

## 7. ADULTS

### 7.1 Overview of Burden of Disease

#### *7.1.1 The context and importance of an overview of burden of disease*

Disease burden or 'Burden of Disease' can be described as a derived measure used to compare the impact of health problems such as diseases and injuries on morbidity and mortality in the population. 'Burden of disease' is an estimate of the impact of health problems quantified in terms of quality-adjusted life years (QALYs) or disability adjusted life years (DALYs). Burden of disease measures health loss due to disease or injury despite treatment, rehabilitation and/or prevention interventions in the health system. It is quantified using a metric - Disability adjusted life years (DALYs). DALYs according to the World Health Organisation<sup>1</sup> (WHO) is a single measure that can be used to quantify the burden of diseases, injuries and risk factors in a defined population. DALYs for a disease or health condition are calculated as the sum of the Years of Life Lost (YLL) due to premature mortality in the population and the Years Lost due to Disability (YLD) for people living with the health condition or its consequences:

A disability-adjusted life year (DALY) is a measure of overall disease burden, developed in the 1990s as a way of comparing the overall health and life expectancy between population groups. This metric estimates the total number of years of life lost due to disease (YLL) and years of life lived with a disability (YLD). The impact of burden of disease can be measured using indicators of mortality and morbidity and can also be expressed using the financial cost to the health and care system. Long term conditions such as diabetes, hypertension, heart disease, cancer and lung disease are known to be the major causes of burden of disease in the population that result in higher disability adjusted life years (DALYs) thereby reducing the number of year of life lived in good health also referred to as healthy life expectancy (HLE).

**Global burden of disease (GBD) 2013** - The World Health Organisation (WHO) commissioned a Global Burden of Disease (GBD) study in 1990 which was subsequently updated in 2000-2002 and recently in 2013; using additional diseases and conditions and extensive analysis of mortality and burden of disease attributable to 26 global risk factors. Public Health England in partnership with the Institute for Health Metrics and Evaluation have published the GBD findings for UK to compare health levels and trends for England by region and deprivation levels for years 1990-2013. Main findings from the GBD analysis for the South East of England are presented later in this report.

The Global Burden of Diseases, Injuries, and Risk Factors Study (GBD) is the largest and most comprehensive effort to date to measure epidemiological levels and

trends worldwide. The Global Burden of Disease (GBD) provides a tool to quantify health loss from hundreds of diseases, injuries, and risk factors, so that health systems can be improved and disparities can be eliminated. Public Health England in partnership with the Institute of Health Metrics and Evaluation, Washington, USA have produced modelled estimates of DALYs at United Kingdom (UK) regional levels for the first time to allow understanding of causes of disease and risk factors contributing to the highest burden of disease in the population. This will enable in evaluating the health priorities for targeted action to maximise achievement of good health outcomes and to reduce health inequalities. In the UK and the Southeast region the greatest contributors to the burden of disease are neoplasms (all cancers), mental and behavioural disorders, circulatory diseases and musculoskeletal diseases.

