future. Advisory Committee on Breast Cancer Screening, publication no. 61
(12) Personal communication – Dr Edwina Affie and NHS Cervical Cancer Screening Programme Office, August 2008
(16) NHS Islington (NHSI) and London Borough of Islington (LBI). Joint Strategic Needs Assessment 2009/10. NHSI and LBI, 2010
(18) Power E., Public Awareness of Cancer in Britain: A Population based Survey of Adults. Cancer Research UK Health Behaviour Research Centre and University College London (undated)
Cardiovascular disease (CVD)

Key Points

- Cardiovascular disease (CVD) is the leading cause of death in Islington and second major cause of premature death after cancer. There were 379 deaths from CVD each year in Islington in 2006-08, of which 154 (41%) were premature and therefore, potentially preventable.
- CVD makes a substantial contribution to Islington’s life expectancy gap. There is an excess of 57 CVD deaths in Islington each year, accounting for 38% and 22% of the male and female life expectancy gaps, respectively.
- Lifestyle factors such as smoking, unhealthy diet, and physical inactivity, and the consequences of these: obesity, high cholesterol, high blood pressure, and diabetes, are all major risk factors for CVD.
- While premature CVD mortality has been falling in Islington, it has been falling at a slower rate than elsewhere, so Islington is not on track to reduce premature CVD mortality by 40% between 1995-97 (baseline) and 2009-11 (target), or to close the gap in inequalities by 40% compared to England. There has been a 29% reduction and the gap has increased by 15% between 1995-97 and 2006-08.
- Both Islington men and women have high rates of premature CVD mortality compared to London and England, but rates among Islington men are particularly high. This again highlights the gender inequalities in mortality in the borough.
- Cardiac disease is the cause of more than half of CVD deaths, of which most deaths are from coronary heart disease (CHD). Stroke causes a quarter of all CVD deaths, but premature deaths from heart failure contribute more to the life expectancy gap.
- Compared to similar PCTs, Islington spends less on CVD and also has poorer outcomes. A twin approach of addressing lifestyle factors in the population, particularly smoking, healthy eating and physical activity, and improving earlier detection of risk and improved diagnosis will have the greatest impact on reducing CVD mortality.
- To reduce premature mortality from CVD in the borough, NHS Islington is working to reduce the risk of developing CVD by targeting the whole population and individuals at high risk, putting in measures to increase early identification, and working to prevent further illness and death in people who have disease.
Why focus on cardiovascular disease mortality?
Cardiovascular disease (CVD) is the leading cause of death in Islington and a major cause of premature mortality in the borough. It is also one of the main contributors to the inequalities gap in life expectancy between Islington and England, with an estimated 57 excess deaths from CVD each year in Islington. This is despite population-level reductions in smoking and the widespread use of drugs to control blood pressure and cholesterol levels. CVD encompasses diseases of the heart and blood vessels and includes conditions such as coronary heart disease (CHD), stroke, heart failure, peripheral vascular disease and some other less common conditions (table 4.1).

<table>
<thead>
<tr>
<th>CVD</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiac disease</td>
<td>An umbrella term for diseases affecting the heart</td>
</tr>
<tr>
<td>Coronary heart disease</td>
<td>Heart disease resulting from poor flow in the coronary arteries. Coronary arteries are vessels which deliver blood and oxygen to the heart muscle.</td>
</tr>
<tr>
<td>Ischaemic heart disease</td>
<td>The damage to the heart muscle which occurs when there is a reduced supply of blood and oxygen.</td>
</tr>
<tr>
<td>Myocardial infarction</td>
<td>More commonly known as a heart attack. Occurs when the blood supply to the heart is blocked for a sufficient amount of time that an area of the muscle dies.</td>
</tr>
<tr>
<td>Cardiomyopathy</td>
<td>Describes a disease of the heart muscle from any cause.</td>
</tr>
<tr>
<td>Hypertensive heart disease</td>
<td>Heart disease caused by high blood pressure.</td>
</tr>
<tr>
<td>Valvular heart disease</td>
<td>When one or more of the four valves in the heart are diseased or damaged, affecting the flow of blood in the heart.</td>
</tr>
<tr>
<td>Stroke</td>
<td>Permanent damage to the brain caused by poor blood supply.</td>
</tr>
<tr>
<td>Ischaemic stroke</td>
<td>A stroke that results from a blockage in one of the vessels supplying blood to the brain. This blockage is often a blood clot or fatty deposit.</td>
</tr>
<tr>
<td>Haemorrhagic stroke</td>
<td>A stroke that results from bleeding in the brain when a blood vessel ruptures.</td>
</tr>
<tr>
<td>Heart failure</td>
<td>When the heart is unable to pump blood around the body efficiently, resulting in poor oxygen transport.</td>
</tr>
<tr>
<td>Aortic aneurysm &amp; dissection</td>
<td>The aorta is the largest artery which transports blood and oxygen around the body. An aneurysm is a balloon like swelling of the aorta which can rupture. Aortic dissection is a tear of the inner wall of the aorta into which blood can flow and this may result in rupture.</td>
</tr>
<tr>
<td>Conduction disorders &amp; arrhythmia</td>
<td>Abnormal conduction of electricity within the heart which may result in an arrhythmia. An arrhythmia is an abnormal heart rhythm.</td>
</tr>
<tr>
<td>Peripheral vascular disease</td>
<td>Disease of the vessels which supply blood to the limbs.</td>
</tr>
<tr>
<td>Pulmonary embolism</td>
<td>A blood clot in one of the arteries that supply the lungs (pulmonary arteries). This results in a lack of blood supply to, and possible death of, lung tissue.</td>
</tr>
<tr>
<td>Other</td>
<td>Includes diseases of veins, lymphatic vessels and lymph nodes, other forms of heart disease, and other disorders of the cardiovascular system.</td>
</tr>
</tbody>
</table>
4. Cardiovascular disease

Risk factors for premature CVD mortality in Islington

Lifestyle factors such as smoking, unhealthy diet, and physical inactivity, and the consequences of these: obesity, high cholesterol, high blood pressure and diabetes, are all major risk factors for CVD (table 4.2). These risk factors not only increase the likelihood of getting the disease but can also contribute to the deterioration of existing disease. Typically people have more than one risk factor, and these are not independent but are interrelated. This is particularly true for deprivation which is a mediator of many of the other risk factors.

For example, people from routine and manual worker groups are more likely to smoke or eat unhealthily compared to those from less deprived groups\(^1,2\). Lifestyle factors, linked with deprivation, explain most of the differences in premature CVD mortality in Islington compared to other areas, with deprivation being the greatest risk factor\(^3\).

An individual’s risk of vascular disease within the next ten years can be predicted using a risk scoring equation (QRisk\(^2\)), which takes into account the presence and severity of various risk factors\(^4\).

Current estimates suggest that 8% of the population aged 35-74 years who do not have existing CVD are at high risk of having a vascular event within the next 10 years; 18% a medium risk; and 74% a low risk. Identifying individuals at high risk of a vascular event and offering lifestyle advice and interventions (e.g. smoking cessation, diet and weight management) and, where appropriate, medical interventions to reduce blood pressure and cholesterol, is important to reduce premature CVD mortality in Islington.

<table>
<thead>
<tr>
<th>Risk factor</th>
<th>What increases the risk?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age, sex and constitutional factors</strong></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>Older age groups are at an increased risk of CVD.</td>
</tr>
<tr>
<td>Gender</td>
<td>Men are at greater risk than women.</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>Black and minority ethnic (BME) groups are at a higher risk of CVD than the general population due to deprivation, lifestyle and genetic factors. People of South Asian and Irish descent are at risk of CHD, whereas Black Caribbean people have a higher risk of stroke(^5).</td>
</tr>
<tr>
<td><strong>Local service provision and quality of local services</strong></td>
<td></td>
</tr>
<tr>
<td>Not being on a practice disease register</td>
<td>Early identification of those at risk of CVD, and recording on disease registers in established disease, enables interventions to reduce many risk factors, and appropriate drug therapy to reduce high cholesterol and high blood pressure.</td>
</tr>
<tr>
<td>Specialist care for emergency treatment</td>
<td>Getting to hospital quickly and receiving specialist care in a specialist treatment centre greatly improves the outcome for someone who has had a heart attack or stroke(^6,7).</td>
</tr>
<tr>
<td><strong>Clinical and behavioural risk factors</strong></td>
<td></td>
</tr>
<tr>
<td>Smoking</td>
<td>Smoking is the primary cause of heart disease(^1).</td>
</tr>
<tr>
<td>Unhealthy eating</td>
<td>Low fruit and vegetable consumption is a key risk factor in CVD. Salt and fat consumption are also important risk factors for CVD. High fat diets are particularly bad as they can raise the level of cholesterol in the blood, another risk factor for CVD(^8).</td>
</tr>
<tr>
<td>Physical inactivity</td>
<td>Regular activity is related to lower incidence of CVD and its risk factors including obesity, diabetes, and high blood pressure(^9).</td>
</tr>
<tr>
<td>Alcohol consumption</td>
<td>Drinking alcohol has been linked to increased risks of high blood pressure, stroke and CHD, though there is evidence that, for men over 40 and post-menopausal women, moderate daily alcohol intake may confer a protective effect against CHD and stroke(^10).</td>
</tr>
<tr>
<td>High cholesterol</td>
<td>High cholesterol is a risk factor for CHD and stroke.</td>
</tr>
<tr>
<td>High blood pressure</td>
<td>High blood pressure (hypertension) is a major risk factor for CHD, heart failure and stroke.</td>
</tr>
<tr>
<td>Obesity</td>
<td>Obesity leads to premature death as it causes serious chronic conditions such as diabetes, high blood pressure and high cholesterol, which are all major risk factors for CVD(^11).</td>
</tr>
<tr>
<td>Diabetes</td>
<td>Diabetes substantially increases the risk of CVD. Diabetes tends to worsen the effect of other risk factors for CVD such as dyslipidaemia (abnormal levels of blood fats), high blood pressure, smoking and obesity(^12).</td>
</tr>
<tr>
<td><strong>Socioeconomic determinants of health</strong></td>
<td></td>
</tr>
<tr>
<td>Deprivation</td>
<td>High levels of deprivation are associated with higher mortality from CVD. Deprivation is a mediator of many of the other risk factors(^13).</td>
</tr>
</tbody>
</table>

Sources:
The evidence in the table above is taken from the following sources which contain further details and references:
The Islington picture

CVD is the leading cause of death in Islington and second major cause of premature death after cancer. There were, on average, 379 CVD deaths in Islington each year between 2006-08: 154 (41%) of these were premature and potentially preventable. Compared to England, there is an excess of 57 CVD deaths in Islington each year, which substantially contribute to the borough’s life expectancy gap. Preventing these excess deaths would help to close the inequalities gap between Islington and England.

Islington’s mortality rate from CVD, both all-age and premature, has decreased over time among both men and women, although the reduction in premature mortality from CVD has slowed recently (figure 4.1). There were (on average) 208 fewer deaths (including 105 premature deaths) in Islington each year over the period 2006-08 compared to 1995-97. For all deaths this was a reduction in the number of deaths by 35%, and for the number of premature deaths, a reduction of 41%.

Nationally, the Public Service Agreement (PSA) target was to reduce the rate of premature CVD deaths by 40% between 1995-97 and 2009-11. Islington has only achieved a 29% reduction in the rate of premature CVD deaths to date, and Islington’s rate remains higher than London and England. As such, Islington is not on track to reduce the rate of premature CVD deaths or to close the gap in inequalities in premature CVD mortality with England (by a minimum of 40% as prescribed by the PSA target) (figure 4.2). The gap has increased by 15% from a baseline of 39 premature CVD deaths per 100,000 residents in 1995-97 to 45 per 100,000 in 2006-08.
Both men and women in Islington have high rates of CVD mortality (all age and premature) compared to London and England (table 4.3). There were five other Spearhead London PCTs with the same pattern in 2006-08: Tower Hamlets, Newham, Lewisham, Barking & Dagenham, and City & Hackney. It is not entirely clear why Islington has similar CVD death rates to these other Spearhead PCTs as opposed to other areas, but presumably it is related to levels of deprivation and levels of risk factors, particularly smoking, as well as the identification and management of CVD in primary care. CVD death rates are high for both Islington men and women compared to regional and national averages. Proportionately more CVD deaths, and particularly premature deaths, are in Islington men: in 2006-08, 72% (111) of premature CVD deaths were in men and 28% (43) in women, resulting in a higher death rate among men compared to women. Once again, this highlights the gender inequality in population health outcomes within the borough, with substantially more men dying young from CVD.

### Table 4.3 Premature mortality from CVD, directly standardised rates (DSR) per 100,000 resident population, by gender, Islington, London and England, 2006-08

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th></th>
<th>Women</th>
<th></th>
<th>Persons</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DSR</td>
<td>95% CI</td>
<td>DSR</td>
<td>95% CI</td>
<td>DSR</td>
<td>95% CI</td>
</tr>
<tr>
<td></td>
<td>Lower</td>
<td>Upper</td>
<td>Lower</td>
<td>Upper</td>
<td>Lower</td>
<td>Upper</td>
</tr>
<tr>
<td>Islington</td>
<td>181.2</td>
<td>161.5</td>
<td>200.9</td>
<td>64.3</td>
<td>53.2</td>
<td>75.3</td>
</tr>
<tr>
<td>London</td>
<td>114.1</td>
<td>111.9</td>
<td>116.4</td>
<td>47.7</td>
<td>46.4</td>
<td>49.1</td>
</tr>
<tr>
<td>England</td>
<td>105.1</td>
<td>104.4</td>
<td>105.9</td>
<td>46.3</td>
<td>45.8</td>
<td>46.7</td>
</tr>
</tbody>
</table>

Source: NCHDD, 2009

### Figure 4.3 Premature mortality from CVD, directly standardised rate (DSR), London PCTs, 2006-08

Source: NCHDD, 2009

Spearhead PCTs in green

London PCTs

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London England
Over a five-year period (2003-07), 12 out of 16 Islington wards had significantly higher premature death rates from CVD than would be expected (map 4.1). This equated to between two and seven excess deaths in each of these 12 wards each year over the period compared to the England average. Hillrise and Finsbury Park wards had the highest number of excess deaths (six to seven deaths per year) because these wards experienced significantly higher premature CVD death rates for women as well as men. For all other wards, premature CVD deaths in women were no different to the England average.

**Specific causes of death**
Cardiac disease is the cause of more than half of CVD deaths among Islington men and women in 2006-08, with 211 deaths per year (2006-08), of which 99 (47%) were premature (figure 4.4). Proportionately more men than women died prematurely from cardiac disease. For men and women, most of the cardiac disease deaths were due to CHD, which includes myocardial infarction and ischaemic heart disease. Despite substantial falls in mortality from CHD in Islington and elsewhere over time – attributable to the combined effects of better treatments and particularly reductions in major risk factors (e.g. smoking) — excess deaths from CHD continue to make a substantial contribution to Islington’s life expectancy gap (figure 4.5). In 2006-08, there were on average, an excess of 30 deaths from CHD in Islington each year compared to England, accounting for 18.2% of the life expectancy gap for men and 13.7% of the gap for women.
Stroke contributed to a quarter of all CVD deaths (92 deaths per year) and 17% of premature CVD deaths (26 deaths per year) among Islington residents in 2006-08. While a relatively high proportion of CVD deaths were due to stroke, it makes less of a contribution to the life expectancy gap than other causes of CVD death. This is because stroke is more common in older people, and a death in an older person contributes less years of life lost compared to a younger person. There were five excess deaths from stroke each year in Islington in 2006-08 compared to England, which contributed to 4.2% of the life expectancy gap for men and 1.7% of the female gap.

Although heart failure accounts for fewer deaths in Islington than stroke, deaths from heart failure make a greater contribution to the life expectancy gap with England. In 2006-08, heart failure accounted for 7% of all CVD deaths (27 deaths per year) and 5% of premature CVD deaths (seven deaths per year). There are also proportionately more heart failure deaths in women, but in absolute terms, more men die of heart failure, as they do for all CVD conditions. There were 12 excess deaths each year in Islington from heart failure in 2006-08, contributing to 4.9% of the male life expectancy gap in 2006-08 and 6.5% of the female one.

