Annual Public Health Report:
Female Life Expectancy in Luton

Director of Public Health
Luton Borough Council and NHS Luton

2012 - 2013
Foreword

This year’s Annual Public Health Report continues my theme of investigating health inequalities in Luton and making recommendations to tackle them. Collectively, local agencies and communities have made a great deal of progress in improving life expectancy and reducing inequalities in Luton and we have seen some good progress. Life expectancy continues to increase and the life expectancy gap for men has begun to narrow. However, we have not been so successful with the life expectancy gap for women.

My aim is to look in more detail at the life expectancy gap for women and to try to determine what we need to do to tackle it.

The report identifies some areas where the health impact for women in Luton is fairly positive. For example, the relatively low rate of alcohol-specific mortality, hospital admissions and the reduction in stroke mortality compared to the national average.

The report focuses on some familiar themes such as tobacco and obesity, but tries to pick out the particular issues for women, such as the relatively high prevalence of women aged 55-64 years who smoke and women’s use of smokeless tobacco. The main causes of death amongst women in Luton are heart disease and cancer, as expected, but respiratory conditions are also an important element of the disparity in life expectancy amongst women. In the report, I try to tease out the particular issues for women, such as the low survival rates for ovarian cancer. Geographical issues remain, in that life expectancy for women tends to be poorer in the more deprived parts of the borough, with the Leagrave area emerging as an area with low life expectancy for women.

I have also focused on health before and during pregnancy as an important time for women and their babies’ health. This period also offers an important opportunity to influence women’s decisions about their health.

I make a number of recommendations in my report, again some of the areas will be familiar from previous reports. This highlights the need for continued emphasis on important interventions to improve outcomes for the women of Luton such as primary prevention, earlier identification and secondary prevention of disease.

Detailed recommendations are made in Section 11.2. My main recommendations are:

- Ensure that the skills and employability strategy meets the needs of Luton’s women to improve attainment and employment prospects.
- Promote the health of women before and during pregnancy by developing an overarching approach to health improvement in relation to pregnancy.
- For smoking, understand the needs of Luton’s women around smokeless tobacco and target stop smoking services to tackle high smoking prevalence.
- Develop appropriate pathways to tackle obesity in women.
- Promote physical health amongst women with mental health problems.
- Increase early identification and secondary prevention for women particularly in relation to heart disease, respiratory disease and cancer.
- Learn from targeted work in Leagrave to inform work in other areas around developing effective local interventions to improve female life expectancy.
Acknowledgements

I wish to thank those who helped shape and develop this report, in particular Caroline Thickens, Debbie Adger, Glynis Allen, Sarah Annetts, Matt Everett, Sue Hazelton, Ross Kenny, Stuart Lines, Kelly O’Neill, Shahin Parmar, Olena Sawal, Morag Stewart and Wayne Thompson.

Further copies of the report are available at: www.luton.gov.uk/Health_and_social_care/Pages/Public-health-annual-reports.aspx or contact Jane Glenister at jane.glenister@luton.gov.uk
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Update on Previous Recommendations

The Annual Public Health Report (APHR) 2010-11 focussed on the health of Luton’s black and minority ethnic (BME) and migrant communities. The following recommendations were made to tackle some of the issues identified in that report.

1.1 Improving access to services

**Recommendation:** Improve the identification of long term conditions prevalent in BME communities in primary care to ensure earlier and better treatment.

The Public Health team are continuing to commission NHS Health Checks. Luton Clinical Commissioning Group (CCG) is engaged in ‘Finding the Missing Thousands’ of people who are undiagnosed.

**Recommendation:** Ensure that all children have the healthy start they need to build the foundations for a healthy adulthood. The Children’s Trust Board are asked to take the findings of this report into account in the implementation of the Early Intervention Strategy, and Family Poverty Strategy.

This has been taken forward in the new Health and Wellbeing Strategy – ‘Every child and young person has a healthy start in life’ is one of three key outcomes.

1.2 Engaging with local communities and empowering people to improve their own health

**Recommendation:** Given the gap in life expectancy for women and that many women in Luton are not economically active, it is important to develop mechanisms to engage with women from all communities.

Further analysis has been undertaken and this is the focus of this Annual Public Health Report.

**Recommendation:** Prioritise engagement with local communities to address issues around consanguinity, infant mortality and disability.

There has been good engagement and discussions with community groups that has informed the development of an ‘Infant Mortality: Genetics’ plan. The plan has been agreed, the first steps to delivering the action plan have started and further community group engagement is planned.

**Recommendation:** Continue to prioritise programmes on childhood obesity and tobacco control. By engaging with our local communities develop effective communications strategies and social marketing techniques to target high prevalence communities appropriately.

A communication plan has been developed for promoting healthy weight centres based on the national Change4Life movement. Tobacco Free Luton is leading on a communication plan for tobacco. In spring 2012, we ran the regional social marketing campaign on illegal tobacco.
### 1.3 Tackling the wider determinants of health and socioeconomic factors

**Recommendation:** Programmes of regeneration, employment and skills training should ensure that they reach and raise the life chances of all of our communities.

Addressing the wider determinants of health is a key priority in the new Health and Wellbeing Strategy (HWBS).

### 1.4 Improving understanding

**Recommendation:** National evidence indicates that service use for mental health conditions varies by ethnic community. Data for mental health locally is sparse, and a needs assessment is required to determine whether commissioned services meet the needs of Luton’s population.

A mental health needs assessment has been completed and a mental health improvement plan is being developed based on the recommendations.
Luton at a Glance

Luton is a multicultural town approximately 30 miles north of central London. The census-based, mid-year estimates showed that Luton’s population was 203,600 in 2011. Currently, Luton’s registered population is approximately 213,000.

Age

Luton’s population is younger (22% younger than 16 years) than England (19%). However, the proportion of older people is increasing, as is seen nationally. Local forecasts indicate that the number of 5-15 year olds will increase by 16% (13% for males and 19% for females) over the next decade, and the number of older people (65 years and older) will increase by 27% (21% for males and 36% for females) over the next 20 years.

Ethnicity

Luton is an ethnically diverse town, with approximately 41% of the population from non-white British communities. Within this group there are significant Pakistani, Bangladeshi, Indian and African Caribbean communities. The data from the school census, conducted in 2012, showed that 66% of children in Luton schools (aged 5-15 years) were from non-white British ethnic communities.

In recent years, the diversity of the population has increased due to international students attending the University of Bedfordshire, and the arrival of citizens from other European Union countries, notably Poland and other Eastern European countries. National Insurance registrations have been falling in recent years for Eastern Europeans. However, there has been a significant increase in those registering from India. A study carried out for Luton Borough Council showed concentrations of new communities of Congolese, Somalis, Ghanaians, Nigerians, Turkish and Zimbabwean people in Luton.

Deprivation

The Index of Multiple Deprivation (IMD, 2010) ranks Luton as the 60th most deprived area out of 326 local authorities in England (a rank of 1 is the most deprived). Deprivation has continued to worsen. Luton had a rank of 87th in 2007 and 101st in 2004 (out of 354). Overall, 25.9% of Luton’s population are in the bottom national quintile (20%) of deprivation, and 56% of the population are in the bottom two quintiles. The most deprived areas are situated in the south west and north west of the borough.
Health profile

The Network of Public Health Observatories has recently published the 2012 Health Profiles for local authorities in England.

The profile for Luton (Figure 1) shows a large number of indicators that are significantly worse than the England average. However, improvements have been made in 11 of the 32 indicators. In these indicators, Luton has improved at a faster rate, or worsened at a slower rate, than England, and, therefore, has reduced health inequalities.

Premature cancer mortality has reduced at a faster rate than England. Physical activity, although low, has improved (whereas nationally it has worsened). Male life expectancy and hospital stays for alcohol-related harm have improved at a faster rate than seen nationally.

There are a number of indicators where inequalities have widened with England. Long term unemployment and violent crime have both increased in Luton, while decreasing nationally.

Figure 1: Luton Health Summary, 2012.

For more information on local demographics and need in Luton please see the Joint Strategic Needs Assessment (JSNA) report and dataset found on the Luton Borough Council website.5
Although life expectancy in Luton has shown a steady increase since 1999, life expectancy for females (80.9 years) is nearly 2 years less than the national average (82.6) and nearly 1 year less than the average for males (77.7 years and 78.6 years).

Luton is ranked 349 out of 404 (a rank of 404 is the lowest life expectancy) local areas for female life expectancy and 266 for male life expectancy. This has improved from the previous year from a rank of 357 and 276, respectively.

3.1 Why focus on female life expectancy?

The life expectancy gap for males is reducing. The absolute difference between males in Luton and England in 2003-05 was 1.1 years compared to 0.9 years in 2008-10. However, female life expectancy, although higher than males, has shown a slower rate of increase and therefore the inequality gap with England has widened in recent years. The absolute difference between females in Luton and England has increased from 1.3 years in 2003-05 to 1.7 years in 2008-10.

The relative gap in life expectancy measures the difference between life expectancy in England and Luton, as a percentage of life expectancy for England as a whole. A relative gap closer to zero indicates less inequality. The relative life expectancy gap between Luton and England is worsening for females (a widening inequality gap) and improving for males, see Figure 2. Male life expectancy in Luton is also similar to statistical neighbours, whereas female life expectancy is lower than most comparators, see Figure 3.

In addition, looking at the male life expectancy gap in Luton shows that there are two main diseases that contribute to the gap: coronary heart disease (CHD) and stroke. If males in the most deprived areas in Luton had the same mortality rates as the rest of the males in England for CHD and stroke then their life expectancy would increase by approximately 1.5 years.

The picture is not as clear for females. The focus of this report is, therefore, to look in more detail at female life expectancy to identify the specific causes of death that contribute to widening inequalities in Luton and where interventions should be targeted.
Figure 2: Relative life expectancy gap between Luton and England.

Source: ONS Life Expectancy data and analysis by Luton Public Health

Figure 3: Life expectancy at birth for males, females and comparators.

Source: ONS Life Expectancy data and analysis by Luton Public Health. Luton’s statistical neighbours are defined as the ONS corresponding health areas Hillingdon, Redbridge, Wolverhampton City and Birmingham East and North PCTs.
High infant mortality rates are considered to be a key contributor to low life expectancy. The current infant mortality rate in 2008-10 is 7.5 infant deaths per 1,000 live births which is significantly higher than England and Wales at 4.5 per 1,000, see Figure 4. There was a significant increase in the number of infant deaths in 2009 (38 deaths compared to an average of 20 in previous years). In 2010 and 2011 the number of infant deaths reduced significantly to 21 and 17 deaths respectively.

The high number of infant deaths in 2009 will continue to have an effect on life expectancy and infant mortality rates for the next couple of years, due to the use of pooled three-year averages. The increase seen in 2009 was an increase in male child deaths which will affect male life expectancy rather than females.

It is anticipated that life expectancy will increase when data for 2010 and 2011 are used. These data not only show a reduction in infant deaths but a reduction in all deaths which will increase life expectancy in the next few years. The provisional infant mortality rate for 2009-11 is 7.1 per 1,000, a decrease from its current value of 7.5 per 1,000.

Figure 4: Infant mortality rate per 1,000 live births, 1996-98 – 2009-11.

Source: Information Centre, ONS and Luton Public Health
5.1 Health and Wellbeing Strategy

The 2011 JSNA\(^5\) identifies the key health issues facing Luton. It is based on a comprehensive data set, and makes recommendations for future action. The JSNA is the key driver of local health improvement, informing priority-setting and key commissioning decisions in the Health and Wellbeing Strategy (HWBS) developed by the new shadow Health and Wellbeing Board (HWB) in Luton.

The HWB developed three priority outcomes:

1. To provide a **healthy start in life** - ensuring that children and young people have the best opportunities early in life to enable them to flourish.

2. To **reduce health inequalities** within Luton - focussing on those communities, groups and individuals who have the worst health outcomes in Luton, prioritising prevention and early detection of cardiovascular disease (CVD), cancer, respiratory disease and diabetes.

3. To **increase healthy life expectancy** - focussing not only on extending life but also on improving the quality of life, with a focus on long-term conditions and measures to support independence.

The outcomes are aligned with the new Public Health Outcomes Framework (PHOF)\(^8\) which aims to improve and protect the nation’s health and wellbeing and improve the health of the poorest fastest.

Table 1 shows the local targets for life expectancy in Luton that are set out in the HWBS. Forecasts of female life expectancy, based on current data, show a widening gap with England. Targets are, therefore, more ambitious, indicating that a sustained increase in female life expectancy is required in order to narrow the gap with England.

**Table 1: Life expectancy targets.**

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</tr>
</thead>
<tbody>
<tr>
<td>Increasing life expectancy at birth and narrowing the inequality gap with England</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>77.7</td>
<td>78.4</td>
<td>78.6</td>
<td>79.0</td>
<td>79.5</td>
<td>79.9</td>
<td>80.3</td>
</tr>
<tr>
<td>Females</td>
<td>80.9</td>
<td>81.5</td>
<td>81.6</td>
<td>81.9</td>
<td>82.1</td>
<td>82.4</td>
<td>82.7</td>
</tr>
</tbody>
</table>

Source: Health and Wellbeing Strategy

*Years in brackets relate to the year the data is reported*
5.2 Disability Free Life Expectancy

The Public Health Outcomes Framework not only focuses on reducing inequalities in life expectancy between communities but also focuses on increasing healthy life expectancy. One of the indicators used to measure this is disability free life expectancy (DFLE).