Other causes of CVD death included pulmonary embolism (12 deaths per year, of which seven were premature) and ruptured aortic aneurysm / aortic dissection (14 deaths per year, of which six were premature). Deaths from these other CVD causes are responsible for 10.2% of the life expectancy gap in men, or 10 excess deaths per year in Islington.

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**Screening for Abdominal Aortic Aneurysms**

The NHS Abdominal Aortic Aneurysm (AAA) Screening Programme is currently being rolled out across England with all men being invited for screening when they reach 65 years. Men over 65 years who have not previously been screened can also opt to be screened. Over 10 years it is estimated that for every 10,000 men screened under this programme, 65 AAA ruptures will be prevented, saving 52 lives. Screening is anticipated to start in Autumn 2010 in the North Central London (NCL) sector rolling out over a period of 18 months. Screening will be offered to eligible men across the sector at community locations. It is estimated that 2,700 men will be invited for screening each year across the five sector PCTs, with 96% expected to have a normal result and require no treatment or further scans. Thirty-five in every 1,000 men screened will have a small aneurysm and require surveillance at regular intervals; and only five in every 1,000 men will require referral to a vascular surgeon.

Looking at the death records for Islington, 14 deaths per year in 2006-08 were caused by aortic aneurysm / aortic dissection. Four of these deaths each year were in those under 65 years of age, two deaths each year were between 65-74 years and eight deaths each year in those aged 75 years and over.
Age at death
As would be expected, rates of CVD deaths increase with age, and 59% of CVD deaths in Islington are in those aged 75 years and above (225 deaths per year). There is an excess of deaths from CVD occurring in Islington men aged 34-74 years (as indicated by significantly higher age-specific death rates among these age groups compared to regional and national averages) which contribute to Islington’s high premature death rate among men (figure 4.6). While CVD death rates also increase with age for women, no significant differences in age-specific rates between Islington and London and England were observed in 2006-08. This may be attributable to a smaller number of deaths leading to a greater level of uncertainty around the estimates.
4. Cardiovascular disease

The specific cause of CVD death varies by age (figure 4.7). Proportionately more people aged 75 years and over died from stroke and heart failure in Islington in 2006-08 compared to those aged less than 75 years. As a result, proportionately fewer older people died from cardiac disease, and specifically, ischaemic heart disease.

Country of birth
Of the 379 deaths each year from CVD between 2006-08, on average, 154 (41%) deaths were in UK-born residents, 42 (11%) in Irish-born residents, and 178 (47%) in residents born in other countries. The crude CVD death rates for these populations are higher than for the UK-born. However, as this rate has not been adjusted (standardised) for differences in population age structures, it should be interpreted with some caution (i.e. the Irish-born population is probably older than the UK-born population and so, more deaths and a higher crude death rate would be expected).

1 For five deaths, country of birth was not recorded on the death certificate
Place of death
About 60% of CVD deaths in Islington residents occurred in hospital in 2006-08 (240 deaths per year, of which 94 were premature) (figure 4.9). A further 27% of CVD deaths occurred at home (103 deaths per year, of which 53 were premature). It is not clear, however, whether those dying at home expressed a preference for dying at home or had an unexpected vascular event. Similarly, those who died at hospital may have had a vascular event elsewhere and were taken to hospital for care. While only a small proportion of CVD deaths occur in residential or nursing homes (because the populations of these homes are relatively small), half of these deaths were from stroke in 2006-08.

CASE STUDY: Community Kitchens
Siobhán Mannion, Development Worker, Community Kitchens Project, Manor Gardens Welfare Trust

I am a Development Worker and Community Nutrition Advisor at Community Kitchens Project. The aim of Community Kitchens Project is to promote healthy eating and healthy living in Islington, make healthy food more available and create training and employment opportunities.

The Project works to reduce illnesses such as heart disease, stroke and cancers by supporting people to become healthier. As part of my work, I deliver “Cook and Taste” sessions to disadvantaged people in the local community. One of the topics we focus on is reducing fat in our diets. Most people are aware that we should be cutting down on fat in general. However, people tend to be less aware that we should try to replace saturated fat with unsaturated fat and why. We try to empower participants to make healthier food choices by teaching them to read food labels when they are shopping. In our cooking sessions, we show people how they can prepare delicious meals without adding salt, by providing tasty alternatives.

We have worked with several different groups who are at increased risk of developing CVD, including people from Asian, African Caribbean and Irish communities and people who are overweight. We assess the impact of our courses by asking participants about their dietary habits before and after the course. Preliminary analyses show that participants consume fewer savoury snacks and add less salt to their food after having attended our “Cook and Taste” courses. In this way we hope to contribute to reducing people’s risk of CVD.
Enrolling patients on general practice disease registers is an important element in reducing premature CVD mortality, as individual risks can be assessed and appropriately modified or managed. Modelled estimates for Islington show that there can be a large difference between the recorded and expected prevalence of CHD, stroke, hypertension and diabetes at general practice level, with a large number of “at-risk” patients not included on the disease registers and therefore, not benefitting from control and management of their condition in primary care (table 4.4).

Recently, an audit of premature CVD deaths was carried out by Islington GPs using a structured questionnaire. This was based on the audit questionnaire used in 2007 (3, 7). GPs reviewed whether or not patients who died prematurely from CVD and had their death registered in 2008 had been recorded on relevant disease registers; whether they had risk factors recorded in the 15 months prior to death or ever; and whether risk factors were controlled. Thirty-three out of 38 Islington general practices participated in the audit, with information provided on 95 premature CVD deaths out of a total of 107 (89%). Of the 95 premature deaths audited, 61 (57%) of the patients had been on a register for CVD or a risk factor for CVD, while 34 (43%) had not. Some patients were on more than one register (figure 4.10).

### Table 4.4 Expected and recorded prevalence of CVD in practice populations, Islington, 2010

<table>
<thead>
<tr>
<th>Condition</th>
<th>Expected prevalence</th>
<th>Recorded prevalence</th>
<th>Undiagnosed prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>High blood pressure</td>
<td>40,993</td>
<td>20.7%</td>
<td>19,855</td>
</tr>
<tr>
<td>Coronary heart disease</td>
<td>7,379</td>
<td>3.7%</td>
<td>3,977</td>
</tr>
<tr>
<td>Stroke</td>
<td>3,693</td>
<td>1.9%</td>
<td>2,346</td>
</tr>
</tbody>
</table>

### Figure 4.10 Register analysis

Source: Premature CVD death audit, Islington, 2010

- 107 premature deaths registered in 2008
- Data on 95 deaths (33 practices)
- No data on 12 deaths (5 practices)
- On any disease register: 61
  - Coronary heart disease: 30
  - Heart failure: 4
  - Diabetes: 26
  - Stroke: 11
  - Hypertension: 44
  - Atrial fibrillation: 10
  - Chronic kidney disease: 20
  - On mental health register: 8
  - On “At risk of CVD register”: 9
- Not on any disease register: 34
  - On mental health register: 3
  - On “At risk of CVD register”: 1
  - On mental health register: 1
Patients on a relevant disease register were generally older than those who were not (66.1 vs. 58.7 years). In addition, proportionately fewer men who died prematurely from CVD were on a disease register compared to women (61% vs. 70%). This may reflect men's generally lower usage of primary care health services. There were no significant differences in the ethnicity of patients who were or were not on an appropriate disease register.

Patients who were not on a disease register were less likely to have had their blood pressure or cholesterol recorded within the 15 months prior to death or ever, and they were less likely to have blood pressure and cholesterol controlled (figure 4.11). This may have contributed to their premature death as these are both key risk factors that lead to the development and exacerbation of CVD.

**Figure 4.11** Recording and control of clinical risk factors for CVD in primary care of those who died prematurely of CVD, Islington, 2008

Source: Premature CVD death audit, Islington, 2010

**a) Blood pressure**

**Not on disease register**

- Not recorded: 15%
- Recorded but not in the last 15 months: 18%
- Recorded in the last 15 months but not controlled: 15%
- Controlled in the last 15 months: 53%

**On disease register**

- Recorded in the last 15 months but not controlled: 16%
- Controlled in the last 15 months: 77%

**b) Cholesterol**

**Not on disease register**

- Not recorded: 47%
- Recorded but not in the last 15 months: 21%
- Recorded in the last 15 months but not controlled: 18%
- Controlled in the last 15 months: 15%

**On disease register**

- Recorded in the last 15 months but not controlled: 13%
- Recorded in the last 15 months: 66%
Of those audited, a higher proportion of patients on a disease register also had their smoking status and BMI recorded in the 15 months prior to death or ever compared to patients not on a disease register (figure 4.12).

There were no differences in the primary cause of death between patients who were on a disease register and those who were not. The proportion of patients on the mental health register was similar between the two groups (about 11%), and poor mental health state was cited as a potential barrier for about 5% of patients, regardless of whether or not they were on a register. Poor attendance was twice as common in the group not on a disease register (15% vs. 7%).

This premature CVD death audit clearly shows the importance of patients with CVD being on an appropriate disease register(s) for their condition. Those on the disease registers were much more likely to have their risk factors monitored and interventions offered, as well as their blood pressure and cholesterol controlled.

**Figure 4.12** Recording of lifestyle factors for CVD in primary care of those who died prematurely of CVD, Islington, 2008

Source: Premature CVD death audit, Islington, 2010

**a) Smoking**

<table>
<thead>
<tr>
<th></th>
<th>Not on disease register</th>
<th>On disease register</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not recorded</td>
<td>21%</td>
<td>Recorded ever 13%</td>
</tr>
<tr>
<td>Recorded ever</td>
<td>18%</td>
<td>Recorded in last 15 months 85%</td>
</tr>
<tr>
<td>Recorded in last 15 months</td>
<td>62%</td>
<td></td>
</tr>
</tbody>
</table>

**b) BMI**

<table>
<thead>
<tr>
<th></th>
<th>Not on disease register</th>
<th>On disease register</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not recorded</td>
<td>21%</td>
<td>Recorded ever 15%</td>
</tr>
<tr>
<td>Recorded ever</td>
<td>21%</td>
<td>Recorded in last 15 months 80%</td>
</tr>
<tr>
<td>Recorded in last 15 months</td>
<td>59%</td>
<td></td>
</tr>
</tbody>
</table>
Case for change

Applying national estimates of the societal costs of CVD suggest that CVD costs Islington about £254 million a year (£73 million in direct economic costs and £180 million in other societal costs), second only to mental health. These figures have been adjusted to take into account the social, economic and demographic characteristics of the borough, but do overlap with costs associated with smoking and obesity because these are major CVD risk factors.

Islington has a relatively low needs-weighted expenditure on CVD compared to London and national averages, although this may be partly affected by incomplete or differential financial reporting between areas and trusts. However, overall benchmarking of activity and outcomes indicates that Islington has had a relatively low spend on CVD with:

- Significantly lower levels of diagnosis of CVD conditions on primary care registers compared with other London Spearhead PCTs;
- Lower rates of planned admissions for CVD;
- Historically, significantly lower rates of Coronary Artery Bypass Grafts (CABGs) weighted to need, than London and national averages, although more recent reports indicate that this position has improved markedly.

Previous comparison of Islington’s programme budget spend with other similar London PCTs also showed an association between higher levels of per capita spend on CVD and CVD mortality rates, with Islington in the category of poorer outcome and lower spend. More recent national level analysis has examined the correlation between levels of expenditure across PCTs on a range of conditions and mortality rates, including CVD. Using a measure of ‘years of life lost’ instead of the mortality rate as the measure of health outcome, the analysis estimated the expenditure required to ‘save’ a year of life. In 2006-07, for a PCT with average health needs and expenditure, the marginal cost of a life year saved in CVD was estimated as about £9,974, or approximately £14,909 per QALY (Quality Adjusted Life Year). Overall, a 10% increase in expenditure was associated with an 11.7% reduction in death rate from CVD. Although this does not establish causation, and there are an important number of methodological issues and other factors to consider, the analysis does indicate a link between health service expenditure and mortality from CVD. Investment in lifestyle changes and primary care management is particularly beneficial in improving outcomes: the additional investment in the roll-out of NHS Health Checks across primary care should result in better identification of risks and earlier diagnosis, helping to reduce early deaths.

The latest NICE public health guidance on preventing CVD emphasises the need for local programmes to have intense, multi-component interventions, which are sustainable for a minimum of five years. These interventions need to be supported by national policies to reduce, for example, salt, saturated fats and trans-fats in foods, restricting advertising for unhealthy foods to children and marketing healthy foods, and improving product labelling.

There is evidence to support the following as cost-effective interventions to improve outcomes at a local level, and reduce events and mortality from CVD where CVD risk is high within a population: risk registers; case finding (e.g. through NHS Health Checks); control of blood pressure; use of drugs (aspirin, anti-hypertensives, statins); lifestyle advice (in particular smoking cessation, healthy eating and physical activity); and cardiac rehabilitation in community or hospital settings. Many of these cost-effective interventions form the basis of the modelling in the Department of Health’s Health Inequalities Intervention modelling as they can have an impact on CVD risk in the short term. The output from their latest model, estimating the numbers needed to treat for specific cost-effective interventions, is described further in the final chapter of this report.

Together, these cost-effective interventions support the prevention, identification and earlier diagnosis and treatment of those at greatest risk, and inform the local plans to achieve sufficient reductions in premature and all-age CVD mortality to close the health inequalities CVD trajectory between Islington and the national average in the short term, as well as in the medium and longer term.
What is happening in Islington to reduce CVD mortality?
Both Islington’s Joint Strategic Needs Assessment (JSNA) and Health Inequalities Strategy (HIS) made specific recommendations to prevent CVD and reduce premature CVD mortality. These are in line with national guidance. Here is a summary of these recommendations, with examples of how they are being taken forward in Islington.

- Risk reduction in the general population
  This comprises interventions to reduce the prevalence of CVD risk factors in the general population. Interventions include smoking cessation, increasing physical activity and healthy eating, and controlling blood pressure and cholesterol.
  Work is ongoing to embed risk factor reduction across services delivered by NHS Islington and Islington Council, as well as other partners. In addition to the behavioural and clinical risk factors mentioned above, there is a particular emphasis on tackling socioeconomic risk factors for CVD through reducing deprivation. Addressing poor mental health is also a priority as previous work has shown that there is a high prevalence of CVD among those with poor mental health.

- Primary prevention and early diagnosis
  This includes the identification and assessment of patients with established disease or at high risk of CVD with appropriate advice on smoking, diet, physical activity and appropriate medication.
  NHS Islington continues to work closely with primary care to improve the completeness and

Putting prevention first – NHS Health Checks

With roll-out beginning in 2009-10, the NHS is being asked to implement a uniform and universal vascular risk assessment and management programme called “NHS Health Checks” for people in England aged between 40 and 74 years. Nationally, the programme is expected to prevent 9,500 heart attacks and strokes each year (of which 2,000 would be fatal), prevent at least 4,000 people a year from developing diabetes, and detect at least 25,000 people a year earlier with diabetes or kidney disease.

In order to provide cost-effective care and make a real difference to the health of individuals, all PCTs are therefore being asked to ensure that they undertake a systematic and integrated approach to implementing NHS Health Checks.

NHS Islington’s approach is to target patients aged 35 to 74 whose clinical record suggests that they may be at greater risk of developing CVD, as well as residents who are not registered with a GP or who rarely use GP services. Islington has opted for a lower age limit than the national programme because of the increased risk of CVD associated with a socially deprived and ethnically diverse community.

Our primary care network is central to our programme because family doctors hold patients’ clinical records, which allows the risk of CVD to be estimated using QRISK2, a CVD risk prediction tool developed for use in the UK. Patients are invited to the general practice for a comprehensive assessment with tailored lifestyle and risk management advice and, where appropriate, offered medication. This programme was first rolled out to across general practices in 2009, with 6,800 NHS Health Checks completed by April 2010.