The life expectancy gap at age 65 years is forecast to narrow between Luton and England. However, the gap between Luton and England for DFLE is forecast to remain the same. The current local targets to reduce the gap are shown in Table 2.

Table 2: Disability free life expectancy targets.

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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Increasing DFLE at age 65 years. Males</td>
<td>9.1</td>
<td>9.4</td>
<td>9.5</td>
<td>9.6</td>
<td>9.7</td>
<td>9.9</td>
<td>10.0</td>
</tr>
<tr>
<td>Females</td>
<td>9.9</td>
<td>10.1</td>
<td>10.2</td>
<td>10.4</td>
<td>10.5</td>
<td>10.7</td>
<td>10.9</td>
</tr>
</tbody>
</table>

Source: Health and Wellbeing Strategy
*Years in brackets relate to the year the data is reported

The local DFLE data within Luton is now quite dated (1999-2003). The differences between the most and least deprived middle super output areas (MSOA) were 12.6 years for males and 11.6 years for females.

Figure 5 shows that the areas with the lowest DFLE were mainly in Northwell, Farley, Biscot, High Town and South wards in 1999-2003. Most of these areas are identified in this report; Leagrave has recently been identified so did not appear in the older data and although female life expectancy in Farley is higher than the Luton average, Figure 5 suggests that this extra life expectancy may not be disability free. An updated picture of Luton is required. The results of the 2011 census will assist this work when published in 2013.

What is DFLE?

DFLE is a measure of how many years on average a person can expect to live free from disability and limiting illness.
6.1 Inequalities with England

This section looks at specific disease mortality rates in order to identify the diseases that contribute most to female mortality in Luton, and the diseases that contribute to the overall gap with female mortality when compared to England.

6.1.1 All-Age, All-Cause Mortality

Figure 6 shows a similar picture to the life expectancy data, with a slower decrease in Luton female mortality compared to England. This is evident for both all-age and under-75-years mortality rates.

Figure 6: Female all-age, all-cause mortality rate per 100,000 population.

Source: Information Centre, ONS and Luton Public Health
6.1.2 Understanding the Gap

The relative gap (percentage difference between Luton and England) shows the largest gaps are in the younger age groups (which have the greatest impact on life expectancy), particularly under 20 years and 25-29 years, see Figure 7. However, numbers of deaths are small in these age groups making it difficult to ascertain any clear causes of death.

In total, between 2006-10, there were 50 deaths in Luton in females aged 1-29 years old. The main causes of death were cancer and diseases of the nervous system which made up a total of 24% of the total number of deaths. Other causes were spread widely across a number of conditions. The Child Death Overview Panel review all deaths under the age of 18 years and make recommendations for action.

Figure 7: Age-specific female mortality rate gaps between Luton and England, 2005-9 combined.

Figure 8: Cause-specific mortality rates for Luton and England, 2005-9 combined.

Figure 10 shows a comparison of directly age standardised rates (DSR) between Luton and England for main disease areas. Overall, the mortality rates are higher in Luton than England. Mortality from respiratory and circulatory diseases is high.

Source: SEPHO inequalities tool and Luton Public Health.
Table 3 replicates the methodology used by the London Health Observatory (LHO)\textsuperscript{10} for Luton using 2008-10 mortality and population data. Disease areas are shown that have the largest impact on reducing the female life expectancy gap with England. For Luton females, these are coronary heart disease (14%), respiratory diseases (COPD and pneumonia 7% and other 14%), genitourinary (12%), other (9%), cancer (9%), infectious diseases and endocrine, nutritional and metabolic diseases (7%).


<table>
<thead>
<tr>
<th>Cause of Death</th>
<th>Total number of deaths</th>
<th>Excess deaths compared to England average</th>
<th>Contribution to gap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coronary Heart Disease</td>
<td>252</td>
<td>40</td>
<td>14.0%</td>
</tr>
<tr>
<td>Other respiratory disease</td>
<td>106</td>
<td>46</td>
<td>14.0%</td>
</tr>
<tr>
<td>Genitourinary diseases\textsuperscript{i}</td>
<td>89</td>
<td>41</td>
<td>11.6%</td>
</tr>
<tr>
<td>Other</td>
<td>57</td>
<td>7</td>
<td>9.3%</td>
</tr>
<tr>
<td>Infectious and parasitic diseases\textsuperscript{ii}</td>
<td>37</td>
<td>14</td>
<td>7.0%</td>
</tr>
<tr>
<td>All other cancers</td>
<td>273</td>
<td>10</td>
<td>7.0%</td>
</tr>
<tr>
<td>Endocrine, nutritional and metabolic\textsuperscript{iii}</td>
<td>46</td>
<td>18</td>
<td>7.0%</td>
</tr>
<tr>
<td>Pneumonia and COPD</td>
<td>209</td>
<td>24</td>
<td>7.0%</td>
</tr>
<tr>
<td>Diseases of nervous system</td>
<td>70</td>
<td>2</td>
<td>4.7%</td>
</tr>
<tr>
<td>Accidents</td>
<td>57</td>
<td>18</td>
<td>4.7%</td>
</tr>
<tr>
<td>Colorectal cancer</td>
<td>48</td>
<td>1</td>
<td>2.3%</td>
</tr>
<tr>
<td>Mental and behavioural</td>
<td>93</td>
<td>11</td>
<td>2.3%</td>
</tr>
<tr>
<td>Digestive diseases</td>
<td>95</td>
<td>0</td>
<td>2.3%</td>
</tr>
<tr>
<td>Musculoskeletal diseases</td>
<td>19</td>
<td>0</td>
<td>2.3%</td>
</tr>
<tr>
<td>Congenital anomalies</td>
<td>7</td>
<td>1</td>
<td>2.3%</td>
</tr>
<tr>
<td>Ill defined conditions</td>
<td>46</td>
<td>7</td>
<td>2.3%</td>
</tr>
<tr>
<td>Lung cancer</td>
<td>91</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Breast cancer</td>
<td>74</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Stroke</td>
<td>167</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Other circulatory disease</td>
<td>160</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Suicide and undetermined injury</td>
<td>8</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Deaths under 28 days</td>
<td>31</td>
<td>0</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

Source: Methodology LHO, analysis Luton Public Health.

\textsuperscript{i} Cause of death is mainly due to urinary tract infections (UTIs) in elderly women.

\textsuperscript{ii} Cause of death is mainly sepsis, unspecified (41%) and C-diff (14%).

\textsuperscript{iii} Cause of death is mainly diabetes, accounting for 61% of all deaths.
6.1.3 Years of Life Lost

Despite the small numbers, estimates of life expectancy are heavily influenced by deaths in the younger age groups, due to the numbers of years lost. Although health interventions clearly need to focus on the large number of older people as well as saving lives amongst younger age groups, every younger life saved contributes to a larger number of added years of life saved. Successful interventions in middle and older age groups will have short-term benefits, and interventions targeted in early life will have the potential to reduce chronic disease substantially.

Table 4 shows that cancer and circulatory diseases have the largest number of YLL for males. For females, cancer is the greatest cause of YLL.

Table 4: Years of life lost in Luton males and females, 2008-10.

<table>
<thead>
<tr>
<th>Cause of early death</th>
<th>Females</th>
<th>Males</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Average number of YLL per year 08-10</td>
<td>% of total</td>
</tr>
<tr>
<td>All causes</td>
<td>3134</td>
<td></td>
</tr>
<tr>
<td>All cancers</td>
<td>1138</td>
<td>36.3%</td>
</tr>
<tr>
<td>Lung cancer</td>
<td>161</td>
<td>5.1%</td>
</tr>
<tr>
<td>Colorectal cancer</td>
<td>91</td>
<td>2.9%</td>
</tr>
<tr>
<td>Breast cancer</td>
<td>207</td>
<td>6.6%</td>
</tr>
<tr>
<td>Cervical cancer</td>
<td>43</td>
<td>1.4%</td>
</tr>
<tr>
<td>All circulatory diseases</td>
<td>477</td>
<td>15.2%</td>
</tr>
<tr>
<td>CHD</td>
<td>230</td>
<td>7.3%</td>
</tr>
<tr>
<td>Stroke</td>
<td>111</td>
<td>3.5%</td>
</tr>
<tr>
<td>COPD and Pneumonia</td>
<td>114</td>
<td>3.6%</td>
</tr>
<tr>
<td>Infectious diseases</td>
<td>127</td>
<td>4.1%</td>
</tr>
<tr>
<td>Suicide and undetermined injury</td>
<td>76</td>
<td>2.4%</td>
</tr>
<tr>
<td>Accidents</td>
<td>152</td>
<td>4.9%</td>
</tr>
<tr>
<td>Diabetes</td>
<td>29</td>
<td>0.9%</td>
</tr>
</tbody>
</table>

Source: Data taken from Information Centre Data Portal.

What is Years of Life Lost (YLL)?

YLL is a measure of premature mortality. It is used to estimate the length of time a person would have lived had they not died prematurely. Including the age at which death occurs, rather than just the fact of its occurrence, the calculation is an attempt to better quantify the burden, or impact, on society from the specified cause of mortality.
6.2 Inequalities within Luton

There is strong evidence for the link between deprivation and life expectancy. The overall increase in life expectancy for both males and females masks the inequalities that exist between areas in Luton. The Slope Index of Inequality measures the difference in life expectancy between the most and least deprived deciles (or tenths) of the population over a five-year pooled period. The latest data, shown in Figure 9, shows a gap of 8.9 years for males and 6.4 years for females. Overall, the gap has reduced by one year for both males and females since 2001-05.

Trends in female AAACM rates in the most and least deprived areas in Luton show a significantly higher mortality rate for the most deprived areas. However, the gap is predicted to decrease slightly.

Figure 10 shows the relative gap in age-specific mortality rates between the most deprived quintile and the rest of Luton. The relative gap (percentage difference between Luton and England) shows inequality is spread across most ages but is concentrated in those aged 20-39 and 55-64 years.

Figure 9: Slope Index of Inequality - number of years between the most and least deprived individuals.

Figure 10: Female mortality rate gaps between most-deprived quintile and the rest of Luton, 2005-09.

![Figure 10: Female mortality rate gaps between most-deprived quintile and the rest of Luton, 2005-09.](image)

**Source:** SEPHO and Luton Public Health.

Figure 11: Female cause-specific mortality profiles for Luton, 2005-9 combined.

![Figure 11: Female cause-specific mortality profiles for Luton, 2005-9 combined.](image)

Figure 11 shows a comparison of directly standardised rates between the most and least deprived quintiles in Luton for the main diseases. Mortality rates are much higher in the most deprived areas and this is evident across all disease categories, particularly circulatory diseases.

**Source:** SEPHO and Luton Public Health.
6.3 Geographical Variation in Female Life Expectancy

Variation in life expectancy by MSOA in Luton for 2006-10 is shown in Figure 12. Lower life expectancy is concentrated around the more deprived areas in Luton. For females, the areas with the lowest life expectancy are found within the wards of Leagrave, east of Challney, south of Dallow, Biscot, High Town, South and Farley.

Figure 12: Female life expectancy in Luton, 2006-10.

6.4 Summary

- CHD and respiratory disease contribute a significant proportion (35%) to the overall gap in female life expectancy between Luton and England.
- In addition, estimates of life expectancy are heavily influenced by deaths in younger age groups (premature mortality).
- Despite a mortality rate similar to the national average, cancer has the most significant number of premature deaths for women in Luton which impacts on life expectancy. Cancer contributes 9.6% to the overall gap in female life expectancy.
- All three disease groups have inequalities within Luton with higher mortality in the most deprived compared to least deprived areas.
Section 6 highlighted a number of conditions for further investigation. The following sections look at CHD, respiratory disease and premature cancer in more detail. These are the diseases that either contribute the most to the female life expectancy gap between Luton and England and/or have high female years of life lost. This section focuses on the common risk factors for women that are attributable to each of these diseases including lifestyle factors and wider determinants of health.

7.1 Individual Lifestyle Factors

To reduce inequalities in life expectancy, it is important to understand the risk factors. People’s lifestyles are recognised as affecting their health and increased risk of dying young. Close to half of the burden of illness in developed countries is associated with four main unhealthy behaviours: tobacco use, excessive alcohol consumption, poor diet and low levels of physical activity. These are common risk factors for CHD, respiratory disease and cancer.

A single risk factor is not always the only clear attributable cause (such as smoking and lung cancer); they often overlap, for example, with other lifestyle factors (heavy smoker and heavy consumption of alcohol) as well as high blood pressure and cholesterol. In addition, there is an important link with wider determinants of health, and the underlying reasons why people engage in unhealthy behaviours, see Figure 13 and Section 7.2.

The risk factors can be similar for men and women. However, they can manifest themselves differently. Men and women have different health needs and opportunities throughout their life course and therefore acknowledging differential effects on health is crucial. The information below provides more detail on each of the four common lifestyle risk factors and any factors that have an impact specifically for women.

Figure 13: Risk factors for chronic diseases.

7.1.1 Tobacco

Smoking is a risk factor for all of the diseases identified in this report. Tobacco is the only product that, when used as intended by its manufacturers, will kill around half of its consumers. Smoking causes the greatest number of preventable deaths and is one of the most significant causes of health inequalities in England. About half of all long-term smokers will die prematurely, losing on average, about 10 years of life.

Costs

Smoking costs Luton approximately £49 million per year. In addition to NHS costs, there are wider economic impacts on local government, emergency services and business to consider as shown in Figure 14.

Figure 14: The wider cost of tobacco in Luton.

Prevalence

The East of England Lifestyle Survey carried out in 2008 and again in 2009 provides local estimates of smoking by gender. Combining results from both surveys shows a prevalence estimate of 26.3% for males and 18.4% for females. Recent national data suggest that the difference between genders has narrowed, with 20% of men and 19% of women smoking in England as a whole. In addition smoking patterns differ markedly across different age cohorts and ethnicities.

National estimates show that, apart from Black Caribbean women and Irish women, smoking among women from BME communities is generally very low. The available data in Luton generally supports this with a higher prevalence of women smoking in the White British (23.5%), White Irish (23.1%) and White Other (22.2%) communities. However, the data for Black Caribbean women in Luton showed a low prevalence (7%) along with Other Black (2%) and Asian women (5.6%).

Cigarette smoking may be considered a taboo activity for many South Asian women. However, their perceptions of shisha smoked through a water pipe can be variable as many view it as harmless and are not aware that most of it contains tobacco. Further evidence on the health effects of shisha is needed, including which products are smoked and smoker’s habits. Prevalence is unknown and not accounted for in health surveys and statistics.

*passive smoking: lost productivity from early death (not including NHS costs and absenteeism)
Source: Estimated values from ASH ready reckoner, 2012
Additionally, at least 19% of Bangladeshi women use chewing tobacco. This is known to increase the risk of oral, kidney and pancreatic cancers, gum disease and CVD. Luton Public Health team will undertake a health needs assessment of priority communities in 2012/13 to identify issues and establish a local baseline for use of smokeless tobacco products.

The pattern across age groups differs by gender, with high smoking prevalence for females aged 55-64 years compared with high prevalence in younger age groups for males, see Figure 15.

Smoking prevalence is also strongly associated with lower socioeconomic status as measured by routine and manual employment categories. Overall, for Luton, 27.8% of the routine and manual population aged 18+ years smoke compared to 21.3% of the general population. Gender-specific data are not available.

Figure 15: Smoking prevalence by age and gender in Luton, 2008-9.

![Smoking prevalence by age and gender in Luton, 2008-9.](image)


**Mortality**

On average during 2008-10 there were 81 female deaths attributable to smoking each year. This equates to a rate of 214 deaths per 100,000 women (aged 35 years and over) across the three years, which is much higher than the 138 deaths per 100,000 in England as a whole.

Figure 16 shows female smoking attributable mortality rates in Luton. The areas with the 20% highest mortality rates in Luton are situated in Northwell, Leagrave, Farley and High Town wards.

Figure 17 shows that the female smoking attributable mortality rates in the most deprived areas in Luton are higher than the rest of Luton and the gap has narrowed slightly.
Figure 16: Female smoking attributable mortality, 2008-10.

Figure 17: Female smoking attributable mortality by deprivation quintile.

Source: ERPHO and Luton Public Health.
Impact of Smoking

Coronary Heart Disease

Approximately 80-90% of people dying from CHD have one or more risk factors influenced by lifestyle factors. Risk factors for CHD are similar for men and women. However, tobacco use has more of an impact in women. A large meta-analysis, looking at more than two million people, suggests that the harmful effects of tobacco smoking affect men and women differently. The risk of smokers developing CHD is 25% higher for women. The authors also state that this is likely to be an underestimate. The impact on women’s health is not yet fully known as women have not been smoking as long as men. In addition, underreporting could be an issue, for example it can still be taboo for women to smoke in some cultures.

The precise reasons for the difference between genders are unknown. However, some suggestions are:

- women may absorb more toxins from tobacco products than men; and
- men may die from other smoking related conditions, such as lung cancer, before they can develop CHD which could help explain increased risk of CHD in women.

Another factor could be the link between smoking and depression and a higher prevalence in women. Depression has been identified as a predictor of CHD as well as smoking.

More risk factors specific to women for CHD can be found in Section 8.2.

Cancer

Section 9 provides details on the main cancers affecting women in Luton. Section 9.5 provides details of the risk factors (including smoking) for each of these. Some additional information on smoking is provided below.

- Smoking is the largest risk factor and single cause of cancer with approximately one third of all cancer deaths attributable to smoking.
- Lung cancer is the most common cancer associated with smoking. Smoking is attributable to around 87% of male and 83% of female deaths from lung cancer in the UK.
- Women who smoke have double the risk of developing a sub type of ovarian cancer (mucinous ovarian cancer). Within 20-30 years of stopping smoking the risk returns to that of non-smokers.
- Smoking increases the risk of colorectal cancer. Three meta analyses found that the risk was higher in men with a 18-38% increase in risk for male smokers compared to a non-significant 5-9% increase in risk for women that smoke.

Respiratory Disease

Approximately half of cigarette smokers develop airflow obstruction and 10-20% develop chronic obstructive pulmonary disease (COPD). Nationally, smoking accounts for at least 80% of cases of COPD. COPD is more common in men than women and is associated with socioeconomic deprivation. The findings of a retrospective cohort study of adult smokers suggest starting to smoke in childhood is associated with an increased risk of airways disease and that women are at particular risk of COPD if they start to smoke before the age of 16 years.

Infant Mortality

Section 4 looks at infant mortality and its impact on female life expectancy in Luton. Smoking in pregnancy increases the risk of maternal and foetal complications and infant death. Smoking hinders the blood flow to the placenta, which reduces the amount of nutrients that reach the baby. Because of this, women who smoke while pregnant have...
lighter babies than those who don’t smoke.\textsuperscript{39} Low birth weight can lead to higher risks of diseases and death in infancy and early childhood.\textsuperscript{40} There is also evidence that women exposed to second-hand smoke during pregnancy also have lighter babies.\textsuperscript{41}

Low birth weight is associated with increased blood pressure and heart disease.\textsuperscript{13} In 2011-12, in Luton, 14.6\% of mothers were smoking at time of delivery which equates to 503 women. Higher rates of prevalence are seen in women under 25 years old and those from lower socioeconomic groups.\textsuperscript{42}

Smoking during pregnancy has also been linked to other pregnancy complications including miscarriage, stillbirth, ectopic pregnancy and cot death. It may also have consequences for the physical and mental development of the child.\textsuperscript{43}

Smoking Cessation

NHS Stop Smoking Services remain the most effective way for people to stop smoking.\textsuperscript{44} In Luton in 2011-12, the Luton Stop Smoking Service supported 1,656 people to quit smoking. This includes 763 women, 30 during pregnancy.

In 2010, Luton Public Health completed a smoking health equity audit.\textsuperscript{45} Health equity audits identify how fairly services or other resources are distributed in relation to the health needs of different groups and areas. The report identified a number of areas where smoking prevalence was high and uptake of stop smoking services were low.

The key areas, which closely align with the female mortality data, are Leagrave, Northwell and Challney wards. It also highlighted the need to target younger populations (under 34 years) to attend stop smoking services, and increasing the number of pregnant women accessing stop smoking services.

In addition, the equity audit and subsequent data from the lifestyle survey have shown targeting should also be aimed at women aged 55-64 years with the highest smoking prevalence and lower uptake of smoking cessation services.
7.1.2 Obesity

Overweight and obesity are defined by the World Health Organisation (WHO) as “abnormal or excessive fat accumulation that may impair health”. Obesity is a complex condition with energy balance, genes and the environment playing a role. It can contribute to the development or exacerbation of a number of chronic diseases and conditions, which have significant effects not only on individual health but also on demands on the health service and effects on the economy, such as time off work.\(^\text{57}\)

Carrying excess weight is a major risk factor for non-communicable diseases such as:

- circulatory diseases (mainly heart disease and stroke), which are the leading cause of death in Luton;
- type 2 diabetes;
- musculoskeletal disorders (especially osteoarthritis - a highly disabling degenerative disease of the joints);
- some cancers (endometrial, breast, and colon);
- respiratory disease;
- breathlessness, sleep apnoea, fatigue and asthma; and

  - depression.

The risk for these diseases and use of health services increases with each point rise in body mass index (BMI). The risks of type 2 diabetes and impaired glucose tolerance are closely correlated to overweight and obesity, even at relatively low levels of excess weight. For people of South Asian background, risk begins to increase at a lower BMI.

Approximately 1 in every 4 adults in Luton is obese. The data is not available by gender locally but, nationally, more than 5 out of ten women are overweight or obese. There is a higher prevalence of morbid obesity (adults with a BMI of 40kg/m\(^2\) or greater) in women than men, and this is associated with an increased risk of co-morbidities including circulatory diseases, diabetes and some cancers.\(^\text{48}\)

Obesity, in England, among women of childbearing age increased during the period of 1993-2009. The average waist circumference increased from 82cm to 87cm with 17% more women having a raised waist measurement above 88cm.\(^\text{49}\) Women who are obese are significantly more likely to be older in pregnancy and live in areas of higher deprivation than non-obese women.\(^\text{50}\)

Obesity in pregnancy is associated with an increased risk of significant adverse maternal and foetal outcomes including still birth, neonatal death, miscarriage, gestational diabetes and pre-eclampsia.\(^\text{51}\)

There is substantial variation in the prevalence of obesity among ethnic communities in the UK, and estimates depend on which measure is used (BMI, waist to hip ratio or waist circumference). Guidance on obesity and risk in BME groups is due to be published by NICE in 2013.

Black African women have the highest rates when using waist circumference. Bangladeshi women have the highest when using waist to hip ratio, followed by Pakistani, Black Caribbean and Irish women. When using BMI, women from Black African, Black Caribbean and Pakistani groups have the highest levels of obesity. Chinese men and women have the lowest levels whichever method is used.\(^\text{52}\)

Based on work done by the Eastern Region Public Health Observatory (ERPHO) in 2008, estimates on costs for overweight and obesity attributable conditions will reach between £23.4 million and £56.2 million in Luton by 2015 if no action is taken.\(^\text{53}\) Costs to the wider economy associated with overweight and obesity are sickness absence, unemployment and early retirement due to disability.
7.1.3 Physical inactivity

Physical inactivity is the fourth leading risk factor for global mortality. The WHO estimates that physical inactivity is responsible for the following proportions of disability-adjusted life years (DALY) in developed countries:

- 23% of cardiovascular disease for men and 22% for women;
- 16% of colon cancer for men and 17% for women;
- 15% of type 2 diabetes;
- 12% of stroke for men and 13% for women; and
- 11% of breast cancer.

One DALY is viewed as one year of healthy life lost. The sum of all these across a population represents the burden of disease and can be thought of as a measurement of the gap between current health status and an ideal health situation free of disease and disability.

The Department of Health commissioned the British Heart Foundation Health Promotion Research Group at Oxford University to prepare estimates of the primary and secondary care costs attributable to physical inactivity for PCTs across England. The cost data for this analysis (see Table 5) were taken from the National Programme Budget Project and were related to five diseases, defined by WHO as having some relation to physical inactivity, that is, ischaemic heart disease, ischaemic stroke, breast cancer, colon/rectum cancer and diabetes mellitus.

For health benefits, adults need to do at least 150 minutes of aerobic activity per week and muscle strengthening exercises on two or more days a week.

Only 11.6% of adults in Luton are achieving at least three times 30 minute sessions of physical activity per week (2010-11). Participation in physical activity is lower in women than men.

There is an association between low socioeconomic status across the life-course and lower physical activity in older women.

In addition, Pakistani and Bangladeshi men and women are less likely to meet Department of Health physical activity guidelines than the general population.

<table>
<thead>
<tr>
<th></th>
<th>Cancer Lower GI</th>
<th>Cancer Breast</th>
<th>Diabetes</th>
<th>CHD</th>
<th>CVD</th>
<th>Whole PCT Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Luton PCT</td>
<td>£217,920</td>
<td>£97,570</td>
<td>£523,650</td>
<td>£1,237,860</td>
<td>£295,920</td>
<td>£2,372,920</td>
</tr>
</tbody>
</table>

Source: Department of Health and British Heart Foundation.
7.1.4 Alcohol

Harmful alcohol use is an important contributor to the global burden of disease.\textsuperscript{13}

The current Government advice\textsuperscript{57} is that people should not regularly drink more than the daily unit guidelines of 3-4 units of alcohol for men (equivalent to a pint and a half of 4% beer) and 2-3 units of alcohol for women (equivalent to a 175 ml glass of wine).

The NHS classifies levels of alcohol consumption for drinkers in the following risk categories.\textsuperscript{58}

- **Lower-risk drinkers** applies to individuals who are drinking within current government guidelines. There is a low risk of causing future harm.
- **Increasing-risk drinkers** are men drinking more than 3 to 4 units per day or women drinking more than 2 to 3 units per day. People within this category are at risk of damaging their health and may already have alcohol-related problems such as fatigue or depression.
- **Higher risk drinkers** are men drinking more than 8 units a day or 50 units per week, or women drinking more than 6 units a day or 35 units per week. Individuals drinking at this level will be at substantial risk of developing alcohol related health problems and are around 4 times more likely to develop cancer of the throat, neck or mouth.

Data published by the North West Public Health Observatory\textsuperscript{59} estimates that in Luton there are:

- 36,722 individuals who abstain from drinking;
- 88,729 individuals drinking at lower-risk levels;
- 17,566 individuals drinking at increasing-risk levels; and
- 3,797 individuals who are higher risk drinkers.