NHS Islington has also commissioned ten community pharmacies in areas of greatest social deprivation to offer NHS Health Checks targeted at residents who are not registered with a GP or who rarely use GP services, as well as through a range of community settings. In both pharmacy and community settings, the NHS Health Checks are undertaken by trained and accredited health care professionals using state-of-the-art computer and blood testing equipment. Both pharmacy and community elements of the programme are being introduced during 2010.
quality of CVD disease registers (hypertension, CHD, atrial fibrillation, stroke, heart failure), with the QRisk2 algorithm being rolled out across Islington general practices to identify patients at high risk of having a CVD event within the next 10 years via the NHS Health Check programme.

• **Secondary prevention**
Secondary prevention in people with established CVD centres on the management of the condition to prevent deterioration. Treatment may include medication, management of lifestyle risk factors, and surgery (e.g. a heart bypass).

Evidence has shown that health professionals in hospitals can have a lasting impact on the behaviour of patients and relatives, who are more responsive to health advice when experiencing ill-health[14]. NHS Islington therefore, supports the promotion of smoking cessation at the Whittington hospital, as well as cardiac rehabilitation services. The NCL CVD care pathway group is currently reviewing the secondary management pathways.

• **Emergencies**
Getting to hospital quickly and receiving specialist care is vital for heart attack and stroke. London has eight specialist heart attack centres and eight hyper-acute stroke units which provide specialist emergency care, supported by 24 stroke recovery units in local hospitals.

For Islington residents, The Royal Free Hospital and University College London Hospital (UCLH) are ‘heart attack centres’, providing 24/7 emergency angioplasty treatment for patients presenting with acute myocardial infarction. The Royal Free and the Heart Hospital (part of UCLH) also accept referrals from other hospitals for cardiac interventions that require specialist expertise. Both hospitals, as well as The Whittington Hospital, provide in-patient and out-patient facilities for investigation and treatment of heart problems and hospital-based secondary care cardiology services for local patients. UCLH also has a hyper-acute stroke unit to provide the immediate response to a stroke, with stroke units across London providing ongoing care once a patient is stabilised.

The case studies that follow show how these recommendations are being taken forward through partnership working across the borough.

### CASE STUDY: Cardiac rehabilitation and inactivity
Ben Harding, Active Health Instructor, Aquaterra (local leisure provider)

My role within Aquaterra’s Active Health Team is twofold: as a cardiac rehabilitation instructor, I work with patients who have established heart conditions and as a champion for physical activity, I help to spread the message of the benefits of exercise.

Aquaterra, in conjunction with NHS Islington, runs a Phase IV Cardiac Rehabilitation Service, where we receive referrals of patients suffering heart related problems. Since inactivity is a risk factor for CVD, my job is first to provide a course of structured exercise sessions for those referred and then help people to become confident enough to exercise independently once the course has finished. The aim of this is to help reduce the risk of a person suffering a further cardiac event and to increase their exercise capacity, so they can perform everyday tasks, such as climbing stairs, without symptoms like shortness of breath and angina. The exercise sessions also provide an excellent support network for those newly-referred. The opportunity to speak to people with similar medical conditions can help people come to terms with what may have been a life-changing event.

As a champion for physical activity, I give regular presentations and attend health fairs held by different organisations in the borough. Through these, I hope to raise awareness of the benefits of physical exercise, which include a reduction of the risk of developing major chronic diseases such as CVD, and to inform people of the services available in Islington which can help them to become more active.
Conclusion
Effectively addressing CVD risk is pivotal to reducing the inequalities gap in life expectancy in Islington as CVD is the second major cause of premature death. CVD death rates are particularly high among Islington men. Importantly, reducing CVD risk through cost-effective interventions can have an impact on mortality rates in the short term. For example, giving up smoking can rapidly reduce the risk of developing CVD while reducing the risk of developing lung cancer takes about five years. To improve outcomes within the borough, particularly for men in the short term, there needs to be a continued focus on the identification of high risk individuals through general practice so that their conditions can be appropriately managed and lifestyle advice given.

CASE STUDY: Cardiac rehabilitation at The Whittington Hospital
Sharon Robinson, Cardiac Rehabilitation Nurse Specialist Whittington Hospital NHS Trust

The term cardiac rehabilitation refers to coordinated, multifaceted interventions designed to optimise a cardiac patient’s physical, psychological, and social functioning, in addition to stabilising, slowing, or even reversing the progression of the underlying atherosclerotic processes (thickening of artery walls), thereby reducing morbidity and mortality. As such, cardiac rehabilitation/secondary prevention programmes provide an important and efficient venue in which to deliver effective preventive care.

At the Whittington we offer a range of programmes tailored to suit the individual needs of patients referred to us with various diagnoses of cardiac disease. Most of our referrals come directly from tertiary centres (e.g. UCLH) but we do accept referrals from GPs, practice nurses, and community cardiac nurses.

The core components of each programme are physical activity, information giving sessions and psychosocial counselling. A wide range of education sessions are delivered to help manage risk factors, including drugs and their effect on the heart, making changes to improve your health, what to do in an emergency, managing negative emotions, and planning for the future.

Each patient is risk assessed prior to commencing the programme to ensure they are safe to participate. All patients complete an audit for the National Cardiac Rehabilitation database. This audit is completed again at three months post cardiac rehabilitation and 12 months so it is easy to monitor a patient’s progression and their road to recovery.

The cardiac rehabilitation programme is delivered by a multi-disciplinary team, led by the Cardiac Rehabilitation Nurse Specialist. Other members of the team include a cardiologist, cardiac exercise specialist, physiotherapist, clinical nutritionist, psychologist and pharmacist.
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(13) NHS Islington (NHSI) and London Borough of Islington (LBI). Joint Strategic Needs Assessment 2009/10. NHSI and LBI, 2010

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Chronic obstructive pulmonary disease (COPD)

Key Points

- Chronic obstructive pulmonary disease (COPD) is a major cause of death in the borough with, on average, 58 COPD deaths per year in 2006-08. This was 13 deaths per year more than would be expected compared to the England average, contributing to Islington’s inequalities gap in life expectancy.

- The single major risk factor for COPD is smoking. Smoking rates are high in Islington, probably associated with the high levels of deprivation in the borough.

- Rates of COPD mortality in Islington are higher than London and England. While COPD mortality has been falling over time in Islington men, rates have not changed for women. Men, however, still have higher rates of COPD death than women.

- COPD poses a huge social and economic burden. This burden could be greatly reduced by improving early diagnosis and providing high quality structured treatment and care.

- Local initiatives to reduce ill-health and deaths from COPD focus on smoking cessation; on improving case finding, early diagnosis and management of COPD in primary care, and on promoting greater awareness and early presentation among the population at risk. Work to produce a comprehensive COPD local action plan is underway.

What is COPD?

COPD is a long-term condition which causes lung damage that is gradual in onset and results in progressive airflow limitation. When fully established, this lung damage is irreversible, leading to long-term disability (characterised by severe breathlessness, reduced mobility, chronic cough and repeated chest infections) and eventually death. The early symptoms can be mild and hence neglected by the individual, which means that COPD may remain undiagnosed for years and significant airflow obstruction may be present before treatment is sought.

Why focus on COPD mortality in Islington?

COPD makes a substantial contribution to Islington’s life expectancy gap. It is one of the leading causes of death in Islington, with (on average) 58 deaths per year between 2006-08. Compared to England, there is an excess of 13 COPD deaths each year in the borough. Preventing these deaths would help to close the inequalities gap in life expectancy.
Risk factors for COPD

The single most important risk factor for COPD is smoking, and most people who have COPD smoke or used to smoke. Around 80% of COPD cases are due to smoking. Maternal smoking during pregnancy is a risk factor for developing COPD later in life, as it affects development of the foetal respiratory system. Children who start smoking at an early age are also a high-risk group.

Other risk factors for COPD mortality include environmental factors, in particular daily exposure to outdoors and indoors air pollution. Second-hand tobacco smoke, for example, significantly affects the quality of life of people with severe COPD. Alpha-1-antitrypsin (an enzyme made by the liver) deficiency and occupational exposure to dust and gases are the two other known risk factors for COPD.

Table 5.1 below describes the major risk factors for COPD.

<table>
<thead>
<tr>
<th>Risk factor</th>
<th>What increases the risk?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age, sex and constitutional factors</strong></td>
<td></td>
</tr>
<tr>
<td>Genetic factors</td>
<td>Alpha-1-antitrypsin deficiency is the only genetic factor that is widely accepted to predispose both smokers and non-smokers to COPD(1).</td>
</tr>
<tr>
<td>Age</td>
<td>COPD is normally diagnosed in people aged 35 and over, with prevalence increasing with age in those with risk factors (e.g. smoking). The average age at which COPD is diagnosed in the UK is 67, usually after years of less severe symptoms(2).</td>
</tr>
<tr>
<td>Gender</td>
<td>COPD affects more men than women, but the rate of lung disease has been increasing nearly three times faster among women than men(3). This reflects the increasing prevalence of smoking in women. Women are also more susceptible to developing lung disease than men, because their lung function worsens with lesser duration of smoking or intensity of smoking than that of men(4).</td>
</tr>
<tr>
<td><strong>Local service provision and quality of local services</strong></td>
<td></td>
</tr>
<tr>
<td>Stop Smoking Services</td>
<td>The provision of Stop Smoking Services should be one of the most important components of COPD management, as stopping smoking can prevent or delay the development of COPD or reduce its progression, having a substantial effect on mortality.</td>
</tr>
<tr>
<td>Accurate and early diagnosis</td>
<td>There are large numbers of undiagnosed patients with COPD in Islington, with most COPD diagnosis taking place at the moderate or severe disease stage. Improving accurate early diagnosis enables early intervention and treatment and slows the progression of the disease.</td>
</tr>
<tr>
<td>Disease awareness and symptom recognition</td>
<td>Improving awareness and understanding of COPD and its consequencess results in more people recognising its symptoms and seeking help at an early stage of the disease, enabling early diagnosis and treatment.</td>
</tr>
<tr>
<td>Structured treatment and care</td>
<td>With the right care and treatment at the right time there is the potential to slow down or modify the progressive nature of COPD. Provision of structured care appropriate to people’s needs will have a direct impact on preventing the deteriorating course of the disease.</td>
</tr>
<tr>
<td><strong>Clinical and behavioural risk factors</strong></td>
<td></td>
</tr>
<tr>
<td>Smoking</td>
<td>Smoking is the major risk factor for COPD and the majority of those with the disease are, or used to be, heavy smokers(2). Most COPD cases can therefore be prevented through behaviour change, i.e. people taking action to minimise their risk of contracting the disease by either stopping or not starting smoking.</td>
</tr>
<tr>
<td>Respiratory infections</td>
<td>Those that have had severe lung infections as a child may have a greater chance of developing lung damage which can cause COPD(5).</td>
</tr>
<tr>
<td><strong>Socioeconomic determinants of health</strong></td>
<td></td>
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<tr>
<td>Deprivation</td>
<td>COPD is a major contributor to health inequalities. Those in the lowest social groups are up to 14 times more likely to have the disease than those from the highest(6). Deprivation and high smoking rates go hand in hand and both are associated with a high prevalence of COPD.</td>
</tr>
<tr>
<td>Occupational exposures</td>
<td>Approximately 15% of the attributable risk of COPD is estimated to arise from exposures to gases, dusts, vapours and fumes at work(7).</td>
</tr>
<tr>
<td>Air pollution</td>
<td>There is evidence that long-term exposure to environmental air pollution, including second-hand smoke, increases the risk of COPD exacerbations and may increase the risk of developing COPD(8).</td>
</tr>
</tbody>
</table>

Sources: The evidence in the table above is taken from the following sources which contain further details and references:
The Islington picture
Respiratory disease is the third most common cause of death in Islington (after cardiovascular disease (CVD) and cancer) and COPD is one of the major respiratory diseases. There were, on average, 58 deaths per year from COPD in Islington over the period 2006-08. Of these, 23 deaths (40%) were premature (in those aged under 75 years) and therefore potentially preventable. There were 13 excess COPD deaths in Islington compared to England in 2006-08. These excess deaths contribute to the inequalities gap in life expectancy between Islington and England and therefore reducing COPD deaths is important to increase overall life expectancy and tackle inequalities. In 2006-08, Islington had significantly higher mortality from COPD compared to London and England (Table 5.2). Most other London Spearhead PCTs also had significantly higher COPD mortality, with the exception of Hammersmith & Fulham and Haringey (Figure 5.1).

Table 5.2 Premature mortality from cancer, directly standardised rate (DSR) per 100,000 resident population, Islington, London and England, 2006-08
Source: NCHOD, 2009

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Figure 5.1 Mortality from COPD, directly standardised rates (DSR), London PCTs, 2006-08
Source: NCHOD, 2009
Spearhead PCTs in pink
Rates of COPD mortality have been falling over time in Islington. However, there are differences between men and women (figure 5.2). There has only been a decline in COPD mortality among Islington men, and by 2006-08, male death rates were similar to London and England. On the other hand, COPD mortality among Islington women has remained relatively stable over time. In 2006-08, death rates from COPD were significantly higher among Islington women than both the London and England averages. Despite these trends, COPD death rates remain higher among men than women, most likely reflecting differences in smoking patterns by gender. There were, on average, 30 deaths per year due to COPD among Islington men (52%) and 28 COPD deaths among Islington women (48%) in 2006-08.

Nearly two-thirds of those who die from COPD in Islington are aged 75 years and over, with over a quarter between 65 and 74 years (figure 5.3). Age-specific rates of COPD deaths for men and women in Islington aged 65-74 years are significantly higher than in London and England, indicating an excess of deaths in this age group.

Nearly three-quarters of COPD deaths in Islington occur in hospital (figure 5.4): proportionately more than for all deaths (about 60% die in hospital). This is probably because patients with severe breathing difficulties at the end of their life will require specialist medical assistance with breathing.
COPD as a contributory factor in other causes of death

Many people living with COPD have other long-term conditions which increase their risk of dying. This chapter mainly considers deaths where the original underlying cause of death is COPD. This does not necessarily capture the contribution of COPD to mortality in Islington. Here, deaths where COPD was a contributory factor and not the original underlying cause of death are examined to provide further insight to COPD mortality within the borough.

In 2006-08, there were on average, 39 deaths each year in Islington where COPD was not the original underlying cause of death but was mentioned as one of the six causes on the death certificate. This is in addition to the 58 deaths each year where COPD was the original cause, giving a total of at least 97 deaths each year in Islington which are associated with COPD. Of the deaths where COPD was a factor but not the original underlying cause, 60% were in men of all ages (23 deaths each year) and 37% were premature (14 deaths each year). The proportion of premature deaths is similar to cases where the original underlying cause of death was COPD (40%); however, proportionately more men were dying prematurely where COPD was a contributing cause (52%).

For 73% of cases where COPD was listed as a contributing factor, CVD and cancers were the original underlying cause of death. This is not surprising, considering smoking is a common risk factor for all three diseases. The original underlying cause of death in most of the cases was CVD, accounting for 16 deaths each year. Of the CVD deaths, 53% (nine deaths each year) were caused by ischaemic heart disease. An average of eight deaths each year were caused by lung cancer, 64% of the cancer deaths (figure 5.5).

Consequently, to get the full picture of COPD deaths in Islington it is important to look at deaths where COPD is not only described as the original underlying cause of death. A substantial number of people living with COPD have a number of long-term conditions, all with shared risk factors (e.g. smoking). This substantially contributes to the burden of ill-health in Islington and the life expectancy gap.

Figure 5.5 Percentage of deaths where COPD was a contributory factor, by cause of death, Islington, 2006-08

The case for change

Currently in Islington, most COPD diagnoses take place at a late stage in the disease, adversely impacting on prognosis and meaning that health service resources have been heavily concentrated on those with the worst outcomes. Diagnosed prevalence (1.2%) is significantly lower than expected prevalence in the Islington population (estimated at up to 8.3% of the adult population for England\(^1\)), indicating that there are significant numbers of undiagnosed patients. The differences in expected prevalence between the resident and registered populations are most likely due to differences in the models used, assumptions made, data sources and populations and so, estimates need to be interpreted with this in mind.

COPD is among the most costly inpatient conditions treated by the NHS. Emergency admissions for COPD in Islington, at a rate of 322 per 100,000 population in 2007-08, were more than double the England and London rates (140 and 155 per 100,000 respectively). Out of 19 conditions where need for hospitalisation is particularly responsive to management in primary care and in the community, COPD has the second highest rate of emergency admissions in Islington. Local research shows a considerable percentage of patients admitted for an acute exacerbation of COPD had not been previously diagnosed despite having severe and symptomatic disease.