Alcohol has increasingly become a larger part of women’s lives and women’s bodies cannot process alcohol as well as men due to BMI and body composition.\textsuperscript{60} Therefore, alcohol can have a larger impact on women.

Excessive alcohol consumption is a risk factor for a number of health-related complications including:\textsuperscript{61}

- liver damage;
- cardiovascular disease;
- cancer (liver, stomach, colon, breast, pancreas and lung);
- pancreatitis;
- psychiatric and social problems; and
- damage to foetus if women drink excessive alcohol during pregnancy.

In 2010/11, 895 women were admitted to hospital with alcohol-attributable conditions, which equates to a rate of 895 per 100,000 population.\textsuperscript{62} In comparison to statistical neighbours, this is the second lowest rate reported for female admissions in this year.

The Local Alcohol Profiles for England\textsuperscript{63} shows that Luton is performing better than the national and regional averages for female alcohol-specific mortality, female liver disease and female alcohol-specific hospital admissions. The rate of female alcohol-attributable mortality of 10 per 100,000 population in 2010, was the lowest recorded for Luton.
Local alcohol treatment service data (2011-12) indicate:
- between April 2011 and March 2012, 257 different women accessed structured alcohol interventions;
- 60% (153) were aged 41 years and over, only 12% (30) were aged under 25 years;
- nearly one quarter are in regular employment; and
- 143 women were actively engaging in structured alcohol interventions at end of March 2012, of these, 80% (114) were continuing to receive structured support and most had been engaged between 4 weeks and 2 years.

Alcohol Services for the Community (an independent agency specialising in alcohol use and misuse) offer a woman’s-only provision one day a week. Women are also able to engage with alcohol workers through home-visits, outreach and sessions held in GP surgeries.

The Government’s Public Health Strategy ‘Healthy Lives, Healthy People’ published in November 2010 includes the ambition of reducing the cost of over £2.7 billion to the NHS of excessive alcohol consumption. The Government’s alcohol strategy, published in March 2012, endorses a multi-faceted approach to tackling the harm caused by alcohol and recognises the problems caused by cheap alcohol and the importance of local partnership work.

The 2012-2015 alcohol strategy for Luton has three interrelated aims:
- to support adults to reduce the harms caused by excessive alcohol use;
- to prevent young people from being harmed by alcohol use; and
- to ensure Luton is a vibrant and safe town for residents and visitors.

These aims will be achieved by continued multi-agency partnership working with the following principles:
- promoting prevention and early intervention;
- working together to improve outcomes;
- supporting family and social networks;
- supporting responsible licensees, on-sales, off-sales and supermarkets;
- promoting individual and family responsibility; and
- consistent enforcement encouraging acceptable behaviour.
7.2 Wider Determinants of Health

Health inequalities comprise of a wide range of factors including lifestyle factors, access to health services and wider determinants of health.\(^6^7\) There is a social gradient in health, where the lower a person’s social position, the worse their health is likely to be.\(^1^4\)

The WHO report entitled *Preventing Chronic Diseases* states that poverty and social exclusion increase the risk of developing a chronic disease, suffering complications and higher mortality rates. This is particularly the case for women who are more vulnerable to the effects of social inequality and poverty due to reasons such as barriers in accessing services and caregiving roles which may delay women seeking treatment in some cultures.\(^1^3\)

Inequalities between different socioeconomic groups influence life expectancy. These include measures such as income, education, housing, gender, ethnicity, age, disability, lifestyle choices, geographical differences, social cohesion and access to services which all impact on the health of communities. Improving life expectancy and reducing inequalities are key to addressing these wider determinants of health.\(^1^2\) The greater the disadvantage the higher the risk of premature death becomes.

Premature circulatory disease and COPD mortality in women in the most deprived areas of Luton is more than double that of the least deprived areas (see Figure 26). Premature mortality from all respiratory diseases is nearly three times higher in women living in the most deprived areas of Luton compared to the least deprived.

Socioeconomic characteristics of Luton are key determinants of health locally. The picture for women in Luton is stated below.

**Employment**

There is growing evidence that health, work and well-being are closely connected.\(^6^9\) The Health Survey for England, 2010 found a clear relationship between the well-being score and autonomy, support, security and control in an individual’s job.\(^7^0\)

A number of adverse health outcomes are associated with unemployment including poorer mental health, substance misuse, teenage pregnancy, suicidal behaviours and limiting long-term illness.\(^7^1\) The relationship between unemployment and health is complex: unemployment can cause ill health and ill health can cause unemployment.

In Luton’s working age population (aged 16-64 years), 8.6% of men and 9.4% of women (July 2011 to June 2012) are unemployed compared to 8.8% and 7.6% in England respectively.\(^7^2\) The areas with the highest female unemployment in Luton (as measured by claimant count) are Northwell, Dallow, Leagrave and Biscot wards.

Nationally, the highest unemployment rates in women were seen in Pakistani, Black African and Mixed communities which were three times higher than in female White British and White Irish communities.\(^1\)

Women were also more likely to be economically inactive, in particular Bangladeshi and Pakistani women, with the majority looking after family or home.\(^1\)
Income

In Luton there is a gender gap for hourly earnings (excluding overtime): men earn £11.72 and women £8.96, a gap of £2.80 on average. However, these averages do not reveal differences in rates of pay for comparable jobs.

Education

Lower levels of education are associated with higher risk of poor health and linked to socioeconomic status. Educational achievement is frequently linked to unemployment and, therefore, income, poor housing and lifestyle behaviours. Education is seen as a means of enabling social mobility.

In Luton in 2011, 17.8% of men and 18.1% of women have no qualifications compared to 9.8% and 11% respectively in England. Local data on educational attainment in schools shows girls achieving a higher proportion of A-C grades (including maths and English) than boys. However, the achievement for girls is lower than both the national and statistical neighbour average, see Table 6.

Although local data on children not in education employment or training (NEET) is not available by gender, a longitudinal study carried out in 2009 on young people in England found that females NEET were more likely than males to stop looking for work from ages 16-18 years, mainly due to looking after the home and family.

<table>
<thead>
<tr>
<th>Area</th>
<th>Boys %</th>
<th>Girls %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Luton</td>
<td>53.9</td>
<td>60.3</td>
</tr>
<tr>
<td>Children’s Statistical Neighbours*75</td>
<td>53.6</td>
<td>61.3</td>
</tr>
<tr>
<td>England</td>
<td>53.9</td>
<td>63.6</td>
</tr>
</tbody>
</table>

Source: Department for Education.
*Slough, Enfield, Birmingham, Bradford

A Centre for Census and Survey Research study found that education was a predictor of physical activity, diet and obesity in ethnic populations in the UK. Maternal education is associated with these traits in their daughters, and a mother’s lifestyle choices influence their children’s choices. The study also found that women who migrated to the UK as adults were more likely to eat five-a-day fruit and vegetables than ethnic minority women born in the UK.76
7.3 Mental Health

In March 2012 a mental health needs assessment was conducted for Luton. Some of the results from the needs assessment, which are gender specific, are discussed below.

In the UK women are more likely to have been diagnosed with a mental health problem than men (29% compared to 17%). One of the reasons for this could be that women are more likely to report symptoms of common mental health problems. It has also been suggested that some common mental disorders (CMD) in men may have been under diagnosed because they present to their GP with different symptoms.

7.3.1 Estimating numbers of adults with a CMD in Luton

An estimate of the number of adults with a CMD now and in the future is shown in Table 7 based on uplifting the age and sex-specific modelled rates to populations in 2010 and 2022.

Among adults (aged 16-64 years), there are estimated to be 11,959 men in Luton with a CMD (17.6%) and 15,975 women (25.6%). Male numbers are expected to increase by 538 by 2022 and women by 566. Recorded rates of anxiety and depression are between 1.5 and two times higher in women than in men. One in four women will require treatment for depression at some time, compared to one in ten men.

The reasons for this are unclear, but are thought to be due to both social and biological factors. Women can be more vulnerable than men to risk factors linked with poor mental health including socioeconomic disadvantage, low income, low or subordinate social status and rank, social isolation, childhood sexual abuse, domestic violence, sexual violence and unremitting responsibility for the care of others.

Table 7: Estimated number of people with CMD in Luton, 2010

<table>
<thead>
<tr>
<th>Age group</th>
<th>Men</th>
<th>16-24</th>
<th>25-34</th>
<th>35-44</th>
<th>45-54</th>
<th>55-64</th>
<th>Total 16-64</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixed anxiety and depressive disorder</td>
<td>1012</td>
<td>1858</td>
<td>1815</td>
<td>1287</td>
<td>866</td>
<td>6837</td>
<td></td>
</tr>
<tr>
<td>Generalised anxiety disorder</td>
<td>164</td>
<td>594</td>
<td>671</td>
<td>744</td>
<td>302</td>
<td>2475</td>
<td></td>
</tr>
<tr>
<td>Depressive episode</td>
<td>191</td>
<td>502</td>
<td>729</td>
<td>699</td>
<td>384</td>
<td>2504</td>
<td></td>
</tr>
<tr>
<td>All phobias</td>
<td>307</td>
<td>375</td>
<td>326</td>
<td>387</td>
<td>167</td>
<td>1562</td>
<td></td>
</tr>
<tr>
<td>Obsessive compulsive disorder</td>
<td>424</td>
<td>252</td>
<td>228</td>
<td>192</td>
<td>194</td>
<td>1290</td>
<td></td>
</tr>
<tr>
<td>Panic disorder</td>
<td>91</td>
<td>123</td>
<td>66</td>
<td>105</td>
<td>98</td>
<td>484</td>
<td></td>
</tr>
<tr>
<td>Any CMD</td>
<td>1768</td>
<td>3010</td>
<td>2879</td>
<td>2706</td>
<td>1595</td>
<td>11959</td>
<td></td>
</tr>
</tbody>
</table>

| Women | | | | | | | |
| Mixed anxiety and depressive disorder | 2388 | 2525 | 1889 | 1764 | 998 | 9563 |
| Generalised anxiety disorder | 232 | 761 | 868 | 850 | 555 | 3265 |
| Depressive episode | 486 | 442 | 479 | 410 | 340 | 2157 |
| All phobias | 202 | 315 | 360 | 247 | 118 | 1242 |
| Obsessive compulsive disorder | 148 | 172 | 180 | 104 | 116 | 720 |
| Panic disorder | 82 | 335 | 172 | 337 | 128 | 1054 |
| Any CMD | 3419 | 4045 | 3399 | 3200 | 1912 | 15975 |

Source: Modelled rates from APMS 2000 applied to ONS mid-year estimate 2010.
Nearly twice as many women (30%) than men (16%) of working age are economically inactive, and nearly twice as many men than women are in full-time paid employment. Economic and social policies that cause sudden and severe changes to income, including benefits, and employment that cannot be controlled or avoided, can increase gender inequality and the rate of common mental disorders.

There are specific periods in women’s lives when they can be vulnerable to developing a mental health issue. One is during their reproductive years. At least one new mother in ten will experience post-natal depression. Another is older women who are particularly more vulnerable to social isolation, poverty and other factors linked with mental ill health. Women’s greater life expectancy means they are more likely to experience bereavement in old age and institutional care and more likely than men to suffer from physical ill health and long term conditions. Among women, rates of all common mental disorders (except phobias) are higher in the South Asian community.

Psychosocial factors such as depression are associated more strongly with increased risk of CHD in women than men.

### 7.3.2 Suicide and Self Harm

The rates of completed suicide are 3-4 times higher among men than among women. However, women attempt suicide more often than men, consistent with the much higher rates of (unipolar) major depression in women. The higher rates of completed suicide among men probably relate to the more lethal means used by men, for example guns as opposed to overdosing on pills. Where men and women have easy access to lethal drugs and know how to use them, for example physicians, pharmacists and vets, the suicide rates are similar to those of their male colleagues (and higher than rates among women in the general population).

Higher rates of suicide, self-harm and eating disorders are found among Asian adolescent girls. Women refugees and asylum seekers have higher rates of post-traumatic stress disorder and other mental illness.

Rates of self-harm (including cutting, burning and overdose) are two to three times higher in women than in men. It is important to note that self-harming is not necessarily suicidal but can be a behaviour that helps that individuals deal with an underlying mental health issue or overwhelming feelings of distress.

There are also clear links between mental ill health and physical ill health. The Public Health White Paper – Healthy Lives, Healthy People (2010) recognised that mental health and physical health are inextricably linked.

The Royal College of Psychiatrists published a paper on public mental health in 2010, No Health Without Public Mental Health, which summarised research evidence linking mental health and physical health. Poor mental health is associated with an increased risk of diseases such as CVD, cancer and diabetes, while good mental health is a known protective factor. Poor physical health, particularly those people with long term conditions, also increases the risk of developing mental health problems.

Recent research by the Health and Social Care Information Centre show that around 13 in every 1,000 people aged between 18 and 74 with a serious mental health condition died in 2009-10, compared to about four in 1,000 of the general population, that is, the mortality rate for mental illness is three times the population average. Further work is needed to understand the reasons for these mortality rates. It is known that people with schizophrenia and bipolar disorder die an average 25 years earlier than the general
population, largely because of physical health problems. People who use mental health services are less likely than the general population to be offered blood pressure, cholesterol or BMI checks or to receive advice on smoking cessation, alcohol, physical activity or healthy eating.