The direct healthcare costs of COPD have been estimated to be between £810 million and £930 million per year nationally, with an average annual cost per COPD patient of around £1,100. This ranges from an estimated £120-
£130 per patient for the milder end of the disease to £3,000-£3,200 for the most severe disease stage\(^2\). This suggests significant potential to save or make better use of resources through early diagnoses and intervention.

The wider societal costs of COPD are also substantial, as some 25% of people with COPD are prevented from working due to the disease, accounting for an annual estimated £3.8 billion lost productivity. This figure does not include other costs, such as carer time or non-occupationally related activities, which are also thought to be significant\(^3\). The social costs of COPD include problems with restricted mobility, social isolation and associated mental health problems. Without appropriate treatment and care, many patients with COPD will eventually find themselves unable to work, will struggle to do everyday activities and be repeatedly rushed into hospital with an acute exacerbation of their condition, an event which most patients find terrifying\(^4\).

COPD is not curable but it is treatable, and can be managed to minimise its impact on health and wellbeing. Recently updated NICE guidance on COPD and the consultation document on a Strategy for Services for COPD in England set out quality standards and cost-effective models for the management of COPD\(^1,3\). Both these documents emphasise the role of smoking cessation, early diagnosis, and provision of structured treatment and care, and are important in the Islington context if care and outcomes are to be improved and costs of high levels of potentially preventable admissions reduced.

Most people with COPD are ex- or current smokers, and therefore preventing or reducing smoking is the most effective and cost-effective intervention to reduce COPD mortality. Tobacco control, therefore, both in terms of SmokeFree initiatives and helping people to stop smoking, needs to remain a key priority in order to reduce the risk of COPD in Islington. Further work to integrate smoking cessation services across all parts of the COPD care pathway needs to be undertaken, and opportunities to use smoking cessation services for COPD case finding need to be explored.

In addition, there is a need to develop a comprehensive local action plan to improve all aspects of COPD care in Islington. This plan should be based on the recommendations of the COPD National Strategy Consultation document and will need to focus on:

- Identifying people with COPD earlier in the course of the disease;
- Improving diagnosis of COPD;
- Developing structured care and treatment appropriate to people’s needs, including Stop Smoking advice and support at all stages;
- Helping people manage their condition themselves by way of structured exercise and education;
- Reducing COPD hospital admissions.

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CASE STUDY: **Supporting people to quit smoking**

George Topping, Sessional Stop Smoking Advisor, EC1

Being a Smoking Advisor is challenging in EC1, as this area has a tradition of smoking. It is also one of the poorest areas of the country, with 40% of households living on less than £13,000 per annum. In this climate, smoking cessation advisors are taking up the challenge to reach those people who can ill afford to smoke, both in terms of their finances and their health. Being ready as part of a supportive and committed team involves being ready for the time when smokers wish to quit. It’s important to maintain a non-judgemental and encouraging attitude where the client does not feel patronised. Having been an entrenched smoker myself I also find it useful to disclose this to some clients, as it can make them feel reassured that it is possible. However, it is impossible to have a one size fits all approach to smoking cessation. Being there to help them and being committed to their success is reflected by the service reaching its ambitious targets.
What is happening in Islington to reduce COPD mortality?
The COPD Strategy Group, which provides strategic direction to improve the quality of COPD care, is currently working on the development of a comprehensive COPD local action plan in collaboration with local acute trusts, primary care, and patients or their representatives. A new COPD Care Pathway is also being developed for the North Central London (NCL) Sector.

In addition, there are already several programmes of work being developed alongside which focus on improving case finding, early diagnosis and management of COPD in primary care:

- **COPD Local Enhanced Service**
  Local Enhanced Services (LES) are incentive schemes aimed at general practices with the aim of reducing gaps in essential services, delivering higher than specified standards, and helping reduce demand on secondary care.

  In Islington, a COPD LES has been developed with the aim of identifying patients in primary care with undiagnosed COPD, improving patient self-management and increasing referrals to pulmonary rehabilitation, improving the management of people with severe COPD, and ensuring appropriate use of long term oxygen therapy. The COPD LES will be launched in September 2010.

- **COPD/lung cancer social marketing campaign**
  The aim of this project is to improve symptom awareness of COPD and lung cancer among the Islington population (e.g. a chronic cough), and to address barriers to attending primary care, using social marketing methods.

- **Expert Patient Programme (EPP) for COPD patients**
  This programme is designed to improve COPD patient self-management. The programme consists of a six week self-management skills course for people living with long-term conditions. Lay tutors who are themselves living with a long-term condition deliver the course on a voluntary basis.

- **Long-term exercise pilot programme for COPD patients**
  Provided by the Whittington Hospital NHS Trust, this is a pilot programme aiming to assess whether a post-pulmonary rehabilitation long-term exercise programme sustains the

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**CASE STUDY: Using the Co-Creating Health model**
Dr Chris Cooper, GP, St John’s Way Medical Centre

Primary Care health workers are key to reducing premature deaths locally. As GPs and practice teams, we are involved every day in opportunistic health promotion through our relationship with patients and families. Providing a multidisciplinary approach, we aim to work with patients to enable them to easily access proven interventions such as immunisation, smoking cessation, screening programmes and chronic disease monitoring.

It has long been recognised that the form and language of the consultation can be fundamental to a patient’s perception of their own condition. Exploring patients’ health beliefs and priorities, and working with them over time, is paramount. This continuity of care provides a detailed understanding of patients’ concerns, their psychosocial background and their changing levels of motivation to self-manage.

At St John’s Way Medical Centre, we have undertaken training in the Co-Creating Health model of care and have promoted self-management expert patient programmes for interested patients. This has helped to consolidate many different types of existing work, such as following up patients’ self-identified goals with them, creating personal self-management plans and helping patients access cardiac or pulmonary rehabilitation programmes.
CASE STUDY: Using Pulmonary Rehabilitation to improve quality of life
Gisele Fabris, Respiratory Physiotherapist, Whittington Hospital

I work as a respiratory physiotherapist, specialised in COPD and Pulmonary Rehabilitation (PR). PR is an evidence-based and comprehensive intervention for patients with COPD. It is designed to significantly reduce breathlessness symptoms, optimise function, improve quality of life and reduce health care costs. Patients benefit from a variety of specialists in the team, including a physiotherapist, respiratory nurses, a psychologist, a dietician, smoking cessation advisors, benefit advisors and health care assistants.

It’s great to see the difference that PR can make to people’s lives. For example, one patient came to us who could only walk a short distance, had moderate exertional breathlessness, high depression, borderline anxiety and was frightened to go swimming. Following PR, he had significant improvement in his exercise capacity and quality of life (breathlessness, fatigue, emotional function and self-management), a reduction in anxiety and depression levels, and went back to swimming. He described PR as “improving me in every way.”

It’s not just patient feedback that is testament to PR’s value: studies demonstrated decreased hospital readmission and mortality among patients who received rehabilitation after an exacerbation of COPD. By improving a patient’s health status and reducing hospital admissions, we hope that PR is having an impact on life expectancy of our patients, as well as giving them a better quality of life. As one of our patients said, “Before PR I wasn’t afraid to die, I was afraid to live. After PR, I wasn’t afraid to live anymore.”

functional benefits derived from pulmonary rehabilitation, and improves quality of life for COPD patients. The programme consists of weekly sessions in a variety of local venues, run by an exercise instructor and supported by a specialist physiotherapist.

• Co-Creating Health
Clinicians in primary care are being helped to develop the skills necessary to support patient self-management.

• Smoking cessation in pulmonary rehabilitation
This initiative aims to offer specialised Stop Smoking support for smokers diagnosed with COPD under the care of the COPD service in either pulmonary rehabilitation or in community settings. A Stop Smoking Advisor will deliver smoking cessation counselling to COPD patients either in their own homes (for those who are too ill to attend the clinic) or in other community settings.

• Influenza and Pneumococcal vaccinations
Influenza can cause serious problems for people with COPD, and they are also at higher risk of contracting pneumococcal pneumonia. In Islington, in line with the national immunisation programme, two vaccines are offered to people with COPD with the aim to reduce the risk of exacerbations: a yearly ‘flu jab, given each autumn, which protects against influenza and so reduces the risk of associated chest infections, and an anti-pneumococcal vaccination, a one-off injection that provides protection against pneumococcal pneumonia.
Conclusion

Given the high smoking prevalence in Islington, it is not surprising that COPD is a key cause of death in the borough. Indeed, death statistics are likely to underestimate the impact of this disease on the inequalities gap in life expectancy as COPD often contributes to CVD deaths too as many people have more than one long term condition. Going forward, it is important that Islington’s local health services continue to fully support reductions in smoking to prevent people developing COPD. For those who have already developed COPD, there needs to be increased awareness among both the public and also health professionals about the early symptoms, and more of a focus on COPD in primary care so that people can be diagnosed earlier. This needs to be followed by the interventions to help people effectively manage their condition, including support to stop smoking and pulmonary rehabilitation.

References


Deaths from mental health-related conditions

Key Points

• In Islington, there are on average, 23 suicides, 18 alcohol-specific deaths, and nine deaths from illicit drug use each year. Even though the numbers of these deaths are relatively small, as the majority are in younger people, they make a disproportionate contribution to Islington’s life expectancy gap.

• Islington has higher levels of mental health need because of its relatively young adult population, large socioeconomic inequalities, and low levels of community cohesion and social capital. These are all risks for hazardous drinking, substance misuse, and suicide, and so addressing mental health need is a high public health priority in the borough.

• Suicide and alcohol-specific death rates in Islington are higher than in London and England. Men have higher death rates from suicide and alcohol-specific causes than women. For suicide, however, it is the rate among Islington women which is higher than the London average.

• Most Islington residents dying from alcohol-specific causes die from alcoholic liver disease, and most are men aged under 65 years.

• More men than women commit suicide in Islington, with a total of six “excess” deaths each year compared to the Islington average. Most deaths are in those less than 65 years of age.

• To decrease the number of deaths caused by conditions linked to mental health, NHS Islington is working on measures to improve general mental health and wellbeing as well as targeted interventions focussing on those with the greatest need. These include Improving Access to Psychological Therapies (IAPT), social marketing campaigns to increase awareness of alcohol, and work with London Underground to prevent suicides at tube stations in the borough.

Why focus on deaths from mental health-related conditions in Islington?

Deaths from mental health-related conditions include suicide (self-inflicted deaths), alcohol-specific deaths, and deaths from the use of illicit drugs. The prevention of these deaths is an important public health issue because they are preventable and they occur disproportionately in younger people, resulting in a greater number of years of life lost than the relatively small number of deaths each year might initially suggest.

Risk factors for deaths from mental health-related conditions in Islington

Islington has a significantly higher level of mental health need than London and England, partly due to a younger population, significant socioeconomic inequalities and lower levels of community cohesion and social capital\(^1,2\). Estimates suggest that there are more than 30,000 adults in Islington with common mental health conditions, such as depression or anxiety, and 3,000 adults on primary care registers for serious mental illness. Islington also has two prisons – Holloway and Pentonville, and both male and female inmates have significantly higher levels of mental health, alcohol and substance misuse needs compared to the general population. All of this contributes to high rates of suicide, drug-related deaths, and alcohol-specific mortality in the borough.
Suicide
Not all suicides are linked to mental health conditions, but there are very strong links. About a quarter of all suicides are among people with serious mental health conditions, such as schizophrenia or severe depression, who were known to secondary mental health services, and it is estimated that about 70% of people who die as a result of suicide had depression\(^3\). Suicide attempts may be prompted by acute psychosocial crises, and therefore may be impulsive in response to a deep distress or crisis which may be temporary. Alcohol may increase the risk – with some estimates suggesting up to two-thirds of suicides may be associated with chronic or heavy drinking\(^4\). Separation, divorce and widowhood are also risk factors, as is social isolation. There are well-established links between suicides, particularly in men, and loss of employment and economic pressures. Suicide and self harm (the latter particularly among women prisoners) are significantly increased risks in prison compared to the community. Table 6.1 summarises the key risk factors associated with suicide.

What are alcohol-specific deaths?
Alcohol-specific deaths are deaths from conditions that, by definition, are wholly attributable to alcohol consumption. This includes for example, alcoholic liver disease, toxic effects of methanol/ethyl alcohol, and accidental poisoning. On the other hand, alcohol-attributable mortality is a wider category, which includes alcohol-specific deaths, as well as deaths which are caused by alcohol in some, but not all cases (e.g. a proportion of stomach cancer deaths and unintentional injuries).

What are drug-related deaths?
Drug-related deaths include deaths where the underlying cause is poisoning, drug abuse or dependence involving controlled substances. Drug-related deaths include mental and behavioural disorders due to psychoactive substance use, accidental poisoning, intentional self-harm using drugs and poisoning where the intention is undetermined. So as not to double count the deaths reported in this chapter, suicides or deaths categorised as ‘undetermined injury’ that were caused by poisoning with controlled drugs have been included under suicides only.

What are suicides and deaths from undetermined injury?
Suicide is a self-inflicted death. This would include for example, death from poisoning, hanging, drowning and jumping from a high place. In some instances, it may not be possible for the coroner to prove intent, in which case the death is likely to be categorised as ‘undetermined injury’. In the main, these cases were probably suicides and in analysis therefore, are categorised as such.

Alcohol
Key risk factors associated with problem alcohol use include social disadvantage, living in deprivation and isolation. Social class also plays a role, with men in the manual and unskilled classes more likely to die of alcohol-related causes than those in professional classes\(^5\). For younger women, the pattern remains the same, whereas for older women it is reversed, with professionals having the highest risk of dying\(^6\). Physiological, lifestyle and social changes, such as prolonged isolation, in older populations also puts them at higher risk.
### Table 6.1 Risk factors associated with deaths from suicide and undetermined injury

<table>
<thead>
<tr>
<th>Risk factor</th>
<th>What increases the risk</th>
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<tbody>
<tr>
<td><strong>Age, sex and constitutional factors</strong></td>
<td><strong>Gender</strong> &lt;br&gt; Men are five times as likely to die by suicide as women(^1).  &lt;br&gt; <strong>Age</strong> &lt;br&gt; Younger people are more likely to die by suicide than older people. However, the rate among people over 85 rises again(^2).  &lt;br&gt; <strong>Imprisonment</strong> &lt;br&gt; People in prison are unusually susceptible to self-harm and suicide. Male prisoners are five times more likely than men in the general public to die by suicide, while the rate among young offenders is 18 times higher. The higher risk of self-harm and suicide among women prisoners suggests that women prisoners face particular risk factors. Detained asylum seekers have higher rates of self-harm and suicide compared with the UK prison population(^3).</td>
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<tr>
<td><strong>Local service provision and quality of local services</strong></td>
<td><strong>Lack of contact with mental health services</strong> &lt;br&gt; Of people in the UK who die by suicide, only about 25% were in contact with mental health services in the 12 months before the suicide, although it is generally acknowledged that most had a diagnosis of a mental disorder at the time of their death(^1).</td>
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<tr>
<td><strong>Clinical and behavioural risk factors</strong></td>
<td><strong>Substance misuse</strong> &lt;br&gt; People who have – or are recovering from – drug and alcohol problems are at a significantly greater risk of self-harm and suicide than the general population(^1).  &lt;br&gt; <strong>Mental illness</strong> &lt;br&gt; In some studies, the rate of a diagnosed mental illness of those who have killed themselves has been found to be more than 80%(^3).  &lt;br&gt; <strong>Physical ill health</strong> &lt;br&gt; There is some evidence that physical ill health is associated with self-harm, particularly that chronic or terminal physical illness increases the risk of suicide(^3).  &lt;br&gt; <strong>History of attempted suicide or self-harm</strong> &lt;br&gt; A history of attempted suicide (parasuicide) has been linked to completed suicide. Clinically untreated deliberate self-harm can lead to suicide(^3).</td>
</tr>
<tr>
<td><strong>Socioeconomic determinants of health</strong></td>
<td><strong>Deprivation, community cohesion and social capital</strong> &lt;br&gt; Relative deprivation (i.e. level of deprivation relative to others, not absolute) is a risk factor both for mental health problems in general and also for suicide. Suicide is strongly associated with social fragmentation and the breakdown of communities, characterised by neighbourhoods with high levels of private renting, single person households, unmarried persons and mobility. Suicidal behaviour, particularly deliberate self-harm, is much higher in manual occupational social groups and the unemployed and is strongly associated with socioeconomic deprivation(^2).  &lt;br&gt; <strong>Unemployment and debt</strong> &lt;br&gt; People who are unemployed are two to three times more likely to die by suicide than people in employment with unemployed men particularly at risk. People in debt and those who are homeless are particularly vulnerable(^1).</td>
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The evidence in the table above is taken from the following sources which contain further details and references:


### Substance misuse

The risk factors for substance misuse follow a similar pattern as for alcohol, with those living in deprived areas or with high levels of social disadvantage being more at risk of substance misuse. Commissioners and services report changing patterns of substance misuse, with younger adults presenting to services more likely to have mixed poly-drug and alcohol misuse problems compared to the pattern of opiate and/or crack cocaine more common among older generations. For prisoners, the initial release back into the community is a significant period of higher risk of drug overdose and drug-related death, and therefore follow-up in the community is important for released prisoners with substance misuse needs.
The Islington picture

Suicide and undetermined injury

On average, 23 people in Islington commit suicide each year, 14 men and nine women. The mortality rate among Islington men is higher than the rate for Islington women. However, Islington’s male suicide rate is similar to the London average for men whereas Islington’s female suicide rate is significantly above the London average for women. There were six excess deaths from suicide and undetermined injury each year in Islington compared to England in 2006-08, contributing to 1.7% of the life expectancy gap in men and 8.8% of the gap in women.

Islington has a significantly higher death rate from suicide and undetermined injury than London and England (table 6.2), and is one of only four London PCTs with significantly higher rates than the London averages in 2006-08 (map 6.1). The other PCTs were also spearhead PCTs and inner city boroughs: Camden, Tower Hamlets, and City & Hackney. The relatively small numbers of suicides each year makes it difficult to examine trends over time. However, standardised death rates show that the female suicide rate in Islington has remained broadly constant over time whereas for men there is evidence of a decline over recent years (figure 6.1).

In 2006-08, 39% (nine deaths per year) of deaths from suicide and undetermined injury were caused by poisoning, 26% (six deaths per year) by hanging, and 35% (eight deaths per year) from a variety of other causes (figure 6.2).

The majority of suicide and undetermined injury deaths in Islington occur among those under 65 years of age. In 2006-08, on average, there were nine deaths per year in those less than 35 years; 12 deaths per year among those aged 35-64 years and two deaths per year among those aged 65 and above. Again, because of the relatively small numbers of deaths, it is not possible to determine whether the age-specific death rates in Islington differ statistically to regional and national averages or by age group. However, across England, it is clear that the suicide rate is highest among those aged 35-64 years, followed by those aged 15-34 years, then those aged 65 and above.

Table 6.2 Mortality from suicide and undetermined injuries by gender, directly standardised rates (DSR) per 100,000 resident population, Islington, London and England, 2006-08

Source: ONS, 2009

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</tbody>
</table>

Map 6.1 Mortality from suicide and undetermined injuries, directly standardised rates (DSR), London PCTs, 2006-08

Source: NCHOD, 2009

DSR in comparison to London SHA average

- Lower than London average
- No significant difference to London average
- Higher than London average

K&C = Kensington and Chelsea

H&F = Hammersmith and Fulham

PCT boundary
A local audit has been recently conducted on Islington suicides and open verdicts that had been to inquest between July 2008 and April 2009. The audit was carried out in order to obtain more information on the circumstances surrounding the suicide to better inform suicide prevention efforts. The data were collected directly from the Coroner's office, using the officer’s completed case files.

Between July 2008 and April 2009, 14 Islington residents were recorded as having committed suicide (six people) or an open verdict (eight people). Numbers of men and women were similar, with ages ranging between 18 and 74 years and an average age of 45 years. The majority (10) were single and just over half (eight) lived alone. The location of the event was the person’s home in 11 of the 14 cases, with most dying at home.
6. Deaths from mental health-related conditions

Alcohol-specific deaths
There were, on average, 18 deaths per year from alcohol-specific causes in Islington in 2006-08. More than 90% of these (17 deaths per year) were premature (3% of all premature deaths), and most (15 deaths per year) were in people aged less than 65 years at time of death. All were potentially preventable: these deaths will have been caused by high levels of drinking over many years. Alcohol-specific deaths are extreme examples of the damage that alcohol can do, but as described in the box ‘Alcohol: the hidden damage’, moderate levels of alcohol intake also contribute to mortality (alcohol-attributable mortality) in Islington.

The numbers of alcohol-specific deaths at a local level are too small to determine whether or not there has been an increase or decrease in alcohol-specific mortality over time. However, at a national level there has been an increase in alcohol-specific death rates between 2001-03 and 2005-07 (the period for which data are available) (figure 6.3). Local hospital data do show that there has been a rise in alcohol-related admissions in Islington, and that the admission rate is amongst the highest in London. This suggests that there may be an increase in alcohol-specific deaths over time in the borough.

Alcohol: the hidden damage
Drinking above recommended maximum limits has become more common over the past two decades, particularly among younger and middle aged men and women in professional groups. It is estimated that there are more than 32,000 harmful, as well as 5,000 dependent, drinkers in Islington[7]. Although binge drinking, pressure on emergency services, and street drinkers may present the publically visible impact of excessive alcohol consumption, long-term alcohol harm (associated with exceeding the limits of 3-4 units a day for men and 2-3 units for women) may take many years to emerge. The full effects of the dramatic increase in alcohol consumption seen over the past two decades have not yet been experienced.

While evidence points to a benefit of reduced cardiovascular disease (CVD) risk at low levels of alcohol consumption (albeit at levels below the recommended safe weekly maximum), alcohol has also been shown to be causally related to over 60 different acute and chronic medical conditions, including several cancers, CVD, unintentional injuries and liver disease, among others. For many of these conditions there is a dose-response relationship (i.e. the risk increases as consumption levels increase). Most people who have alcohol-related health problems are not ‘alcoholics’, but people who have regularly been drinking more than the recommended levels for years, known as ‘increasing-risk drinkers’ and who are at increased risk of a range of conditions, for example:

- Men are 1.8 to 2.5 times as likely to get cancer of the mouth, neck and throat; women are 1.2 to 1.7 times as likely;
- Women are 1.2 times as likely to get breast cancer;
- Men are twice as likely to develop liver cirrhosis, and women 1.7 times as likely;
- Men are 1.8 times as likely to develop high blood pressure, and women 1.3 times as likely;
- Excess or heavy alcohol consumption is clearly implicated in areas of mental ill health, including depression and anxiety.
- For the older population alcohol misuse may lead to an increased likelihood of falls, incontinence, cognitive impairment, hypothermia, alcohol-related dementia and self-neglect.

In 2008, in addition to the 18 deaths per year from alcohol-specific causes (mainly chronic liver disease), there were also about 40 deaths that were attributable to alcohol[7]. These include deaths from cancers (e.g. mouth cancer), CVD and accidents where alcohol was a factor. Islington had one of the highest rates of alcohol-attribute mortality in London in 2008. Given that alcohol consumption has increased at a population-level and the consequences of alcohol misuse may not be immediate, the numbers of deaths where alcohol has been a risk factor is likely to increase in the coming years as serious health problems develop.
The majority (85%) of alcohol-specific deaths in Islington are among men (15 deaths per year in 2006-08), and Islington’s alcohol-specific death rate for men is significantly higher than the London and England averages (table 6.3). On the other hand, female alcohol-specific death rates in Islington were no different to regional and national averages in 2005-07, but this is based on small numbers of deaths.

Most (84%) alcohol-specific deaths among Islington residents in 2006-08 were due to alcoholic liver disease (15 deaths per year) (figure 6.4). While numbers are small, there are some variations in alcohol-specific mortality by place of birth: Irish-born Islington residents had significantly higher crude rates of alcohol-specific mortality than those born elsewhere.
Drug-related deaths

An audit of death certificates from the Office for National Statistics (ONS) showed that there were 35 drug-related deaths (DRDs) from illicit drug use among Islington residents reported in 2006-09, or nine on average each year. (These deaths do not include suicides and deaths categorised at ‘undetermined injury’ that were caused by poisoning with controlled drugs).

Almost all of these deaths were in men, with 91% aged between 24-49 years and 81% UK-born. In two-thirds of cases, opiates were implicated as the cause of death with a third of deaths featuring mixed drug toxicity of opiates and alcohol. Approximately equal numbers of illicit drug-related death records stated the deceased’s own home or hospital as the place of death, although it is likely where hospital is recorded the poisoning event occurred elsewhere.

The case for change

Suicide

There are enormous costs associated with every completed suicide. These are not direct costs to the NHS, police or funeral costs, but include lost productivity and the various intangible costs, including the pain and grief experienced by relatives and the lost opportunity for individuals who complete suicide the future opportunities for life experiences(8).

In Scotland, for example, it has been estimated that each completed suicide costs society about £1.5 million(9).

Despite these costs, and the focus of suicide in national policies in England, there are very few studies of the cost-effectiveness of specific suicide prevention activities(8). There is, however, an increasing body of evidence showing the cost-effectiveness and successful outcomes of other interventions to generally improve the mental health and wellbeing of the population and to reduce the stigma and discrimination associated with mental health conditions. Improvements in mental health and wellbeing of the population will in turn impact on suicide rates. Effective interventions include preventing depression and earlier identification of those at risk of developing serious mental health problems, particularly in childhood. The cost-effectiveness of these interventions supports the need for programmes such as IAPT (Improving Access to Psychological Therapies) for early intervention for people with anxiety and depression.

Suicide attempts are more likely to be fatal when highly lethal methods are used, and therefore restriction of availability and access to means is an important part of suicide prevention. Nationally, this means that restrictions in over-the-counter medicines and licensing of guns are important. Locally, this includes action at ‘hot spots’ of suicide risk, including the skilling of the workforce in these areas (e.g. at tube stations) to prevent incidents. Again, this translates into cost-savings: for example, each Person Under a Train (PUT) is estimated by London Underground to cost £151,607 including the emergency response, loss of revenue and staff sickness and counselling costs(10). To effectively target suicide hot spots, it is vital that trends and patterns where suicides are occurring and methods used are monitored, requiring ongoing audits of Coroner’s records and gathering of other intelligence.

For those who have attempted suicide, it is important that there are robust pathways to support them to prevent further attempts. Prognosis is generally good after non-fatal attempts (less than 10% of people go on to die by suicide), but the suicide risk among those who have previously attempted suicide is estimated at 50 to 100 times higher than in the general population. This clearly highlights the need for these people to be supported to prevent further attempts and possibly death. For example, those who attend A&E for deliberate self harm need to have timely and continuous care after leaving hospital in primary care and community services(11,12).

Finally, the wider determinants of health are important in influencing suicide risk(8), and particularly the economy and opportunities for employment. Given the current economic climate and the predicted rise in unemployment, it is important that there is continued investment in mental health and
CASE STUDY: Drink and fire – a dangerous combination
Andrew Rowe, London Fire Brigade

Almost one in three fatal accidental fires in Londoners’ homes have alcohol as a contributing factor, and the likelihood is that this figure is probably higher, as it can be hard post-incident to prove that someone had been drinking. Fatal fires often involve people who have a drug or alcohol dependency. Across London, statistics reveal that of the 48 fatalities recorded between April 2007 and Feb 2008, 27 victims were recorded as having an alcohol, drug or mental health problem.

Many of the common reasons for fires involving alcohol are cigarettes not put out properly, candles or unattended cooking. A person affected by alcohol is not always in a position to escape from a fire and so can often be badly injured or killed.

In Islington, we are working hard to reduce the number of fires where alcohol has been a contributing factor. We have established strong links with a variety of agencies and third sector groups providing substance and alcohol misuse/mental health support. Working in partnership we have given presentations around the dangers of mixing fire and drink/drugs to people. Most importantly, clients and agencies have referred people for home fire safety visits, our preferred method of delivery, as it allows personal advice to be given in the home of a client by a fire crew over the course of about half an hour, including the fitting of free smoke alarms as necessary.

Should you wish to contact the London Fire Brigade to explore similar partnership opportunities please e-mail me at andrew.rowe@london-fire.gov.uk.

Alcohol
While levels of alcohol consumption have fallen in many European countries, they have increased by 40% in England since 1970, with the average adult now consuming the equivalent of 120 bottles of wine per year\(^{(13)}\). At the tip of the iceberg, there are the dependent drinkers who are likely to die early from alcohol-specific causes, such as chronic liver disease, but the increased risk of ill-health and early death is associated with more moderate levels of drinking too.

In stark contrast to smoking, however, the effects of alcohol in this country are viewed as an individual problem rather than a societal one, but alcohol’s impact is as wide-ranging: from loss of productivity, increases in crime and anti-social behaviour, high utilisation of emergency services and assault on staff, as well as an impact on the individual’s health and wellbeing. Conservative estimates suggest that harm from alcohol costs individuals and families, public services and employers in Islington around £270 million each year\(^{(14,15)}\). Given its wide-ranging impacts and costs to society therefore, it is evident that tackling alcohol misuse is an important public health issue, far beyond just dependent drinking.

While the new Coalition Government has signalled that it will be taking a different approach to behaviour change, historically national strategies to reduce alcohol consumption have included advertising on the dangers of alcohol and guidance around safe drinking limits. On the supply side, there has been little regulation and restriction on the availability of alcohol. Recently, NICE has published guidance on reducing harm nationally, identifying minimum pricing for alcohol units as supported by the Chief Medical Officer\(^{(13,16)}\), giving local authorities the powers to restrict the number of licensed premises to restrict availability, and to reduce the impact of alcohol advertising on young people and children. However, these recommendations have yet to be adopted politically.

At a local level, co-ordinated partnership working (health service, police, public protection and the voluntary sector) is crucial to tackling alcohol-related problems because of its wide-ranging impact. For the health service in Islington, the burden of alcohol-harm is substantial. The borough has one of the highest emergency admissions rates for alcohol in London and the fourth highest rate of alcohol-related ambulance calls.
In terms of crime, Islington has the sixth highest levels of alcohol-related crime in London, and 86% of Islington’s residents think that drunken and rowdy behaviour is an important issue that needs to be addressed\(^{17}\).

For individuals, economic evaluations indicate that screening and brief interventions are the most cost-effective interventions in a number of different settings including primary care, criminal justice and A&E\(^{13,14}\). These comprise short, straightforward, validated screening questions to identify hazardous or harmful drinking patterns, before more dependent drinking patterns emerge. Historically, these interventions have been delivered by doctors or nurses, but there is now a move towards initial screening questions by administrative staff, such as receptionists, as well as interventions being given by police officers and other staff. For those who are already dependent drinkers, increasing the number engaged with treatment services will be important if there is to be a reduction in alcohol-specific deaths. In 2008-09, it was estimated that only 5% (527/9,884) of problem alcohol users were receiving specific treatment for alcohol abuse in Islington, so to make an impact in reducing alcohol-specific deaths, greater capacity in treatment services is needed.

**Substance misuse**

Substance misuse is associated with significant health risks including anxiety, memory or cognitive loss, accidental injury, hepatitis, HIV infection, coma and ultimately death. However, it is the wider societal impacts of drugs misuse in terms of crime and criminal justice costs, which are the greater burden on society with significantly higher costs than those to the health service. In England and Wales in 2003/04, the economic and societal costs of class A drug use was estimated at around £15.4 billion\(^{18}\).

Reducing deaths and harm from substance misuse begins with effective prevention programmes as illicit drugs use is most prevalent among vulnerable young people, including those in care, those who truant from school, young offenders and those who are homeless\(^{19}\). It is estimated that about a quarter of vulnerable young people frequently use illicit drugs, compared to 5% of young people in general. While a universal approach for all children and young people through schools and youth groups provides information on the dangers of drug use, a targeted approach with vulnerable young people (and their families) is most effective in preventing future or further harm if they have already started using drugs\(^{19}\).