Public Health moving into the local authority provides opportunities to support work around the wider determinants of health such as housing, poverty, domestic violence, etc. to address some of the root causes of mental health problems in the female population. Luton are also working with health and third sector colleagues around mental health promotion including the provision of Mental Health First Aid training and Youth Mental Health First Aid training to front line staff and other professionals. This is part of a wider preventative programme to support the reduction in stigma and discrimination around mental health issues and to support early diagnosis to support better long term outcomes for individuals.
CHD is one of the leading causes of the female life expectancy gap between Luton and England. CHD mortality accounts for 14% of this gap. The excess mortality in Luton from 2008 to 2010 was 40 deaths which is equivalent to approximately 13 extra avoidable deaths annually.

### 8.1 Mortality

Circulatory diseases comprise the largest proportion of deaths in Luton and England as a whole for both men (32%) and women (28%). CHD and stroke comprise the largest proportion of these deaths accounting for 82% and 72% of all circulatory disease in men and women respectively.

Mortality statistics for CHD and stroke in Luton shows:
- stroke mortality in females is reducing at a faster rate than that in England and is now similar to the national rate;
- the premature mortality rate for stroke is reducing at a similar rate to that in England;
- stroke does not contribute to the gap in female life expectancy between Luton and England;
- The main issue for women in Luton is CHD mortality, both in all ages and premature mortality (see Figure 18), is not decreasing as quickly as in England - the gap between Luton females and England females is 11 times higher in 2008-10 than it was in 2000-02 and has increased by 50% in premature CHD deaths;
- CHD accounts for 7% of all female years of life lost in Luton compared to only 4% for stroke; and
- Luton’s all-age CHD mortality rate is higher, but the rate is similar for premature CHD mortality, in statistically similar neighbours.

Figure 18: Female CHD mortality rates, Luton and England.

Source: Information Centre, ONS and Luton Public Health.
Figure 19 shows the contribution of acute myocardial infarction (AMI) to female mortality. The contribution of AMI (commonly known as ‘heart attack’), to overall female mortality in Luton is one of the highest in England.

Figure 19: Contribution of female AMI deaths to overall female mortality, 2008-10.

Data Source: SEPHO CVD Profiles, 2012.

8.1.1 Inequalities within Luton

Figure 20 shows premature female circulatory disease mortality rates by deprivation quintile. The gap has not narrowed between the most and least deprived areas in Luton, and the most deprived rate remains consistently higher than the least deprived areas. The gap has narrowed slightly with the rest of Luton due a slowing in the rate for the rest of Luton.

Figure 20: Premature female mortality from circulatory diseases by deprivation quintile.

Source: ERPHO and Luton Public Health.
Figure 21 shows that the highest mortality rates are situated in areas in Northwell, Leagrave, High Town, South and parts of Saints, Biscot and Dallow wards. Only the MSOA in Leagrave ward has significantly higher mortality rates than the Luton average, which is adjacent to the only area in Luton with significantly lower rates, Sundon Park.

Figure 21: Female CHD mortality in Luton, 2006-10.
8.2 Risk Factors for CHD in Women

Compared to men, women with CHD tend to be older, experience more symptoms, require more hospitalisations, and have lower self-reported ratings of general wellbeing. In addition to the common risk factors mentioned in the Section 6, such as smoking, obesity and physical inactivity, the other risk factors for CVD are similar for both sexes such as: high blood pressure, high cholesterol, diabetes, family history, age and ethnic background.

Some specific considerations related to women are as follows:

• women with CHD tend to be about 10 years older than men. In Luton the average age of a woman who dies from circulatory disease is 81 years compared to 72 years for men),
• women tend to develop heart problems later in life than men, they also take longer to recover once they have been admitted to hospital,
• the proportion of unrecognised myocardial infarction is greater in women than in men, particularly young women, possibly due to the fact chest pain is absent in up to 43% of patients,
• women are less likely than men to attend a cardiac rehabilitation programme, which is important for long term recovery. This may be due to some women feeling uncomfortable that there are fewer women than men and others may feel they are too busy with family and other commitments,
• more women than men develop hypertension as they get older. The increase in women has been linked to the menopause.

8.2.1 Menopause and CHD Risk

Although it is not clear why women tend to experience CHD at a later age than men, it is likely that hormonal changes after menopause, combined with changes in their risk factors, play a role.

Prior to menopause, the female hormone oestrogen seems to have a protective effect in maintaining adequate levels of “good” high-density lipoprotein cholesterol, which serves to protect the body’s overall cardiovascular health. Oestrogen also works to relax the smooth muscle of arteries, helping to maintain a normal blood pressure and prevent some forms of blood vessel damage. However, the beneficial cardiovascular effects of oestrogen are lost after menopause, when the rate of heart disease-related death for women steadily increases.

A recent study from John Hopkins University reports that women who go into early menopause are twice as likely to suffer from CHD and stroke. This association was found across women of all ethnic groups.

An increase in CHD risk has been observed in pre-menopausal women with irregular menstrual cycles and in those with oestrogen deficiency and hypothalamic dysfunction. Replacement of oestrogen after the menopause has not been shown to be effective in preventing cardiovascular events, and HRT is not recommended for cardiac protection in females with CHD as there is no evidence of benefit.
A meta-analysis concluded that hormone replacement therapy reduces CHD in younger postmenopausal women. In older women, HRT initially increases the risk of CHD events during the first year of treatment and then decreases such events after two years. At around the age of 60 years, the gap in incidence of CHD between men and women is greatly reduced. The risk is thought to be due to the withdrawal of the protective effect of oestrogen around the time of the menopause, although there is currently insufficient evidence to prove this.

Around the time of the menopause, there is a clustering of obesity, hypertension and dyslipidemia, which are all known risk factors for CHD.

### 8.2.2 Symptoms associated with CHD

Women’s symptoms of heart and circulatory disease vary widely from those of men. Women’s symptoms tend to be more subtle and less predictable, leading to potentially poorer outcomes due to later diagnosis.

When women have angina, they are more likely than men to experience ‘atypical’ symptoms. Instead of chest pain, they are more likely to experience a hot or burning sensation, or tenderness to touch, which may be located in the back, shoulders, arms or jaw - and often women have no chest discomfort at all. As a consequence, angina attacks in women are often misdiagnosed as musculoskeletal pain or gastrointestinal problems.

Myocardial infarctions also tend to manifest differently in women. Often, instead of the crushing chest pain that is considered typical for a heart attack, women may experience nausea, vomiting, indigestion, shortness of breath or extreme fatigue and sleep disturbance but no chest pain. These symptoms unfortunately can also be attributed to conditions other than the heart and, therefore, potentially delaying appropriate treatment. Also, women (especially women with diabetes) are more likely than men to have "silent" heart attacks - that is, heart attacks without any acute symptoms at all, and which are diagnosed only at a later time, when subsequent cardiac symptoms occur.
8.3 Management of CHD in Primary and Secondary care

8.3.1 Primary Care

Prevalence of CHD

The number of people, in 2011-12, recorded with CHD in Luton practices is 5,408 (2.5% of the total practice population). However, estimates by practice indicate that the number of people with CHD in Luton in 2011 to be 7,680 (3.7% of the total population). The disparity between the two is investigated further below. Recorded prevalence figures are not available by gender, but the number of Luton women estimated by Public Health Observatories to have CHD in 2011 was 2,888.

Local predictions, based on population growth and using modelled prevalence figures for Luton, shows that the total number of people with CHD in Luton could increase from an estimated 7,549 in 2011 to 8,592 in 2020 and the number of women with CHD could increase from 2,888 to 3,219.

Recorded and Modelled Prevalence

Recorded prevalence of CHD is significantly lower than the England average, and is in the lowest 20% nationally. Recorded prevalence figures are not adjusted for differences in demographics so this lower figure is to be expected with the younger age profile in Luton. However, the modelled expected prevalence of CHD in Luton (adjusted for age, gender, ethnicity and deprivation) gives an estimated CHD prevalence of 3.7% compared to a recorded value of 2.5%. There are a potential 30% of CHD patients in Luton not currently recorded in practices. This gap has reduced from 35% in the previous year.

A low ratio may indicate a higher number of undiagnosed patients however, there may be specific reasons why certain practices have a higher or lower prevalence than their population would predict, for example lower or higher than average risk (for example, smoking prevalence), later presentation of patients with the disease or weaknesses in the model methodology. However, this highlights areas for further investigation.

The National Support Team’s report on finding the missing thousands of people who are undiagnosed highlights that the identification of patients who already have, or who are at risk of developing a disease, along with the successful management of their condition, is crucial to help reduce premature mortality, morbidity and inequalities in health. They state that a critical element to achieving the best possible health outcomes for the population is to ensure that chronic disease registers are comprehensive by addressing the barriers that prevent patients from visiting their GP.
An NHS Health Check helps to identify a person’s risk of developing heart disease, stroke, diabetes and kidney disease at an early stage so that action can be taken to prevent these conditions. The Health Check includes the measure of a person’s BMI, smoking status, alcohol consumption, blood pressure, cholesterol and family history of CHD.

In 2011/12, 21,665 men and 19,502 women were eligible for an NHS Health Check. The number of completed checks was 1,717 and 1,821 for men and women, respectively.

Figure 22 shows the distribution of ages at which patients completed a health check. The proportion of younger men and women completing a health check is lower than the proportion of those who are eligible. Older men are over represented among those who complete a health check.

Figure 22: Eligible (bars) for, and completion of (lines), an NHS Health Check in 2011/12.

Source: Quest browser and Luton Public Health.
8.3.2 Secondary Care

The female CHD emergency admission rate is in the top 40% nationally, see Figure 23. It is significantly higher than the national average at 180.9 per 100,000 for Luton females compared to 153.7 for females in England. Luton’s rate is similar to the statistical neighbour average (175.1). In addition elective angioplasty rates are low and emergencies are high.

The overall emergency admission rate was twice that for people living in the most deprived areas in Luton compared to the least deprived.

Although female-specific trends are not available, the CHD emergency admission rate overall has increased by 25.2% between 2003/04 and 2010/11, compared to a decrease nationally of 16.5% and a 14.3% reduction in Luton’s statistical neighbours. Programme budgeting data suggests that Luton’s spend on CHD is high, but outcomes are poor, suggesting that spend needs to be refocused on primary and secondary prevention and earlier identification.

Figure 23: CHD emergency admission rates (DSR per 100,000), for females, 2010/11.
### 8.4 Key Points

#### Female Mortality
- The mortality gap with England is increasing both for all ages and premature mortality.
- Inequalities within Luton females has not narrowed for circulatory disease mortality.
- Highest mortality in areas in Northwell, High Town, South, Saints and particularly Leagrave wards.

#### Primary and Secondary Care
- Recorded prevalence 30% lower than expected.
- Angioplasty rates low for elective admissions but one of the highest for emergencies.
- Rates of emergency admissions for heart attacks in women are high.

#### Risk Factors
- Reducing risk factors, including addressing wider determinants of health, and leading a healthy lifestyle are key to a healthy heart. Smoking is the leading modifiable risk factor and the evidence shows it has a greater impact for women developing CHD. Particular focus needed on smoking in pregnancy, women aged 55-64 and smokeless tobacco products.

#### CHD accounts for 14% of the female life expectancy gap between Luton and England and 7% of all years of life lost to females.

#### Early identification is vital as evidence shows women are less likely to call for help due in part to a lack of awareness of the signs and symptoms. Women also tend to be older when they develop CHD and therefore often have other co-morbidities and recovery is longer.

#### Spend and service provision
- High spend on CHD and poorer outcomes compared to other areas in England.
Cancer accounts for 9.3% of the gap in female life expectancy between Luton and England. It is also the largest cause of premature mortality (deaths aged under 75 years) in Luton women accounting for 36% of all female years of life lost in 2008-10.

### 9.1 Cancer Incidence

As the population continues to age, the incidence of cancer continues to rise. Incidence is measured by the number (or rate) of newly diagnosed cases of cancer each year.

In the three years 2006-08 there were just over 1,100 new cases of cancer in females, which is a rate of 373 per 100,000 population compared to 353 per 100,000 in males. The Luton female incidence is higher than the national (364 per 100,000) and statistical neighbours (350 per 100,000) average, but the difference is not significant.

For females in Luton, the most common cancer is breast cancer, with approximately 345 new cases during 2006-08 and a rate of 125.5 per 100,000 female population, see Table 8. The next most common is colorectal cancer (120 new cases and a rate of 36 per 100,000 population), lung cancer (111 new cases and a rate of 35.5 per 100,000 population) and cancer of the ovary (69 new cases and a rate of 23.5 per 100,000).

It has been predicted that, in 2020, for all cancers combined, there will be relatively little change in age-standardised incidence rates. The number of new cancer cases per year in England is, however, predicted to increase which is mainly due to the anticipated effects of population growth and ageing. It is also predicted that cancer patients in 2020 will be older than today's cancer population. This implies that, in Luton, in 2020 the number of new cases of cancer each year could increase from 367 to 386, due to population growth alone.
9.2 Cancer Mortality

As in the UK, cancer is the second largest cause of death in Luton after circulatory disease. Cancer accounted for nearly a quarter of all female deaths (24%) in Luton in 2008-10 compared to 28.5% of all male deaths. More than half of all the female cancer deaths (56%) were women aged under 75 years compared to 49% of all male cancer deaths.

Figure 24 shows that trends for female cancer mortality had been similar to the England average for both all-age and premature mortality until quite recently. There was an increase in rates in 2007-09 and, although these have slightly reduced in 2008-10 they are still above the England average (although not significantly different). The gap between Luton and England has widened for both but is larger for female premature mortality (7 times higher than it was in 2000-02).

This explains the larger number of YLL attributed to cancer for females. The trend for statistical neighbours is in line with the England average and therefore Luton’s rate remains higher for both all-age and premature cancer mortality.

Local projections of premature cancer mortality show an increasing trend for women and widening inequalities with the national average for both males and females.\(^5\)

Figure 24: All-age cancer mortality rates per 100,000 population.

\[\text{Source: Office for National Statistics and Public Health, Luton Public Health.}\]
Figure 25 shows the proportion of cancer-specific deaths in Luton females. Lung cancer is the major cause of death accounting for 1 in 4 cancer deaths in 2008-10 followed by breast cancer which accounts for just under 1 in 7 (15%).

Common risk factors for each of these can be found in Section 7.

When looking at all-age mortality, the three main cancers (breast, lung and colorectal) have been reducing in line with or below the England average. Data for premature mortality show that there are four cancer types which stand out with increasing female premature mortality trends; these are ovarian (also increasing for all age mortality), cervical, stomach and colorectal cancer.

Figure 25: Proportion of female cancer deaths by cancer type, 2008-10.

Source: ONS, The Information Centre and Luton Public Health.
9.2.1 Inequalities within Luton

The premature cancer mortality rate has decreased in the most deprived areas and has therefore started to narrow the inequality gap with the least deprived areas and the rest of Luton. However, the gap has only narrowed due to an increase in mortality in the least deprived areas, see Figure 26.

Figure 26: Premature female cancer mortality by deprivation quintile.

Figure 27 shows premature cancer mortality rates by MSOA. The highest premature mortality rates for cancer are in areas in Northwell, Challney, Dallow and Crawley wards. The pattern is similar when looking at all ages, although areas in High Town and South wards now replace Crawley. None of the rates are significantly higher than the Luton average.

Figure 27: Premature female cancer mortality.
9.3 Staging of Cancer

Diagnosing cancer at an earlier stage and ensuring access to the best possible treatment are expected to lead to significant improvements in cancer survival. The Eastern Cancer Registration and Information Centre (ECRIC) is leading the way in the UK in cancer staging, with 70% of all tumours that can be, being assigned a stage at diagnosis. This is done by the medical staff at ECRIC, based on detailed clinical and pathological information and knowledge.

The data below is taken from an ECRIC report on cancer survival statistics and is not available by gender. Figure 28 shows that in 2009, in the East of England, the cancer site that had the highest proportion of cases diagnosed late was lung cancer with 67% of new cases diagnosed at stages 3 or 4. This is followed by cancer of the ovary with 53% of new cases diagnosed in stages 3 or 4. The cancer sites diagnosed the earliest are uterine, cervix, breast, skin and bladder, with 78-81% of new cases diagnosed in stages 1 or 2. This is also evident in survival rates for these sites, with higher survival in cancer sites such as breast compared with lung cancer (see Section 9.4).

In Luton, data is only available for all stageable cancers in a combined format and is not available by gender or tumour site. Figure 29 shows Luton has the lowest proportion of new cases diagnosed at stage 1, however, when combined with stage 2, Luton moves up to the fourth lowest (35% of new cases). Luton has the fourth highest proportion in the East of England for new cases of cancer diagnosed in stages 3 or 4 (51%).

Figure 28: Incidence by stage of the most frequent stageable cancer sites in the East of England, 2009.
Figure 29: Incidence by stage of most frequent stageable cancer sites across the East of England, 2009.

Source: ECRIC and Luton Public Health.
9.4 Cancer Survival

Cancer survival is the key measure of the success of cancer treatment services. Relative survival is measured at one, three and five years after diagnosis and is an estimate of the proportion of cancer patients who die of their disease, after adjustment for death from other causes. It is a ratio of the survival rate amongst cancer patients and the survival that would have been expected if they had the same overall mortality rates as the general population. Survival data is only available for the four main cancers (breast, lung, prostate and colorectal).

Breast cancer

For Luton females, breast cancer survival at both one and five years is in line with the England average. Female survival rates for lung and colorectal cancer are not as good.

Lung cancer

Trend data is not available by gender but shows that lung cancer survival rates are increasing with a narrowing in the gap with England for one year survival. However, five year lung cancer survival rates in Luton are increasing but the gap between Luton and England is not reducing.

Female-specific survival rates in Luton are available for one, three and four year lung cancer survival and relate to patients diagnosed with cancer between 2005-09 for one year, 2003-07 for three year and 2002-06 for four year survival. They show that survival rates for lung cancer in women in Luton are lower than England, although not significantly different, see Figure 30.

Figure 30: Survival rates for lung cancer in women.
Colorectal cancer

The survival rates for colorectal cancer (all persons) show a particular problem in one year survival where rates are decreasing in Luton and increasing nationally, therefore increasing the gap. Five-year survival is below the England average but has shown a positive increase.

Female-specific survival rates for patients diagnosed in 2005-09 (one year), 2003-07 (three year) and 2001-05 (five year) show lower colorectal cancer survival, but not significantly different, see Figure 31.

Figure 31: Survival rates for colorectal cancer in women.

Source: ECRIC and Luton Public Health.
Ovarian Cancer

In Luton, ovarian cancer appears to be one of the main contributors to increasing female cancer mortality. It is the fourth most common cancer in Luton women, has significantly higher incidence in Luton females compared to females in England and has increasing all-age and premature mortality rates. In addition the staging data highlights that in the East of England more than half of all new cases of ovarian cancer are diagnosed at stages 3 or 4 compared to 36.9% at stages 1 or 2 (in 10% of cases the stage of diagnosis is not recorded). National analysis in 2010 of cancer presentations, shows 29% of ovarian cancer cases presented as emergencies. Late diagnosis of ovarian cancer is not uncommon as the signs and symptoms can be similar to and can often lead to consideration of other more common illnesses.

Ovarian cancer mainly affects women over 50 years of age. In Luton in 2006-10, 94% of all ovarian cancer deaths were to women aged 50 years or older. In Luton there has been particular focus on improving ovarian cancer early diagnosis as part of the education programme with general practices.

9.5 Risk Factors for Cancer in Women

An individual’s risk of developing cancer depends on many factors, including age, lifestyle and genetics. It is estimated that up to half of all cancer cases diagnosed in the UK could be avoided if people made changes to their lifestyle, such as stopping smoking, moderating alcohol intake, maintaining a healthy bodyweight and avoiding excessive sun exposure. Specific risk factors for the four main cancers in women in Luton are detailed below.
**Risk factors for Cancer**

**Breast cancer**

Alcohol – breast cancer risk seems to increase as alcohol consumption increases. There is no evidence of a higher risk for women who have a family history compared to women as a whole.

Weight - a high body mass index (BMI) is associated with a clinically significant increase in postmenopausal breast cancer risk in the general population. In premenopausal women, evidence is limited and conflicting regarding the effect of a high BMI on the risk of breast cancer.

Menstrual/reproductive factors - limited evidence suggests that the risk of breast cancer is increased by early menarche, older age at first birth, and late menopause (55 years of age or older). However, the risk of breast cancer is decreased by pregnancy, with increasing numbers of pregnancies conferring greater risk reduction.

Physical activity – moderate physical activity is associated with a decreased risk of breast cancer in the general population.

Breastfeeding – offers a small protective effect on the risk of breast cancer.

Contraceptive – Limited evidence suggests that the combined oral contraceptive taken for long periods (more than 5 years) may increase the risk of breast cancer in women with a BRCA1 mutation.

HRT – Evidence suggests that women with a family history of breast cancer have the same relative increase in risk of breast cancer from hormone replacement therapy (HRT) as the general population. Limited evidence suggests HRT does not increase the risk of breast cancer in women who carry the BRCA1 mutation.

**Ovarian cancer**

- An estimated 21% of cases are linked to lifestyle and environmental factors.
- Family history – 10% of cases are caused by an inherited gene that increases risk (BRCA 1 and BRCA 2). The same genes also increase the risk of breast cancer. Therefore, women who have had breast cancer have twice the risk of developing ovarian cancer compared to other women in the population. If the breast cancer was diagnosed before the woman was 40 then the risk of ovarian cancer is four times higher.
- Using hormone replacement therapy
- Being overweight
- Having endometriosis or ovarian cyst
- Smoking and diet factors

**Colorectal cancer**

- Diet – a diet high in fibre and low in saturated fat is believed to reduce the risk of colorectal cancer whereas a diet high in red or processed meat can increase the risk, as can smoking and high alcohol consumption. Leaner people are less likely to get colorectal cancer than those who are overweight.
- Family history – having a close family member with the disease can significantly increase the risk.
- Age – around 80% of people are diagnosed with colorectal cancer after the age of 60.

**Lung cancer**

Current or ex-smoker

- Current smokers are 15 times more likely to die from lung cancer than life-long non-smokers. Risk of developing lung cancer is affected by level of consumption and duration of smoking. There is also evidence that starting to smoke at a young age carries additional risks of lung damage.

- Compared with non-smokers, those who smoke between 1-14 cigarettes a day have eight times the risk of dying from lung cancer and those who smoke 25 or more cigarettes a day have 25 times the risk. However, risk is more dependent on duration of smoking than consumption: smoking one pack of cigarettes a day for 40 years is more hazardous than smoking two packs a day for 20 years.

- Exposure to certain substances such as radon and asbestos - It has been estimated that around 4% of lung cancers in women are linked to occupational exposures.

Diet –

- The American Institute for Cancer Research (AICR) recently estimated that 30 to 40% of cancers could be prevented based on a healthy diet and moderate exercise alone. A high fat diet is associated with a raised risk of lung cancer, whereas a diet high in fruit reduces the risk.

- In women, the intake of dairy products and vegetables has been linked with a lower risk of lung cancer in smokers, and black tea with a lower risk in non-smokers.

Family history

- having a family history of lung cancer does increase the risk to some degree. Hereditary lung cancer is higher in women, non-smokers and those with early onset lung cancer (lung cancer that occurs before the age of 60).
9.6 Management of Cancer in Primary and Secondary Care

The most effective way of improving cancer outcomes is diagnosis at an early stage. Early detection of cancer greatly increases the chances for successful treatment and survival which will impact on life expectancy. There are two key components of early detection of cancer: education to promote early diagnosis and presentation and screening.\textsuperscript{111}

Research suggests that a major reason for poorer outcomes in England is that cancers are diagnosed at a later stage,\textsuperscript{96} often when presenting as an emergency at hospital. In Luton, in 2008, 27\% of cancers were diagnosed via emergency presentation compared to 24\% in England as a whole. A high proportion of lung and ovarian cancer are detected via emergency presentation (38\% and 29\% respectively). These sites also have late staging and low survival data.

9.6.1 Primary care

Significant efforts have, and continue to be made, in raising public awareness of cancer signs and symptoms, for example the Department of Health ‘be clear on cancer’ campaigns for lung and bowel cancer, and more recently the national campaign on upper gastrointestinal cancers.\textsuperscript{113} To best achieve early diagnosis, GPs need to be well equipped to identify and appropriately refer potential cancer patients at the earliest opportunity.

As part of the National Awareness and Early Diagnosis Initiative, in 2012/13 Luton Public Health and Mount Vernon Cancer Network (MVCN) are delivering a Primary Care Cancer Education Programme. The aim of the programme is to support and educate professionals to recognise and refer cancers for diagnosis and treatment at the earliest presentation opportunity. The programme was launched with a CCG led event focused on colorectal, prostate and ovarian cancers. This has been followed by a series of five tumour-site-specific workshops, led by local hospital consultants covering, lung, colorectal, ovarian, upper gastrointestinal, and skin cancers.

The workshops have been well attended with 24 of the 31 practices in Luton attending. This programme will continue to March 2013.

The workshops have also provided a platform for Luton-based Macmillan GPs to promote the use of diagnostic tools such as the Risk Assessment Tool, Safety Netting guidelines (a consultation technique used to ensure timely reassessment of a patient’s condition), and audits that can be used in Primary Care to both better understand and enhance the cancer patient pathway.

To complement the education workshops, MVCN is commissioning a series of educational films aimed at Primary Care to enhance awareness of signs and symptoms and local referral pathways and introduce GPs to the local secondary care teams. Filmed with local consultants and GP’s in Luton the first two films have focused on colorectal cancer and ovarian cancer. A series of four further films will be commissioned in the autumn, with one on skin cancer currently in development.
9.6.2 Screening

The NHS Cancer Screening Programmes oversee the implementation of the breast, bowel and cervical cancer screening at a national level.

Screening is directed at certain groups, at certain ages where disease likelihood increases and is provided at optimal times that increase detection.

The incidence rates for breast, colorectal and cervical cancer are higher in Luton than national rates.

Table 8 shows coverage data for breast, cervical and bowel cancer screening between 2009 and 2012. Ensuring high levels of participation in screening and follow-up is essential for effective cancer prevention. However, obtaining high levels of coverage is challenging.

Breast cancer screening coverage data for the eligible population of Luton is above the national target of 70% and has remained fairly consistent between 2009 and 2012. Cervical cancer screening consistently fails to achieve the national target. A local cervical screening health equity audit conducted in March 2011 by NHS Bedfordshire and NHS Luton identified low uptake in South Asian women, predominantly due to cultural issues and language barriers. Low uptake with the younger female population is a result of a highly transient population of young students.