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**CASE STUDY: Preventing suicides on London Underground stations**

Baljinder Heer, Public Health Strategist, NHS Islington

On average on the London Underground (LU) network there are 50 suicide attempts a year (‘person under train’ PUT). As a transport system that has over 3.5 million customer journeys a day, LU staff prevent one person under a train a day.

As well as loss of life, survivors of suicide attempts may have horrific injuries and staff, and others, who witness or are involved in follow-up may suffer long-lasting psychological distress.

In partnership with Transport for London, the British Transport Police, and the Samaritans, NHS Islington have developed a two hour training course which is being offered to station staff and British Transport Police covering Islington stations. The training will support participants to have increased awareness of mental health issues and suicide signs; learn practical ways they can help prevent suicides; have greater confidence in their skills in preventing suicides and learn where to get help for themselves and members of the public.

The training is being delivered from May to December 2010. The on-going evaluation shows that it is meeting the needs of participants, with all rating the course as good or excellent. When staff were asked “How will you make use of what you have learnt?” the responses included: “Being able to deal with situations better”; “Talking to the potential jumper is fine – don’t worry about saying the wrong thing”; and “Have more empathy for people with mental health issues”.

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\(^{18}\) Economic and Societal Costs of Drug Use in England and Wales 2003/04 (2006)\n
\(^{19}\) Deaths from Substance Misuse: A Review of Current Understanding (2008)
Effective treatment pathways, whether for young people or adults, begin with the use of screening and assessment tools – particularly, as part of routine care in criminal justice and mental health settings, and as indicated by clinical symptoms or risk in A&E, primary care and children’s services. In addition to helping people address their addiction, effective engagement in treatment reduces the risk of HIV and transmission of other bloodborne viruses, for example through needle exchanges, and helps to reduce offending behaviours among drug users.

Within Islington, there has been significant expansion of numbers of drug users in specialist treatment services. In 2008-09 an estimated 42% (1,484/3,575) of drug users were in treatment, a similar proportion to other deprived London boroughs. However, within the service there needs to be further improvement in retention of clients and better evidence of achievement of successful longer term outcomes, including long-term abstinence, through structured support for rehabilitation and reintegration into the community.

### What is happening in Islington to reduce deaths from mental health-related conditions?

Mental health is an area of significant investment for the local NHS and its partners, reflecting the high level of need in the borough. General improvements in provision for mental health and wellbeing include the local IAPT service (iCope) for anxiety and depression, and the Mental Health First Aid programme to improve understanding of mental health issues and to reduce the stigma and discrimination associated with mental health conditions. Work is ongoing to identify groups who are under-represented in these services; for IAPT this includes black and minority ethnic (BME) groups and older people. In the longer term, general improvements in mental health and wellbeing should have a positive impact on reducing the numbers of suicides, alcohol-specific deaths and deaths from illicit drug use.

### Suicide prevention

In addition to the interventions which aim to generally tackle poor mental health and wellbeing, NHS Islington has been actively working with London Underground and the British Transport Police to prevent suicides at tube stations through suicide awareness training and a coordinated poster campaign at key transport hubs promoting help-seeking behaviour. This is because at a pan-London level there is evidence of an increase in suicides on the transport network. As ‘hot spots’ and methods for committing suicide may change over time, NHS Islington, as well as Camden & Islington Mental Health Foundation Trust, will continue to undertake detailed audits and reviews of suicides.

### Alcohol

NHS Islington and partners recognise that to tackle alcohol harm a partnership approach is required, and as such a borough-wide ‘Alcohol harm reduction strategy’ has been developed. The action plan seeks to join up work between partners to help reduce the impact of alcohol harm and specifically for the NHS, the subsequent impact on the health of the population.

Work has already been completed to segment the highest risk sections of Islington’s population for alcohol harm and following on from this, the development of messages which can be used by all partners to promote behaviour change. Islington will also have a borough approach to brief intervention, rolling these out across health settings and where there is good evidence, to develop brief advice in non-health settings. Alcohol screening (using the ‘Audit’ tool) has been included in the local NHS Health Check, with a pathway to both treatment and self-help tools for early intervention. Finally to better address the needs of hazardous and harmful drinkers, the substance misuse treatment services are being reconfigured with an increased emphasis on alcohol.

Within A&E at the Whittington Hospital, a Victims of Violence project has been running for about a year to identify hot spots for violent attacks. Work is now underway to expand data collection on alcohol and violence. This can then be used in conjunction with the proposed changes in the new licensing act, in which the costs of the crime could be charged back...
to the location of the dispute. As the partnership develops the evidence-base for effective alcohol interventions will grow and more joint working will be developed.

**Substance misuse**

Islington’s Drug Treatment strategy aims to increase the number of problem drug users in effective treatment. This is being achieved in three ways: reconfiguration of the treatment system with a strong emphasis on the concept of a system rather than a collection of services working predominantly independently; a detailed needs assessment to gain a better understanding of the needs of this population; and targeted engagement of under-represented populations such as young users aged under 25, BME groups, parents, clients with mental health problems, clients coming through the criminal justice system and street populations (rough sleepers, sex workers etc).

The Safer Islington Partnership has, since 2009, increased the number of pharmacies involved in the needle exchange scheme and the number of GPs that are part of the National Enhanced Service (NES), and these remain priorities. The ethos of the strategy is on the recovery and reintegration of drug users into mainstream society. Therefore education, employment, and aftercare initiatives are essential parts of the treatment system.

**CASE STUDY: ‘How are you feeling today?’**

Paula Cooze, Senior Programme Manager Alcohol Harm & Mental Health Promotion, NHS Islington

For the past two years, NHS Islington has run a health promotion campaign to raise awareness and lessen stigma and discrimination of mental health issues, in particular anxiety and depression. As part of this, there has been a tube and bus stop poster campaign at key locations in the borough. In January 2010, the contact details of the new local IAPT (iCope) service were added to the poster. The impact was monitored, and by the end of January 2010 over half the people calling the self referral line had found out about the service from these posters. The campaign has been a success, as during January, when the posters were up, the referral rate doubled. Therefore, we will be rerunning the campaign in October 2010 to coincide with World Mental Health day and other activities in the borough.

**Conclusion**

While the numbers of deaths from mental health-related conditions are relatively small, they contribute to a disproportionate number of years of life lost because they occur in younger people than other causes of death. The higher rates of deaths from mental health-related conditions in Islington highlight the importance of continuing to invest in initiatives that improve the general mental health and wellbeing of the population: these deaths only represent the extreme problems caused by poor mental health. Sustained investment in mental health promotion will be particularly important during the difficult economic times ahead.
References
1. Mental Health Foundation. Mental Health Foundation. Briefing No. 1 – Suicide and Deliberate Self-Harm. Mental Health Foundation, 1997
4. NHS Islington (NHSI) and London Borough of Islington (LBI). Closing the gap: tackling health inequalities in Islington 2010-2030. NHSI and LBI, 2010
Excess Winter Deaths

Key Points

- There were 56 excess winter deaths (EWD) per year in Islington between August 2003 and July 2008; 15% more deaths in the winter than the summer.
- Factors contributing to EWD are multifactoral and the complex relationship between cold weather, indoor/outdoor temperatures, and individual health status and health behaviour means that there is no clear causal pathway for excess winter mortality. Generally it is the vulnerable elderly who are at risk, regardless of their social background, particularly those living in fuel poverty and with long term conditions.
- Three-quarters of excess winter deaths (43 EWD per year) occurred among those aged 75 years and over. More women die in the winter from EWD in Islington than men, but this is probably explained by a larger number of elderly women in the borough.
- Islington has similar rates of excess winter mortality to London and England. The main causes of excess winter deaths locally are cardiovascular disease (CVD) (51%) and respiratory disease (21%) in Islington. This is no different to the national picture.
- To reduce excess winter deaths, interventions need to be multifaceted and engage a wide range of partners. In Islington, the Seasonal Health and Affordable Warmth Steering group has been established to work collaboratively to share understanding of current activity, scope opportunities for future joint working, and identify gaps in intervention provision.

What are excess winter deaths?

Excess winter deaths are defined by the Office of National Statistics (ONS) as the difference between the numbers of deaths during the four winter months (December – March) and the average number of deaths during the preceding four months (August – November) and the following four months (April – July).

In this chapter, five years’ worth of data were used to look at what happened in terms of excess winter mortality in the winters of 2003-04 to 2007-08 (August 2003 – July 2008) in Islington. This is because in statistical terms, the number of excess deaths each winter at a borough level is small and aggregating several years’ worth of data allows a more robust description of who is dying, why they are dying, and where they are dying.

Why focus on excess winter mortality in Islington?

England experiences large numbers of excess winter deaths (EWD) each year, mainly of the elderly[1]. These levels of excess death are not experienced by other Northern European countries, despite their more extreme winter climates, suggesting that a large number of these deaths could be prevented[2,3]. By focussing on EWD and interventions that will impact on the wider determinants of health (such as fuel poverty and income maximisation), there is potential to achieve public health benefits for the vulnerable elderly, including affordable warmth and a reduction in associated morbidity and mortality.

Fuel poverty

Fuel poverty is defined as: ‘A household is in fuel poverty if, in order to maintain a satisfactory heating regime, it needs to spend more than 10% of its income on all fuel use including heating its home to an adequate standard of warmth’[8].
Factors leading to excess winter deaths

The interplay between the various determinants that contribute to excess winter death is complex and there is no clear causal pathway for excess winter mortality. It remains uncertain whether the effect of cold weather on mortality is direct or mediated through other factors. There is a complex relationship between cold weather, indoor temperatures, and individual behaviour/health conditions.

It is accepted, however, that cold winter temperatures (outdoor and indoor) are important determinants in EWD\(^6\). As well as many people experiencing cold indoor temperatures in their homes that can affect their health, evidence has confirmed that in the UK when the elderly go outside, they are less likely to wear warm clothing and are less active, thus exposing themselves to the harsh effects of low outside temperatures\(^5\). Excess winter mortality is not linked to air temperatures in isolation. While enabling people to afford to keep a warm home and reminding them to keep warm outside is clearly a key intervention for risk reduction, fuel poverty relief alone and keeping warm are insufficient to alleviate the full range of risks associated with EWD.

The risk of EWD varies little with socioeconomic status\(^6\). Elderly people in particular can be vulnerable regardless of their social background. However, excess winter mortality is correlated with poorly heated housing and low household income is a determinant of low indoor temperature. The Spearhead group of local authorities are likely by definition to have more households with the necessary preconditions that may lead to excess deaths (i.e. poverty, fuel poverty and poor housing stock)\(^7\).

**Table 7.1** summarises the risk factors associated with EWD.

<table>
<thead>
<tr>
<th>Risk factor</th>
<th>What increases the risk?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age, sex and constitutional factors</strong></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>Excess winter deaths are most commonly seen in those aged 65 years and over(^1). Excess winter deaths especially affect those aged 85 and over(^2).</td>
</tr>
<tr>
<td>Sex</td>
<td>Elderly women are more susceptible than men(^3).</td>
</tr>
<tr>
<td><strong>Local service provision and quality of local services</strong></td>
<td></td>
</tr>
<tr>
<td>Pre-seasonal vaccination</td>
<td>About 5% of excess winter deaths are caused by influenza(^6).</td>
</tr>
<tr>
<td><strong>Clinical and behavioural risk factors</strong></td>
<td></td>
</tr>
<tr>
<td>Exposure to cold</td>
<td>Both exposure to cold indoors and outdoors are risk factors for excess winter deaths. Indoor exposure is linked to inadequate heating. The effect of outdoor exposure is harder to measure but it is thought to play an important part in determining an individual’s risk. This can be through variations in behaviour such as the likelihood of leaving the house during a cold spell (thought to be lower and therefore a lower risk in elderly populations), through to not dressing to protect against the cold (thought to be more of a problem in young people)(^6). Colder countries actually have lower increases in mortality rates in winter and this is thought to be because people protect themselves better against the cold in these countries(^4).</td>
</tr>
<tr>
<td>History of respiratory illness</td>
<td>There is a demonstrable link between history of respiratory disease and increased vulnerability to winter death(^6).</td>
</tr>
<tr>
<td><strong>Socioeconomic determinants of health</strong></td>
<td></td>
</tr>
<tr>
<td>Housing</td>
<td>The risk of excess winter death has been shown to vary little with socioeconomic group in studies. However, excess winter mortality is correlated with poorly heated housing and low household income is a determinant of low indoor temperature. Social housing residents are generally less vulnerable because the housing stock is usually fairly new and easy to heat(^4). These factors could account for the apparent lack of a relationship between excess winter deaths and deprivation.</td>
</tr>
</tbody>
</table>

Sources: The evidence in the table above is taken from the following sources which contain further details and references:

7. Excess Winter Deaths

Generally speaking, EWD are more likely in:

- Vulnerable elderly (particularly those living alone or in care homes);
- Vulnerable elderly with chronic disease, particularly cardiovascular and respiratory conditions and those with co-morbidities (individuals who may have a range of conditions, for example, diabetes, high blood pressure, and asthma);
- Those living in poor housing stock (generally older dwellings, damp, energy inefficient);
- Those experiencing fuel poverty and poverty;
- Those with an inability to adapt behaviour to suit weather conditions (e.g. lack of ability or awareness of the need for additional clothing or to turn up the thermostat to keep warm, which may include individuals with learning disabilities or other disabilities).

The Islington picture

There were on average 56 EWD per year in Islington between August 2003 and July 2008. This equated to 15% more deaths in the winter months than the summer months. When local data becomes available, EWD are expected to have increased for the winters of 2008-09 and 2009-10 because they were particularly harsh. In England, there was a 47% increase in EWD between 2007-08 and 2008-09. Typically, the excess winter mortality (EWM) index for Islington is similar to regional and national averages (figure 7.1).

Specific causes of death

In Islington, the main causes of EWD were cardiovascular disease (CVD) and respiratory disease between August 2003 and July 2008 (figure 7.2), fitting with the national picture. Over the period, CVD accounted for 51% of EWD per year and respiratory disease for 21% of EWD per year: 23% and 27% higher than in the summer months, respectively. While cancer is a major cause of death in Islington, cancer mortality does not seem to be affected by seasonality with deaths from cancer only 2% higher than expected. The ‘other’ category accounted for 20% but this was a very homogenous group of deaths, made up of over 20 causes.

By gender and age

More women die in the winter in Islington than men, but this is probably just because there are more elderly women in the borough as women live longer than men. In Islington, between August 2003 and July 2008, women accounted for 59% (33 EWD per year) of all excess winter mortality compared to 41% for men (23 EWD per year).

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Excess winter mortality index

The current ONS standard method defines the winter period as December to March, and compares the number of deaths that occurred in this winter period with the average number of deaths occurring in the preceding August to November and the following April to July:

\[
EWM = \text{winter deaths} - \text{average non-winter deaths}
\]

The EWM index is calculated so that comparisons can be made between genders, age groups and regions, and is calculated as the number of excess winter deaths divided by the average non-winter deaths, expressed as a percentage:

\[
\text{EWM index} = \left( \frac{EWM}{\text{average non-winter deaths}} \right) \times 100
\]

Figure 7.1  Excess winter mortality index, London local authorities compared to London and England averages, 2006-08
Source: APHO, 2010

London local authorities

London
England

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Figure 7.2  Excess winter mortality, London local authorities compared to London and England averages, 2006-08
Source: APHO, 2010

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The elderly are at higher risk of EWD in Islington and nationally. In Islington the number of deaths was 23% higher among those aged 75 years and over in the winter months compared to the summer between August 2003 and July 2008, and 77% (43 EWD per year) of EWD occurred among this age group. There were differences in excess winter mortality by gender and age group over the period (figure 7.3). For women, 88% (29 EWD per year) of excess winter mortality occurred in those aged 75 years and over, and this age group was at significantly higher risk of having excess winter mortality (+28%). On the other hand, Islington men aged 85 years and over had a significantly higher risk of excess winter deaths (+28%), but a reasonable number of winter deaths are occurring across all male age groups, reflecting the high mortality rate among men from middle age onwards in Islington. Of the 23 EWD among men each year, 35% (eight EWD per year) were among those aged 85 years and above; 26% (six EWD per year) in those aged 75-84 years; and 39% (nine EWD per year) in those aged less than 75 years.

There is some variation in EWD by cause of death and age in Islington (figure 7.4). For residents aged over 65 years, CVD was the main cause of excess mortality, and particularly so for those aged 65-74 years. In the 75-84 year age group, there was also a high proportion of EWD from respiratory disease.
Place of death
Over the period August 2003 to July 2008, 61% (34 EWD per year) of EWD in Islington occurred in hospital. A further 28% (16 EWD per year) of EWD occurred at home and 11% (six EWD per year) in residential or nursing homes. The index of excess winter mortality shows that the numbers of deaths occurring in the winter in residential or nursing homes and at home are significantly higher than in the summer months. This most likely reflects the vulnerability of residential or nursing home populations as well as elderly people who are living on their own in fuel poverty and/or poor housing.

The case for change
The evidence base relating to excess winter deaths is not well developed presently and there is no clear causal pathway for excess winter mortality. There are also no national estimates of the economic and social costs associated with excess winter mortality. Within this context, NHS Islington has developed a programme of action that seeks to address the potential causal factors related to EWD. It will be challenging to show the direct effects of the programme interventions in terms of reducing EWD; however, the interventions that will be used will do no harm, are social goods in their own right and will also bring other public health benefits such as improvements to health.

What is happening in Islington to reduce excess winter deaths?
A significant amount of work has already been undertaken in Islington to reduce EWD. Islington Council has undertaken extensive work in the area of income maximisation, fuel poverty and affordable warmth, specifically targeting vulnerable households. The local NHS has also undertaken targeted work with vulnerable communities, including falls prevention programmes, and the provision and targeted promotion of annual seasonal influenza and pneumococcal vaccination.

There is an opportunity now to pull together across the health, social, local authority and voluntary sectors to ensure a coordinated, systematic and scaled up response. An Islington Seasonal Health and Affordable Warmth steering group has been established to ensure that there are strong arrangements in place for joint working. The overall aim of this partnership approach is to support and improve the health, well-being and resilience of those who may be vulnerable when dealing with the extremes of cold. The key priorities of the group will be to develop a programme of activity based on the Department of Health ‘Health Inequalities National Support Team’ (HINST) planning model for EWD. This will be supported by using local data on EWD to help target those likely to be potentially at risk of EWD, and the systematic evaluation of the effectiveness of interventions.

The HINST team has produced nine interventions that are being used locally to inform a strategic and operational action plan:

- Identify vulnerable people for targeted interventions
If prevention is the key to reducing deaths, a priority must be to get interventions to those individuals in need by firstly developing a register of the most vulnerable, particularly older people living in Islington.
Experience in other areas suggests that developing and maintaining a register of the most vulnerable is too complex and resource intensive\(^7\). A more viable option would be to establish a register of a ‘list of lists’ of the most vulnerable people drawn from complex caseloads of professionals (e.g. community nurses, social workers).

- **Affordable warmth, including energy efficiency, household income and fuel cost**
  A number of frontline health and social care staff have been trained in the identification of fuel poverty and the affordable warmth referral process. This work will be expanded to ensure that all vulnerable people are assessed and referred for affordable warmth interventions where appropriate, and efforts targeted to those in energy inefficient properties.

- **Regular review of benefits entitlement and uptake**
  Continued work to ensure vulnerable residents are offered regular benefit reviews (e.g. access to Winter Fuel Payments, Energy Rebate Scheme), including training to ensure health and social care workers identify and refer individuals to advice agencies appropriately. Advice agencies in Islington should take a common approach to fuel debt and a common approach and methodology should be developed in partnership with the Islington Seasonal Health and Affordable Warmth steering group.

**CASE STUDY: The community ‘flu jabs campaign**
Ashley Luchmun, District Nursing Team Manager, Goodinge Health Centre

The district nursing services play an important role in the ‘flu vaccination campaigns for the housebound and elderly population in Islington. The ‘flu vaccination campaign usually starts at the end of September and beginning of October of each year. This usually depends how soon the vaccine is available. As soon as it’s available the campaign starts.

District nursing services have a number of patients on their caseloads which they visit on a regular basis for nursing needs. During the ‘flu season, all those patients are advised to have their ‘flu vaccines. The elderly population is usually well-informed about ‘flu vaccination and ask for the ‘flu jabs every year. However, there are patients who need to be informed about the risks of ‘flu and how the vaccination can prevent infection. The leaflets printed by the Department of Health are usually very helpful and during the swine ‘flu campaign, most GP surgeries had a ‘flu helpline which patients could access.

In addition to the usual caseload, GP surgeries identify housebound patients on their list and pass these details over to district nursing services. District nursing services also identify patients in the “at risk” groups (e.g. immuno-compromised patients). Patients with long term conditions and in residential homes are targeted as a first line. The service co-ordinate a special ‘flu team of nurses dedicated to the ‘flu vaccination campaign. This enables the vaccination campaign to be completed as soon as possible and ensures the most at risk patients have their ‘flu jabs as soon as possible before the winter.

**Pneumococcal vaccine and annual influenza vaccine**

There have been local schemes in general practices and through community nursing services to increase the uptake of vaccination with vulnerable residents, including those in nursing and residential homes. There is a need to better understand the barriers and reasons why some of the vulnerable elderly do not take advantage of the annual seasonal ‘flu vaccine programmes. During 2010-11, NHS Islington will be working with local general practices who are currently not meeting the national uptake target to develop action plans to increase uptake rates to the target 70%.
7. Excess Winter Deaths

- **Annual medication review, annual medicines utilisation review and follow up**
  NHS Islington’s Medicines Management team are currently developing ways to conduct these reviews with vulnerable people.

- **Personal brief intervention plans**
  Scoping work is currently underway using a predictive risk modelling tool using A&E hospital admissions and general practice data to identify individuals with the most complex medical and social needs. The data will help inform the development of a virtual ward model of care, which will support the most vulnerable in the community setting. Part of the programme of care will include personal brief intervention plans, such as smoking cessation, benefits and affordable warmth advice.

- **Falls prevention**
  Frontline staff involved in falls prevention work, such as physiotherapists and occupational therapists should receive training about the EWD initiatives, be supported to undertake rapid assessments and make referrals into support services (e.g. Affordable Warmth and benefits advice as appropriate).

- **Using assistive technologies**
  There is an opportunity to further increase awareness and referrals into this valuable service with those health and social care professionals who may manage caseloads of vulnerable people.

- **Personal crisis contingency plans**
  The Islington Seasonal Health and Affordable Warmth steering group will review a severe weather alert system and will develop an action plan outlining how during particularly cold periods those vulnerable individuals can be appropriately supported and by whom.

**Virtual ward**

A virtual ward is a system for providing support in the community to people with the most complex medical and social needs. Virtual wards use the systems and staffing of a hospital ward, but without the physical building. The aim is to provide preventative care for people in their own homes to reduce morbidity and mortality.

**CASE STUDY: Maximising the income of vulnerable people**

Eileen Broderick, Team Leader, Income Maximisation Team

The work of the Income Maximisation Team is to make local people better off by helping them claim their full entitlement to benefits. We receive referrals from all Islington Council services, partners such as NHS Islington, voluntary organisations and residents who can self-refer. When we receive a referral, we make contact, check benefit entitlement, arrange completion of claim forms and deal with any outstanding benefit issues.

We recently received a referral from the Social Care Access Team, which is the team responsible for vulnerable adults and adults needing care, to do a benefit check for an older couple. The man had recently had a major spinal operation and the woman was receiving treatment for cancer. The couple were using a microwave to cook ready-cooked meals as they could no longer prepare or cook a meal; they were having problems with bathing; and, because they were both at risk of falling, they were frightened to leave the house. We worked with the couple, the occupational therapist and care manager to gather information about the couple’s personal care needs and used this information to arrange for attendance allowance claims to be made. The couple now receive an extra £200 a week. This extra income, combined with grab rails, ripple mattress and an adapted shower, plus a carer to help them get up in the morning and settle into bed at night, has significantly improved the well being of the couple and allowed them to remain independent in their own home.
Conclusion

There are a substantial number of EWD in Islington each year, in line with regional and national averages. As most of these deaths occur in elderly people (75+ years), EWD do not substantially contribute to the inequalities gap in life expectancy. Nevertheless, EWD in this country remain much higher than other Northern European countries, identifying a need to improve the care of the vulnerable elderly. There has already been a lot of work undertaken in Islington to target vulnerable households, and the Seasonal Health and Affordable Warmth Steering Group will continue to take this work forward.

References
Conclusion and recommendations

Despite improvements in life expectancy over time in Islington, the inequalities gap in life expectancy between Islington and England has widened. This is because across England as a whole, there have been greater improvements in life expectancy than in Islington, particularly among men. The overarching reason for poorer population health outcomes in Islington is poverty, which has a profound impact on all areas of people’s lives, with the cumulative negative effects resulting in a shorter life expectancy. However, as described in the introduction to this report, other London boroughs with similar levels of deprivation have seen reductions in the inequalities gap in life expectancy over time, for either men or women, or both men and women. In Islington, neither has been achieved. This may be partly explained by Islington’s unique spatial pattern of wealth and poverty across the borough which makes reducing the inequalities gap much more challenging, but it is clear that there is more that local NHS services and statutory partners need to be doing to tackle this issue, particularly in the shorter term.

At the beginning of this report, we set out to answer several specific questions to help us to determine what more needed to be done in Islington to improve life expectancy for the residents of this borough. Here, we summarise the findings and common themes from the in-depth analysis of life expectancy and deaths in Islington, the associated risk factors, current actions, and evidence for cost-effective interventions presented in this report.

What are the causes of death in Islington that disproportionately contribute to Islington’s life expectancy gap?

Large numbers of deaths from long-term conditions at relatively young ages account for the bulk of Islington’s life expectancy gap. While other causes of death (e.g. suicides) may contribute to more years lost for each death because they occur in children or younger adults, the numbers of deaths from these other causes are much smaller. To reduce the inequalities gap in life expectancy, and particularly in the short term, the focus therefore, needs to be on long-term conditions.

Of the long-term conditions, cardiovascular disease (CVD) is the leading cause of deaths in Islington and cancer is the leading cause of premature death. Coronary heart disease (CHD) is the main cause of CVD deaths, and lung cancer, the main cause of cancer deaths. While the number of excess deaths from Chronic Obstructive Pulmonary Disease (COPD) is much lower than for CVD or cancer, COPD disproportionately contributes to the life expectancy gap for Islington women. It is also important to remember that many people are living with more than one long-term condition, because of the shared risk factors. This highlights the need for a co-ordinated approach for the management of these conditions and their risk factors.

Table A reiterates how many excess deaths there are from CVD, lung cancer, and COPD each year in Islington compared to England. It also shows the size of proportional reduction in total deaths from these causes that are required to close the inequalities gap from long-term conditions. To reduce the expected number of deaths from selected long-term conditions in Islington (to the England average), the total lung cancer deaths in the borough
would need to be reduced by a third, COPD deaths by a fifth, and CVD deaths by 15%. Given that there are different time lags in the impact of interventions on reducing deaths from different long-term conditions (see example for smoking and CVD and cancer risks below), the timescales over which these deaths could be reduced will vary and this needs to be taken into account.

**What are the key risk factors for disease development and premature death in Islington?**

Risk factors for inequalities in life expectancy and premature death in Islington include clinical and behavioural risk factors as well as the wider determinants of health, particularly poverty. If we are to narrow the inequalities gap in life expectancy in the shorter term then there needs to be a specific focus on the reduction of selected, easily modifiable, clinical and behavioural risk factors in ‘high risk’ individuals through targeted interventions (e.g. prescribing of anti-hypertensive drugs in those with high blood pressure). In the longer term, the focus needs to be on population-level change in lifestyles through universal interventions and improvements in the wider determinants of health, particularly the reduction of poverty. The short-term approach requires delivery through the health service, and particularly primary care, while the long-term approach will require successful partnership working to influence and change things beyond the current scope of the health service.

**Smoking**

Smoking is currently the leading risk factor for death in Islington, contributing to one-in-five deaths in the borough. These include deaths from CVD (particularly CHD), lung cancer and COPD – the long-term conditions that are driving the inequalities gap. Higher levels of smoking within the borough particularly among the older, more deprived population will therefore partly explain why Islington continues to have a large excess of deaths compared to England. A sustained focus on reducing smoking in Islington must therefore, remain a priority to reduce inequalities in life expectancy over both the short and longer terms. However, if there is to be a reduction in mortality from smoking, there needs to be specific emphasis and investment in supporting those in the most deprived groups, and those already living with long-term conditions, to quit.

In terms of the impact of smoking cessation activities and Smokefree initiatives on reducing mortality in the borough, it is important to realise that the benefits of these will impact at different timescales on different causes of death. The risk of death after some CVD events for example, can be reduced by at least a third by quitting smoking, and quitting smoking can help people living with COPD to better manage their condition. On the other hand, the risk of developing lung cancer will only reduce after about five years. This means that any reductions in lung cancer incidence and subsequent mortality will require sustained investment in prevention activities around smoking. To reduce premature deaths in the shorter term therefore, smoking prevention activities will need to have a big impact on deaths from CVD and COPD, and effectiveness can be optimised by specifically targeting people at high risk of developing CVD or already living with CVD or COPD for smoking cessation services.

**High blood pressure and high cholesterol levels**

While it is more difficult to disentangle the effects of other clinical and behavioural risk factors as many are interrelated and interlinked, they are still very important. For example, high blood pressure is caused by smoking, being obese, excessive alcohol intake, a lack of exercise and a poor diet, and obesity is caused by a lack of exercise and poor diet. All of these risk factors make substantial contributions, either directly or indirectly, to the inequalities gap in life expectancy in Islington. This is particularly the case for high cholesterol and high blood pressure, which together contributed to 30% of the deaths in Islington in 2006-08 – all CVD. Obesity contributed to a further 11% of deaths, again mainly from CVD. Combined with smoking, the high prevalences of high blood pressure, high cholesterol and obesity explain why CVD is the leading cause of death in the borough. To reduce mortality in the short-term, identification of individuals with high blood pressure and high cholesterol through initiatives such as NHS Health Checks needs to be strongly promoted: it is relatively easy to achieve good control and management of blood pressure and cholesterol levels quickly through the use of anti-hypertensives and statins compared to modifying other risk factors.
Obesity
Reducing levels of obesity is more challenging, but the importance of obesity as a risk factor for ill health and death in Islington should not be underestimated, particularly in the future, as levels are rapidly increasing across the country. A recent meta-analysis of the available evidence by the National Obesity Observatory shows that moderate obesity (BMI 30-35 kg/m²) reduces life expectancy by an average of three years, while morbid obesity (BMI 40-50 kg/m²) reduces life expectancy by eight to ten years\(^2\). This eight to ten year loss of life is equivalent to the effects of lifelong smoking. Continued investment in reducing levels of obesity and its causes (lack of physical exercise and poor diet) need to remain a priority then, if inequalities are not to increase over the longer term. Levels of obesity are increasing disproportionately among more deprived populations, as in Islington, with fears that obesity will eventually overtake smoking as the leading risk factor for death.

Are there specific groups or areas in the borough that have a higher excess of premature deaths requiring targeted interventions?

Men
Improving the population health outcomes for men in Islington needs to be a priority, as they have much poorer health outcomes compared to men living elsewhere, and there is also a stark gender inequality in the borough. With a life expectancy of only 75.1 years – the lowest in London – Islington men are, on average, only expected to live for five weeks longer than the cut-off for a premature, or preventable, death. Men in this borough live nearly three years less than men in England as a whole, and nearly six years less than Islington women. In one Islington ward – St George’s – men live for nine years less than women. These are stark gender inequalities and poor population health outcomes clearly need to be addressed.

The Irish community
The Irish-born population also appears to be disproportionately disadvantaged in Islington. It is difficult to draw firm conclusions about what is happening with this population as there is limited information on its size and age structure, but the Irish-born do have a higher crude death rate compared to those born in the UK. This may be explained by an older Irish-born population in which more deaths would be expected, and anecdotal evidence about the history of Irish migration and local knowledge of communities suggests that this may well be the case. However, the Irish-born are also thought to be more deprived than other populations within the borough. This means that they are probably more likely to smoke, drink heavily, and be obese, as well as having the negative wider impacts associated with poverty, all of which will impact on their longevity. To reduce mortality in the short term therefore, health services need to ensure that they are effectively engaging with the Irish-born.