Further analysis highlights that those aged 25-34 years and 55-64 years should be targeted in order to improve uptake, see Table 9.

Bowel cancer screening was introduced in Luton in April 2009 for men and women. Uptake rates for eligible females in Luton are poor but slowly increasing, see Table 10. Achieving optimal uptake does not happen immediately. Various strategies are underway to address the low uptake of bowel cancer screening. Health trainers are leading work with communities and families as part of an outreach programme. In addition, national and regional media campaigns have been run.

Diagnosing cancer at an earlier stage via screening and ensuring access to the best possible treatment, at an early disease stage, can lead to significant improvements in survival.
Table 9: Coverage data for breast, cervical and bowel cancer screening, 2009-12

<table>
<thead>
<tr>
<th>Screening Programme</th>
<th>2009-10</th>
<th>2010-11</th>
<th>2011-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast Cancer Screening</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coverage</td>
<td>75.2%</td>
<td>74.0%</td>
<td>75.60%</td>
</tr>
<tr>
<td><em>Data Source: KC63</em></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cervical Cancer Screening</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coverage</td>
<td>77.3%</td>
<td>76.9%</td>
<td>76.4%</td>
</tr>
<tr>
<td><em>Data Source: KC53</em></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bowel Cancer Screening – (Female – Data reports Jan to Dec)</td>
<td>48.9%</td>
<td>49.2%</td>
<td>51.5%</td>
</tr>
<tr>
<td>Coverage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Data Source: OpenSight East of England Cancer Portal</td>
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</tbody>
</table>

Table 10: Cervical screening coverage by age, 2009-12

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>2009/10</th>
<th>2010/11</th>
<th>2011/12</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Eligible Population</td>
<td>% Coverage*</td>
<td>Eligible Population</td>
</tr>
<tr>
<td>25 - 29</td>
<td>9250</td>
<td>58.5</td>
<td>9401</td>
</tr>
<tr>
<td>30 - 34</td>
<td>8167</td>
<td>75.1</td>
<td>8483</td>
</tr>
<tr>
<td>35 - 39</td>
<td>7158</td>
<td>81.8</td>
<td>7081</td>
</tr>
<tr>
<td>40 - 44</td>
<td>6959</td>
<td>83.8</td>
<td>6879</td>
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<tr>
<td>45 - 49</td>
<td>6168</td>
<td>85.1</td>
<td>6381</td>
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<tr>
<td>50 - 54</td>
<td>5021</td>
<td>84.0</td>
<td>5087</td>
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<tr>
<td>55 - 59</td>
<td>3937</td>
<td>82.0</td>
<td>4020</td>
</tr>
<tr>
<td>60 - 64</td>
<td>3382</td>
<td>79.3</td>
<td>3450</td>
</tr>
</tbody>
</table>

*Data Source: KC53

*% of women screened in last 5 years

Key:

<table>
<thead>
<tr>
<th>Rating</th>
<th>Breast screening</th>
<th>Cervical screening</th>
<th>Bowel screening</th>
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<tbody>
<tr>
<td></td>
<td>≥70%</td>
<td>≥80%</td>
<td>≥60%</td>
</tr>
<tr>
<td></td>
<td>67.0-69.9%</td>
<td>76.0-79.9%</td>
<td>57.0-59.9%</td>
</tr>
<tr>
<td></td>
<td>≤66.9%</td>
<td>≤75.9%</td>
<td>≤56.9%</td>
</tr>
</tbody>
</table>
### 9.7 Key points

#### Inequalities in Incidence and mortality

The incidence of cancer continues to rise. The mortality gap with England is increasing both for all ages and premature female mortality.

Cancer of the ovary shows increasing mortality trends in all age and premature mortality along with stomach, colorectal and cervical cancer.

Ovarian cancer is one of the main contributors to increasing cancer mortality in Luton.

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#### Inequalities in Incidence and mortality

Reducing inequalities for premature cancer mortality for women in Luton is a priority. The gap has narrowed slightly but only as a result of an increase in mortality in the least deprived areas.

The highest mortality is in areas within Northwell, Challney, Dallow, Crawley, High Town and Southwards.

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#### Cancer accounts for 9% of the life expectancy gap between Luton and England and 36% of all years of life lost to females.

#### Survival

Diagnosing cancer at an early stage via screening and ensuring access to the best possible treatment is expected to lead to significant improvements in survival.

Survival rates for women with lung and colorectal cancer are below the England average.

Colorectal cancer survival is reducing in Luton and increasing nationally. Reducing the inequality gap should remain a local priority.

#### Staging

Luton has a high proportion of cancer cases diagnosed in the most advanced stage. Promoting early diagnoses is key for all cancer sites, particularly for lung and ovarian cancer.

Education to promote early diagnosis, presentation and screening should continue to be prioritised.

#### Risk Factors

Up to half of all cancer cases in the UK could be avoided if people made lifestyle changes. Women should be supported to stop smoking, reduce alcohol intake and maintain healthy bodyweight.
Chronic obstructive pulmonary disease (COPD) is a long term condition and is an important contributor to the female life expectancy gap in Luton. It is used to describe disorders such as emphysema and bronchitis, where people have difficulty breathing due to long-term damage to their lungs. Pneumonia is inflammation of the tissue in one or both lungs often caused by an infection. Combined they account for 4% of Luton YLL lost in females and account for 7% of the overall gap in life expectancy between Luton females and females in England. All respiratory diseases account for 21% of this overall life expectancy gap.

10.1 Mortality

Although mortality rates from both COPD and pneumonia have decreased since 2004, Figure 32 shows that female COPD mortality is consistently higher than the England average, with a sustained reduction in rates in recent years. The most recent data (2008-10) show rates that are similar to statistical neighbours, but this is due to an increase in their average in 2008-10.

Pneumonia mortality rates in Luton females have slightly increased and maintained that level over the last few years, whereas the average rate for England and statistical neighbours has continued to decrease. Although the difference is not significant, the gap with Luton has widened slightly.

The overall gap in mortality between Luton and England has decreased by 48% for COPD and by 51% for pneumonia since 2000-02. However, the mortality gap for pneumonia has increased in recent years from an absolute gap of -0.1 years in 2006-08 to 2.4 years in 2008-10.

Figure 32: All-age female mortality from COPD

Source: Information Centre, ONS and Luton Public Health.
Deaths from the ‘other’ respiratory category are due to many separate causes, notably lower respiratory infection, asthma and interstitial lung disease. Risks factors may differ from those identified for COPD and pneumonia in Section 10.2, and a more detailed investigation is required.

In 2008-10 there were 96 deaths attributable to COPD in women in Luton in which 27% were under the age of 75 years. There were 113 female deaths due to pneumonia with only 12% aged under 75 years (much lower compared with 40% in Luton men).

The excess mortality compared with the national rate for both COPD and pneumonia is 24 deaths in 2008-10 and for all respiratory diseases it is 46 excess deaths over the three years. This equates to an average of 8 extra avoidable deaths annually for COPD and pneumonia and 23 extra avoidable deaths annually for all respiratory diseases.

10.1.1 Inequalities within Luton

The premature COPD mortality rate (<75 years) has decreased at a faster rate in the most deprived areas compared to the least deprived and rest of Luton, see Figure 33. Therefore, this has resulted in a reduction of the inequality gap. Gender specific estimates cannot be obtained because numbers are too small to draw meaningful conclusions, however, the trend shows a similar picture for both males and females.

Figure 33: Premature COPD mortality, by deprivation quintile.
Figure 34 shows age standardised mortality rates for respiratory disease. The highest rates are situated in areas in Leagrave, Challney, Biscot, High Town and South wards. The MSOA in Challney is the only area with a rate significantly higher than the Luton average.


10.2 Risk factors for respiratory disease in women

10.2.1 Pneumonia

Risk factors for pneumonia are similar in men and women and include people at the extremes of age, living in socially deprived areas, co-morbidities and smoking.

Age and co-morbidities

A study that looked at hospital admissions in England found an increase of 34% between 1997-98 and 2004-05 in patients admitted to hospital with a primary diagnosis of pneumonia. The increase was more marked in older adults, in whom the mortality rate was also highest. In Luton the majority of female deaths from pneumonia are in women aged over 75 years, only 12% of deaths are premature (under 75 years).

It has been suggested that this rise is due to an aging population and also the presence of other co-morbidities such as diabetes and COPD.

A population based study of pneumonia in the UK found that incidence of pneumonia was strongly related to age. The obvious peaks of incidence were in children aged under 4 years and the second in people aged over 65 years. The incidence rate was lowest for people aged 20–24 years.

In general the association between pneumonia and age was similar in men and women, although the increase in incidence occurred about five years earlier in men. There was also a slight peak in pneumonia incidence in women aged 30–39 years. This could be because of higher primary-care consultation rates in females resulting in increased ascertainment of milder pneumonia cases. Alternatively, it is possible that women in this age group are exposed to a greater risk of chest infections from their children thereby resulting in an actual increase in chest infections among this group.

Evidence suggests that less than a third of people with a diagnosis of pneumonia nationally are admitted to hospital, and so the majority of cases of pneumonia are diagnosed and managed in primary care. This suggests that hospital data may underestimate the true incidence of pneumonia.

Smoking

Smoking causes damage to the lungs which increases the risk of developing the infection that causes pneumonia. Nationally there were 2,100 deaths from pneumonia attributable to smoking in 2011, representing 15% of all pneumonia deaths in women. In Luton this corresponds to smoking being attributable to approximately 6 deaths from pneumonia each year for women.

Deprivation

An ecological study looking at the relationship between social deprivation and hospital admissions for respiratory infections found deprivation to be associated with respiratory infections in all age groups, particularly for children aged under 5 years. In addition a population based study of GP data also showed a 28% higher incidence of pneumonia in areas with higher levels of deprivation compared to least deprived areas. Premature mortality from all respiratory diseases is nearly three times higher in women living in the most deprived areas of Luton compared to the least deprived.

10.2.2 COPD

The worldwide prevalence of COPD is growing faster in women than in men. Over the past two decades, COPD-related mortality rates have also grown faster in women, and since the year 2000 more women than men have died from COPD.
COPD is caused by exposure to cigarette smoke and this rise in cases of COPD in women is mainly due to the increase in women smokers. In 2011, 82% of all female COPD deaths nationally were attributable to smoking.\textsuperscript{120} In Luton, this corresponds to smoking being attributable to approximately 26 female deaths from COPD each year. In addition, other environmental exposures (such as those in the workplace) may cause COPD.

Research suggests that the typical symptoms of COPD: shortness of breath, chronic cough and sputum production are all likely to be more severe in women than men and that the effects COPD have on women are far more detrimental than they are in men.\textsuperscript{123,124} Data suggests that women are more likely to experience the following symptomatic variations:\textsuperscript{122}

- more severe shortness of breath,
- more anxiety and depression,
- a lower quality of life,
- increased airway hyper-responsiveness.

Factors other than smoking

Approximately 15% of patients with COPD have not smoked and 80% of these are women, indicating that women are more susceptible to other causative factors than men.\textsuperscript{126} It is not clear why this may be so but studies suggest that oestrogen and genetics may play a role in female lung function.\textsuperscript{127,128,129}

Treatment of COPD

The most common pharmacological intervention for COPD is the use of bronchodilators to improve lung function. In patients for whom it is appropriate, with severe or very severe COPD symptoms, inhaled corticosteroids are sometimes used. There is evidence to suggest that of patients using inhaled medications, women are less likely to use them correctly compared to men. One study found 4% of women using them correctly, compared to 43% of men.\textsuperscript{130}

Stopping Smoking

Smoking remains the single most important risk factor for COPD. But women who are successful at quitting show an average increase in lung function that is predicted to be 2.5 times greater than the improvement in men during the first year of quitting.\textsuperscript{125} There was no significant gender difference after five years. Additionally, research suggests that women who quit smoking benefit more in terms of lung function than do men, but men show greater symptom improvement. This may suggest the reason why women, statistically, find it more difficult to quit than men.\textsuperscript{122,125} In Luton, in 2011-12, the proportions of men and women quitting were similar (59% and 58% respectively).
10.3 Management of COPD in Primary and Secondary Care

10.3.1 Primary Care

The goals of COPD management are focused on improving current control (such as symptoms, everyday activities and lung function) and preventing future risk (such as slow disease progression and reduced mortality). Encouraging patients with COPD to stop smoking is one of the most important components of their management.

Delay in presentation is one of the main concerns with COPD. A chronic cough is a common symptom. Many cigarette smokers do not perceive this to be a medical symptom and therefore do not seek help. Others may be reluctant due to guilt or that they know they will be told to stop smoking. Case finding of individuals with undiagnosed COPD is very important.

Recorded and Modelled Prevalence

The number of people registered with COPD in Luton practices is 2,497 (1.2%). Recorded prevalence is significantly lower than the England average (1.7%). Prevalence estimates indicate that the number of people in Luton in 2011 with COPD was 4,270 (2.1%). There is a potential 42% of COPD patients in Luton not currently recorded in practices which is similar to the gap in England as a whole. More information on understanding the gap between recorded and expected prevalence can be found in Section 8.3.1.

Recorded prevalence figures are not available by gender but the estimated number of women who have COPD in Luton is 1,489.