Specific wards
Islington has a unique spatial pattern of wealth and poverty, with people living at different extremes living side-by-side. This does make it difficult to identify specific geographic areas which need to be targeted to improve life expectancy and unfortunately ward-level analysis does not show any clear patterns where improvements need to be made.

What more should be done to narrow the inequalities gap in life expectancy in Islington in the short, medium and longer terms?
The findings of this 2010 Annual Public Health Report indicate that the following needs to be done to improve life expectancy in Islington, and particularly to reduce the gap in health inequalities. As described in the preceding chapters of this report, much of this work is already being undertaken. It is important, however, that we ensure that it is being done systematically and also at the scale required. In particular, we need to ensure that we are reaching those that do not necessarily engage with services, which will include those with mental health conditions.

Short term (over the next 12 months):
Short term reductions in premature mortality and increases in life expectancy will need to rely on targeted interventions at those who are at most risk of dying within the next 12 months. In most cases, these will be people who are already living with long-term conditions which have developed over many years because, for example, they are lifelong smokers and/or they are obese. Estimates suggest that a large number of people living with long-term conditions still remain undiagnosed in Islington (table B), but analysis in this report (chapter 1) shows that at time of death, most Islington residents dying from long-term conditions are registered with a GP.
Better management and control of long-term conditions

Once diagnosed, those living with long-term conditions should receive regular check-ups from their GP, during which the GP can make sure that their condition(s) is under control, particularly their blood pressure and cholesterol levels through the prescribing of anti-hypertensives and statins;

Those with long-term conditions who do not regularly attend or miss check-ups should be actively encouraged to do so and followed-up, as their non-attendance may be related to other issues which put them at greater risk of dying prematurely (e.g. a mental health condition).

Those living with CVD and COPD should be given the opportunity to access rehabilitation services (e.g. cardiac and pulmonary rehabilitation) to help them better manage their condition.

Medium to long term:

Medium to long term improvements in life expectancy will rely on population-level changes to lifestyles and also improvements in the wider determinants of health, particularly poverty. The scale and breadth of these interventions mean that they will need to be delivered by a number of statutory bodies working in partnership, and they will need to be embedded in all of the work undertaken by all, not just health professionals. There is a significant population churn within the borough among people in their 20s and 30s, so to impact on Islington’s life expectancy in the future any initiatives must reach the less mobile and more deprived younger residents.

Table B  Recorded versus expected prevalence of selected long-term conditions, Islington, 2010

<table>
<thead>
<tr>
<th>Condition</th>
<th>Expected prevalence</th>
<th>Recorded prevalence</th>
<th>Undiagnosed prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>High blood pressure</td>
<td>40,993</td>
<td>20.7%</td>
<td>19,855</td>
</tr>
<tr>
<td>Coronary heart disease</td>
<td>7,379</td>
<td>3.7%</td>
<td>3,977</td>
</tr>
<tr>
<td>Stroke</td>
<td>3,693</td>
<td>1.9%</td>
<td>2,346</td>
</tr>
<tr>
<td>Diabetes</td>
<td>8,522</td>
<td>4.8%</td>
<td>7,932</td>
</tr>
<tr>
<td>COPD</td>
<td>4,422</td>
<td>2.2%</td>
<td>2,651</td>
</tr>
</tbody>
</table>

To reduce premature mortality in Islington therefore, it is clear that the focus needs to be earlier diagnosis of long-term conditions, followed by better control and management of these conditions once diagnosed.

Raising awareness of symptoms and earlier diagnosis

- Islington residents identified as at high risk of CVD (using the risk algorithm QRisk2) and other long-term conditions should be actively encouraged by their GP to attend for an NHS Health Check. Where residents are not registered with a GP or do not visit their GP, those at high risk need to be encouraged to participate in opportunistic settings, such as pharmacies and in the community. There should be a particular focus on men and the Irish-born;

- There needs to be greater awareness among residents of the symptoms of COPD and early-stage lung cancer, with encouragement to seek medical help if they have a persistent cough. Health professionals, and particularly GPs, also need to be encouraged to identify people with persistent coughs, so that if they have COPD or lung cancer they can receive appropriate treatment and care and population-level outcomes for those living with COPD and lung cancer improve;

- Uptake of cancer screening, particularly bowel cancer screening, is low in Islington, so again, efforts should be made to improve participation in these programmes to ensure earlier diagnosis of cancer.

Brief interventions for lifestyle change

- Health professionals should give brief interventions (e.g. for smoking, alcohol) wherever is appropriate, as these have been shown to be particularly cost-effective. They should specifically target people living with long-term conditions particularly CVD and COPD, pregnant women and those with young children, and those living with mental-health conditions. They should actively encourage and sign-post people to access support services if they want to adopt healthier behaviours.

Source: QOF 2009-10 (recorded); APHO prevalence models, 2009 and 2010 (expected)
Conclusion and recommendations

Again, initiatives will need to be delivered systematically and with scale.

Population-level lifestyle changes
For sustained improvements in life expectancy and to close the inequalities gap in life expectancy, there need to be population-level changes in lifestyles. This includes reductions in smoking prevalence, obesity and alcohol intake, and increases in physical activity and healthy eating. This will all reduce the chances of today’s younger generations developing long-term conditions such as lung cancer and CVD in the coming years.

Wider determinants of health
Islington’s Health Inequalities Strategy\(^3\) has outlined the work that will be undertaken in partnership by the local NHS and the London Borough of Islington to reduce health inequalities in the borough by tackling the wider determinants of health over the longer term. In terms of mortality, as with other aspects of health and wellbeing, poverty is the overarching risk factor and so work to reduce poverty in Islington, including child poverty, will need to continue to reduce inequalities in health. While poverty persists in Islington, inequalities in life expectancy will remain.

Quality of life is important too
This report has focussed on quantity of life, but quality of life is clearly important too. The average difference in disability-free life expectancy is 17 years between people living in the richest and poorest neighbourhoods in England\(^4\). As would be expected given the high levels of deprivation within the borough, Islington has one of the highest proportions of people on disability benefits in London (8.6% on Incapacity Benefit and 6.0% on Disability Living Allowance in August 2008). So, not only are Islington residents living shorter lives, they are also experiencing more ill-health while they are alive. This highlights the importance of improving quality of life as well as the quantity. While quality of life was not explicitly addressed in this report, many of the specific interventions described (e.g. pulmonary rehabilitation) and the overarching work of the partnerships in Islington (e.g. poverty reduction) will also have a significant impact on people’s quality of life.

References
3. NHS Islington (NHSI) and London Borough of Islington (LBI). Closing the gap: tackling health inequalities in Islington 2010-2030. NHSI and LBI, 2010

A final note
In conclusion, the findings from this report clearly illustrate the need to continue to prioritise and invest in closing the inequalities gap in life expectancy in Islington. The in-depth analyses reinforce our understanding of mortality in Islington and support our already strong focus on prevention and earlier diagnosis of long-term conditions, emphasising the need for scale and systematic delivery. During the challenging times ahead, it will be important that all health professionals and statutory partners remain focussed on the goal of improving life expectancy to make Islington a fairer borough for all.
Glossary

**Age-specific rates**: The number of events measured in a particular age group, where the numerator and the denominator for this rate refer to the same age group, that is, both have the same age distribution.

**Benchmark**: A comparator to compare performance between similar organisations or systems.

**Chronic condition**: Referring to a disease that lasts a long time.

**Commissioning**: The processes local authorities and primary care trusts undertake to ensure that services funded by them meet the needs of their client group and offer best value for money.

**Common risk factor approach (CRFA)**: An approach to promoting general health by controlling a small number of risk factors which can have a major impact on a large number of diseases. This is a cost-effective alternative to disease-specific approaches.

**Community**: Group of people living or working in a geographically defined area (geographical community) or who have a characteristic, cause, need or experience in common (community of interest).

**Determinant**: Any factor, whether event, characteristic, or other definable entity, that brings about change in a health condition or other defined characteristic.

**Directly standardised rates (DSR)**: Gives an indication of the number of events that would occur in a population, if the population had the same age-specific rates of the local area. This overcomes the problems of a crude rate masking differences in particular age groups. The standard population most commonly used is the European Standard population, however, other populations can be used.

**Emergency**: Patients admitted without having planned for the admission ahead of time, generally via A&E.

**Empowerment**: A process through which individuals and/or groups are able to express their needs, present their concerns, devise strategies for involvement in decision-making, and achieve political, social and cultural action to meet those needs.

**Epidemiology**: The study of the distribution and determinants of health-related states or events in specified populations, and the application of this study to control of health problems.

**Ethnic group**: A social group characterised by a distinctive social and cultural tradition, maintained within the group from generation to generation, a common history and origin; and a sense of identification with the group. Members of the group have distinctive features in their way of life, shared experiences, and often a common genetic heritage. These features may be reflected in their health and disease experience.

**Health behaviour**: The combination of knowledge, practices, and attitudes that together contribute to motivate the actions we take regarding health. Health behaviour may promote and preserve good health, or if the behaviour is harmful, e.g. tobacco smoking, may be a determinant of disease.

**Health promotion**: The process of enabling people to increase control over and improve their health. It involves the population as a whole in the context of their everyday lives, rather than focussing on people at risk for specific diseases, and is directed toward action on the determinants or causes of health.

**Incidence**: The number of new events, e.g. new cases of a disease in a defined population, within a specified period of time.

**Index of Multiple Deprivation (IMD)**: Combines a number of indicators, chosen to cover a range of economic, social and housing issues, into a single deprivation score for each small area in England. This allows each area to be ranked relative to one another according to their level of deprivation.

**Inequalities in health**: The virtually universal phenomenon of variation in health indicators (infant and maternal mortality rates, mortality and incidence rates of many diseases, etc.) especially those associated with socioeconomic status and ethnicity.

**Lifestyle**: The set of habits and customs that is influenced, modified, encouraged, or constrained by the lifelong process of socialisation. These habits and customs include use of substances such as alcohol, tobacco, tea, coffee; dietary habits; exercise; etc. which have important implications for health and are often the subject of epidemiologic investigations.

**Mental health**: A state of wellbeing in which the individual realises his or her own abilities, can
cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community.

**Morbidity**: Illness, mental or physical.

**Mortality**: Death.

**Partnership**: A partnership (for health) is a voluntary agreement between two or more partners to work cooperatively towards a set of shared health outcomes.

**Prevalence**: The number of events, e.g. instances of a given disease or other condition, in a given population at a designated time.

**Prevention**: Actions aimed at eradicating, eliminating, or minimising the impact of disease and disability, or if none of these is feasible, retarding the progress of disease and disability.

**Primary care**: The collective term for all services which are people’s first point of contact with the NHS.

**Programme budgeting**: Looking back at resource allocation, broken down into “programmes”, with a view to influencing and tracking future spending in those same programmes.

**Public health**: The science and art of preventing disease, prolonging life, and promoting health through organised efforts of society.

**Quality of life**: The degree to which persons perceive themselves able to function physically, emotionally, and socially.

**Registered population**: The population registered with a general practice constituent practice of a PCT.

**Resident population**: A population with a usual address within the geographical boundary (e.g. in Islington).

**Risk factor**: An aspect of personal behaviour or lifestyle, an environmental exposure, or an inborn or inherited characteristic, that on the basis of epidemiologic evidence, is known to be associated with health-related condition(s) considered important to prevent.

**Sample**: A selected subset of a population.

**Secondary care**: Specialised medical services and hospital care.

**Social marketing**: The use of marketing theory, skills, and practice to achieve social change, e.g. in health promotion.

**Standardisation**: A set of techniques used to remove, as far as possible, the effects of differences in age or other confounding variables when comparing two or more populations.

**Weighted population**: A population that is adjusted to take into account need, for example a more elderly population would receive a higher weighting than less elderly population to account for a greater need of health services.

**Main sources**: Eastern Region Public Health Observatory (ERPHO)


Public Health Electronic Library

World Health Organisation
**List of acronyms**

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>AAA</td>
<td>Abdominal Aortic Aneurysm</td>
</tr>
<tr>
<td>AAAACM</td>
<td>All-Age All-Cause Mortality</td>
</tr>
<tr>
<td>AF</td>
<td>Atrial Fibrillation</td>
</tr>
<tr>
<td>APHO</td>
<td>Association of Public Health Observatories</td>
</tr>
<tr>
<td>BME</td>
<td>Black and Minority Ethnic</td>
</tr>
<tr>
<td>BMI</td>
<td>Body Mass Index</td>
</tr>
<tr>
<td>CABG</td>
<td>Coronary Artery Bypass Graph</td>
</tr>
<tr>
<td>CHD</td>
<td>Coronary Heart Disease</td>
</tr>
<tr>
<td>CI</td>
<td>Confidence Interval</td>
</tr>
<tr>
<td>CKD</td>
<td>Chronic Kidney Disease</td>
</tr>
<tr>
<td>CMACE</td>
<td>Centre for Maternal and Child Enquiries</td>
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<td>Expert Patient Programme</td>
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**List of acronyms**

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Progress on reducing oral health inequalities in Islington

Oral health in Islington (2009) identified the differences in the oral disease experience of various groups in Islington\(^{(1)}\). It considered the causes of these differences and outlined how they can be tackled to improve oral health and reduce oral health inequalities. It also explored NHS dental services locally and detailed how access to high quality services can be improved, particularly for vulnerable groups. A number of recommendations were put forward to reduce the unacceptable burden of preventable oral diseases on Islington residents. The Oral Health Commissioning Strategy (2010-14) was subsequently influenced by these recommendations.

**Prevent oral diseases through community and practice-based interventions**

Community-based oral health promotion is most effective when targeting dental decay through delivery of fluoride. A pilot community-based fluoride varnish programme, commencing in September 2010, will give 3-8 year olds in children’s centres and primary schools in Islington, the opportunity to have fluoride varnish applied to their teeth at least twice a year. Adult oral health promotion is also being developed (e.g. in care homes and prisons).

Research will provide a foundation on which to build more preventive models of working with practices. NHS Islington (NHSI) has supported dental nurses to obtain certification in the application of fluoride varnish so that these treatments increase in general practice. Dental practices have been trained in the delivery of brief Stop Smoking interventions and this service has now been mainstreamed.

**Prioritise access to dental services for vulnerable groups**

An oral health social marketing campaign was launched in early 2010 to improve patient information and stimulate demand in groups not currently using dental services in Islington. An evaluation of the campaign found that it made a positive impact on the oral health perceptions and behaviours of residents. Post campaign, an increasing number of residents acknowledged the importance of regular dental attendance to prevent painful problems occurring. Perceptions of affordability and availability of NHS dentistry in Islington improved, and more residents reported visiting the dentist as a result of the campaign. NHSI will continue to promote local NHS dental services and the benefits of preventive dentistry through increased engagement with the local community.
The Oral Health Commissioning strategy outlines ambitions to commission through a contractual framework which ensures that new dental services use a preventive service model that is responsive to the needs of vulnerable groups, including increasing the provision of specialist services.

**Tackle the risk factors that are common to oral health and other chronic diseases**
Dental public health has contributed to strategy and policy development locally ensuring oral health priorities are appropriately integrated (e.g. JSNA, food strategy, health inequalities strategy, healthy children’s centres and schools).

**Address the social determinants of oral diseases**
Social determinants and health inequalities in oral health are inextricably linked. NHS Islington continues to work in partnership with Islington council and the voluntary and community sector to tackle the social determinants of health, including child poverty. The long-term, strategic approach to tackling the social determinants of health in Islington is outlined in Closing the gap: Tackling health inequalities in Islington (2010-2030)(2).

**Improve the quality of oral health treatment services**
The commissioning strategy proposes an improvement in quality assurance through the introduction of a balanced scorecard for dentists to assist in contract monitoring. There are also mechanisms to support clinical leadership and engagement. A structured training programme for dental teams will also be implemented from autumn 2010.

**References**