Secondary Care

Luton’s rate of 2.3 COPD emergency admissions per 1,000 population is similar to the national average. However, the emergency admission rate of COPD per 100 COPD patients is in the highest 20% nationally. This is also the picture seen in elective admissions for COPD patients with a rate in the top 20% nationally. Once admitted for COPD, Luton patients spend longer in hospital than average (7 days compared to 6.3 nationally and 5.7 days for statistical neighbours).

Programme budgeting data suggests low spend and poor outcomes for respiratory diseases in Luton. This, together with the low identification and high rates of emergency admission suggest the need for a greater focus on identification and primary and secondary prevention.
## 10.4 Key points

<table>
<thead>
<tr>
<th>Mortality</th>
<th>Inequalities</th>
</tr>
</thead>
<tbody>
<tr>
<td>COPD mortality is consistently above the national average although the gap with England has narrowed. Just over a quarter of deaths are premature. Mortality from pneumonia has started to increase in Luton. The majority of female deaths are women aged 75 years and over. This requires further and investigation.</td>
<td>Inequalities in COPD mortality have reduced within Luton and between Luton and England. However, mortality from pneumonia has shown an increase in inequalities with England. The areas in Luton with the highest mortality rates due to respiratory disease are in Challney, Leagrave, Biscot, High Town and South wards.</td>
</tr>
</tbody>
</table>

**COPD and Pneumonia**

account for 7% of the life expectancy gap between Luton and England and 4% of all years of life lost to females. All respiratory disease account for 21% of this overall life expectancy gap.

<table>
<thead>
<tr>
<th>Risk Factors</th>
<th>Primary and Secondary Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Encouraging patients to stop smoking is one of the most important factors in preventing pneumonia and managing patients with COPD. Smoking cessation has been shown to have greater effect in women but that women find it harder to quit smoking than men.</td>
<td>Delay in presentation is a key concern with COPD. Case finding of undiagnosed patients is important with a possible 42% of COPD patients not recorded locally. Emergency and elective admissions for COPD patients in Luton are in the highest 20% nationally.</td>
</tr>
</tbody>
</table>
11.1 Conclusions

The focus of this report is on understanding female life expectancy in Luton. Inequalities between females in Luton and England have been widening in recent years and the causes behind this increasing inequality gap have been unclear. This report highlights the key disease areas impacting on inequalities between Luton and England and within Luton.

11.1.1 Infant Mortality

Infant mortality significantly impacts on life expectancy. The three year infant mortality rates are currently high due to a larger than average number of infant deaths in 2009. The rate is projected to reduce significantly from 2010 onwards. The analyses show the high rate in 2009 has a particular impact on male and not female life expectancy. Therefore, this does not explain the slower rate of increase currently being seen in female life expectancy data. The data for 2010 and 2011 is showing a reduction in both infant and all deaths and this will have an impact on increasing life expectancy for both males and females as long as subsequent years continue to improve.

11.1.2 Life Expectancy Gap

There are three disease areas that account for the majority of the current gap between Luton and England female life expectancy. These are coronary heart disease (CHD), premature cancer and respiratory disease. Targeting these disease areas will have the most significant impact on reducing Luton’s female life expectancy gap with England.

Younger age groups and premature mortality are important target areas, with the largest relative inequality being seen in younger people compared to England. Premature mortality is a measure of unfulfilled life expectancy and therefore has a significant impact on improving life expectancy figures. The analysis on years of life lost identified cancer as the main cause of premature mortality in women.

Working to improve outcomes in the target age groups is key to increasing life expectancy. Targeting large numbers of older people will impact on life expectancy, such as interventions aimed at improving the accuracy of disease registers. In addition, identifying younger people at risk and preventing early mortality can add a greater number of years gained to life expectancy.

11.1.3 Wider Determinants & Risk Factors

Factors such as education, income and employment have been shown to impact on women’s health. In Luton women are more likely to have no educational achievements, be unemployed and earn less than men. Educational achievement as measured by achievement at GCSE is improving, but the need for a focus on education and skills for women remains.

Four main unhealthy lifestyle behaviours (smoking, obesity, low physical activity and excessive alcohol consumption) are identified as the main risk factors for chronic diseases such as CHD, cancer and respiratory disease. Although the risk factors are similar for men and women they can manifest themselves differently or have a greater impact for one gender. For example, smoking is a significant risk factor for all three diseases for both men and women; however, women who smoke have a higher risk of developing CHD.

There is a higher prevalence of women smoking in White ethnic groups; however the use of smokeless tobacco products needs further exploration locally to understand use
in BME communities. Areas within Luton identified with higher smoking attributable mortality were areas in Northwell, Leagrave, Farley and High Town wards.

11.1.4 Coronary Heart Disease

CHD makes up 14% of the overall gap and mortality rates are consistently above the England average with widening inequalities. The within Luton inequalities have not narrowed between the most deprived and rest of Luton and a number of areas are identified with higher female mortality than the Luton average in particular Leagrave ward.

Recorded prevalence is lower than expected and emergency admissions for CHD are significantly higher than the England average. Nearly a third of all circulatory disease is attributable to five risk factors (tobacco, alcohol, obesity, high blood pressure and high cholesterol). Smoking is the most important modifiable risk for CHD and as mentioned the risk for women who smoke and then develop CHD is 25% higher than males.

11.1.5 Cancer

Cancer makes up 9.3% of the overall gap in life expectancy between Luton and England. It is also the largest cause of premature mortality in Luton females accounting for 36% of all years of life lost in 2008-10. Inequalities have narrowed slightly within Luton but mainly due to an increase in mortality in the least deprived areas.

The main cancers identified in the report as having an impact on the high number of years of life lost amongst women are lung cancer, colorectal cancer and ovarian cancer. In addition, stomach and cervical cancer show increasing premature mortality although numbers are small and difficult to analyse. Incidence of cancer continues to rise and ovarian cancer was identified with high incidence as well as increasing mortality rates and lower survival rates (late presentation/diagnoses).

The highest premature mortality rates are within Northwell, Challney, Dallow and Crawley wards.

Up to half of all cancer cases could be avoided by making lifestyle changes such as stopping smoking, reducing alcohol intake and maintaining healthy bodyweight. Smoking is the largest risk factor for cancer with approximately one third of all cancer deaths attributable to smoking.

Promoting early diagnoses through screening and education is a key priority locally, particularly for lung and ovarian cancer where a larger number of cases are diagnosed in stages 3 and 4.

11.1.6 Respiratory Disease

Pneumonia, COPD and other respiratory disease make up 21% of the overall gap between Luton and England. COPD and pneumonia mortality rates are above the England average. COPD mortality has been reducing but mortality from pneumonia has been increasing slightly. A number of areas are identified with higher than Luton mortality in particular Challney ward. Nationally smoking accounts for at least 80% of COPD cases and women are at particular risk of developing COPD if they start to smoke at a young age.

Delay in presentation is a key concern for COPD and case finding of undiagnosed patients is key with lower than expected recorded prevalence. Emergency admissions for COPD are also in the highest 20% nationally.
11.2 Recommendations

The evidence presented in this report indicates where resource should be focused in order to achieve the required step change in female life expectancy in Luton. The areas requiring focused attention are summarised below. These give the priorities for action and indicate where responsibility for leadership to ensure delivery will rest. Many of the leadership responsibilities for these priorities will lie with Public Health, but some will be organisation wide. Others require effective and collaborative working across organisational boundaries in order to achieve the improvements required. Recommended leads are provided below:

11.2.1 Prevention

Wider determinants (led by Luton Borough Council)

- Ensure that the skills and employability strategy meets the needs of Luton’s women to improve attainment and employment prospects

Smoking (led by Public Health)

- Undertake a health needs assessment to identify issues and establish a local baseline for use of smokeless tobacco products. From this work an action plan will be developed
- Increase uptake of stop smoking services among young women, pregnant women and women aged 55-64 years

Obesity and physical activity (led by Public Health)

- Develop obesity services for women of child bearing age, ensuring appropriate care pathways for women including before and during pregnancy.
- Develop an adult weight management pathway, integrating physical activity guidelines and ensure frontline staff can deliver brief intervention, ensuring they are tailored to gender and ethnic specific needs.

Alcohol (led by Public Health)

- Continue to raise awareness that women should drink fewer units of alcohol than men and women considering and during pregnancy should avoid alcohol altogether.

Mental Health (led by Public Health)

- Deliver Mental Health First Aid training to increase awareness of mental health issues, including the links to physical health and to encourage early diagnosis and support.
- Encourage NHS Health Checks for women with mental health problems and promote healthy lifestyle services such as Stop Smoking Services, Weight Management, sensible drinking and volunteering opportunities.

11.2.2 Early intervention

Delivering a programme for finding the ‘missing thousands’ at a much earlier stage has the potential to make dramatic in roads to increasing life expectancy in Luton, recommendations are:

- Identify women living with undiagnosed disease, particularly diabetes, heart and respiratory disease (led by CCG).
• Encourage the uptake of NHS Health Checks in women aged 40-44 and increase data quality in ethnicity reporting and postcode to be able to determine deprivation (led by Public Health).
• Develop actions that promote the completeness of disease registers and enable joint working between the NHS and local authority to empower communities to present earlier (led by CCG and Public Health).
• Improve quality and reduce the variability in primary care. This has a clear impact on the outcomes patients’ experience (led by CCG).
• Deliver a community based peer education project to increase awareness of the signs and symptoms of cancer (led by Public Health).
• Cervical screening uptake in the 25-34 and 55-64 years age groups are particularly low, therefore a focus is required on improving uptake through education and awareness (led by NHS Commissioning Board).

11.2.3 Targeted Interventions

Geographical
This work will be led by the Health Inequalities Delivery Board (of the HWB) and will focus initially in Leagrave. The learning will be used to inform work in other areas around developing effective local interventions to improve female life expectancy.
• Recruit and train volunteer ‘Health Champions’ to outreach to the local community, raise awareness of key health issues and signpost to relevant services for women
• Raise awareness amongst GPs of the scale and consequences of undiagnosed CHD, COPD and Diabetes
• Increase access to NHS Health Checks at community venues to supplement existing Primary Care service focusing on priority wards and ‘at risk’ populations
• The cancer peer education project will be focussed initially in the wards with the highest premature mortality rates and then rolled out to other areas (led by Public Health).

11.2.4 Further research

This work will be led by Public Health.
• Further investigation is needed in relation to improving disability free life expectancy. In particular using the 2011 census results (published in 2013) to identify areas of focus.
• Monitor mortality from pneumonia investigating reasons for the increase and investigate the risk factors and causes of death in the ‘other’ respiratory disease category.
### Abbreviations and Acronyms

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<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>APHR</td>
<td>Annual Public Health Report</td>
</tr>
<tr>
<td>AAACM</td>
<td>All-age, all-cause mortality</td>
</tr>
<tr>
<td>AMI</td>
<td>Acute myocardial infarction</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>CCG</td>
<td>Clinical Commissioning Group</td>
</tr>
<tr>
<td>CHD</td>
<td>Coronary heart disease</td>
</tr>
<tr>
<td>CMD</td>
<td>Common mental disorder</td>
</tr>
<tr>
<td>COPD</td>
<td>Chronic obstructive pulmonary disease</td>
</tr>
<tr>
<td>CVD</td>
<td>Cardiovascular disease</td>
</tr>
<tr>
<td>DALY</td>
<td>Disability-adjusted life year</td>
</tr>
<tr>
<td>DFLE</td>
<td>Disability-free life expectancy</td>
</tr>
<tr>
<td>DSR</td>
<td>Directly age standardised rate</td>
</tr>
<tr>
<td>ECRIC</td>
<td>Eastern Cancer Registration and Information Centre</td>
</tr>
<tr>
<td>ERPHO</td>
<td>Eastern Region Public Health Observatory</td>
</tr>
<tr>
<td>HWBS</td>
<td>Health and Wellbeing Strategy</td>
</tr>
<tr>
<td>HWB</td>
<td>Health and Wellbeing Board</td>
</tr>
<tr>
<td>IMD</td>
<td>Index of Multiple Deprivation</td>
</tr>
<tr>
<td>JSNA</td>
<td>Joint Strategic Needs Assessment</td>
</tr>
<tr>
<td>LHO</td>
<td>London Health Observatory</td>
</tr>
<tr>
<td>LSOA</td>
<td>Lower layer super output area</td>
</tr>
<tr>
<td>LTC</td>
<td>Long term condition</td>
</tr>
<tr>
<td>MSOA</td>
<td>Middle layer super output area</td>
</tr>
<tr>
<td>NEET</td>
<td>Not in education, employment or training</td>
</tr>
<tr>
<td>NICE</td>
<td>National Institute of Health and Clinical Excellence</td>
</tr>
<tr>
<td>ONS</td>
<td>Office for National Statistics</td>
</tr>
<tr>
<td>PCT</td>
<td>Primary care trust</td>
</tr>
<tr>
<td>PHO</td>
<td>Public Health Observatory</td>
</tr>
<tr>
<td>PHOF</td>
<td>Public Health Outcomes Framework</td>
</tr>
<tr>
<td>QOF</td>
<td>Quality Outcomes Framework</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
</tr>
<tr>
<td>YLL</td>
<td>Years of life lost</td>
</tr>
</tbody>
</table>
All internet web addresses were accessed on 16th November 2012.


http://www.drinkaware.co.uk/facts/factsheets/alcohol-and-women