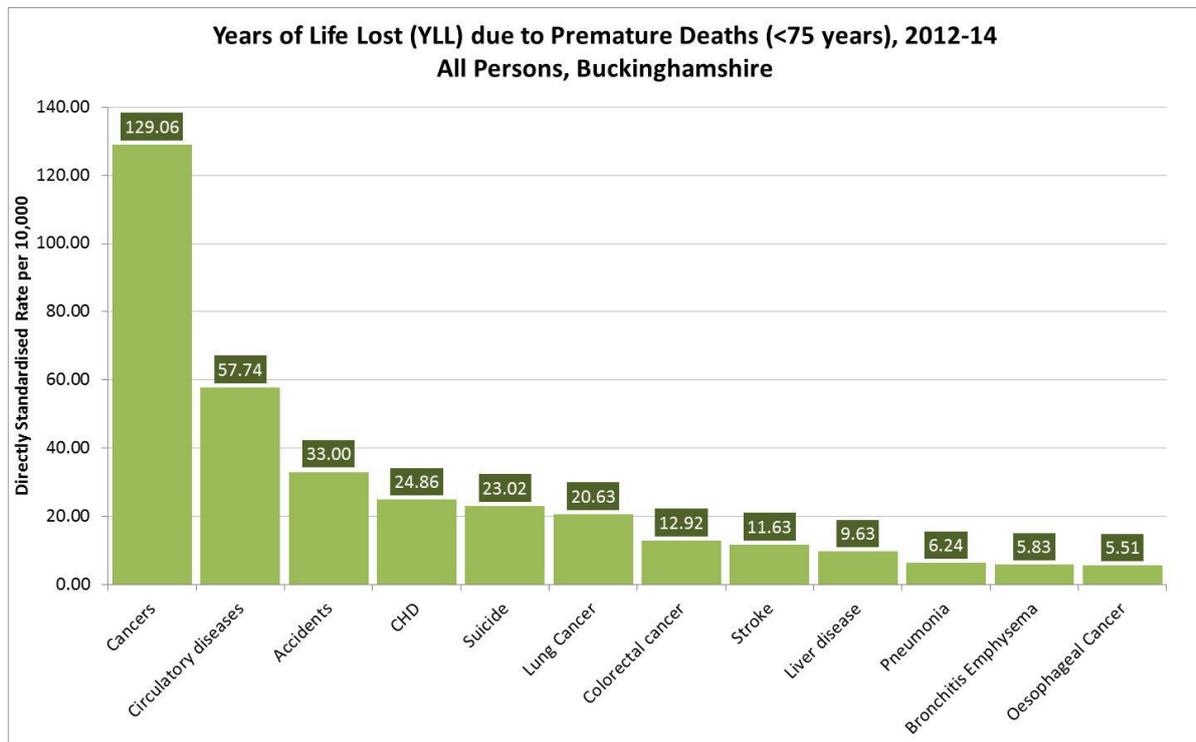
### *7.1.2 Prevalence*

Effective understanding of local demographics and robust assessment of current and future health and care needs is essential to ensure continuous improvement in quality and health and wellbeing outcomes, while making sound financial investments in health and social care.

In Buckinghamshire the main causes of disease leading to most years of life lost (YLL) in the population aged <75 years are – all cancers, circulatory diseases, (breast cancer in females), accidents, coronary heart disease, suicides and lung cancer (Figure 1). For cancers the maximum years of life lost are due to lung cancer, colorectal cancer, oesophageal cancers and stomach cancers. In females, breast cancers result in maximum years of life lost amongst different types of cancer (Health and Social Care Information Centre).

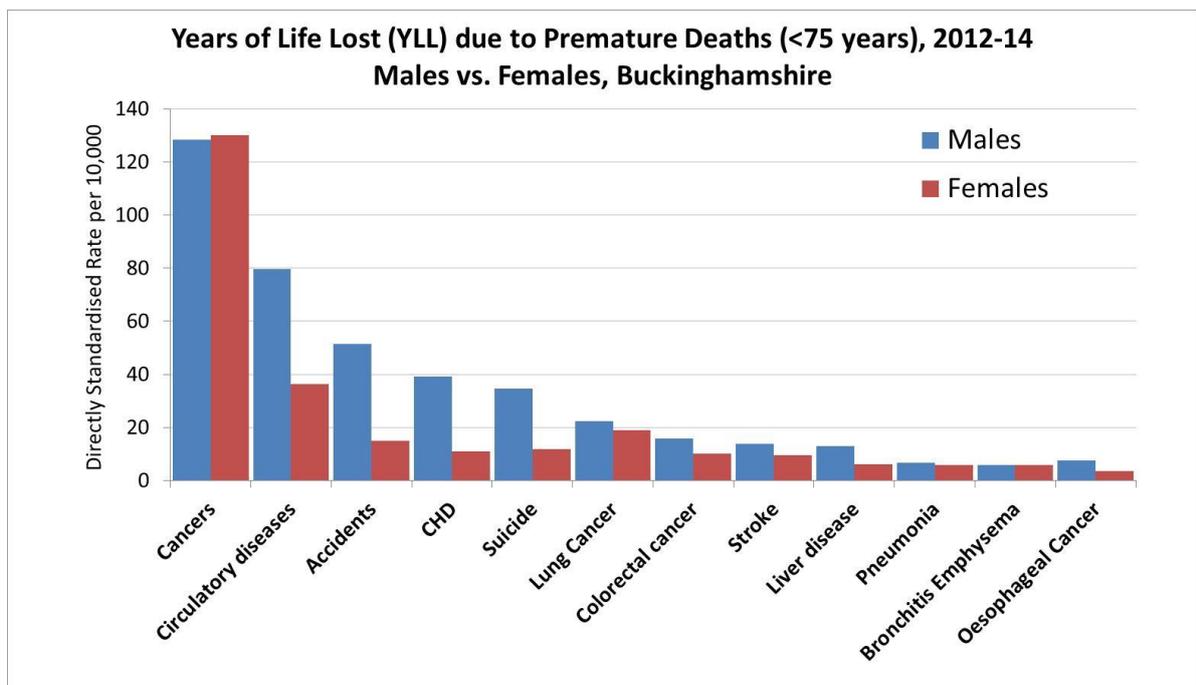
Rates in men are higher than women for YLL due to circulatory diseases, accidents, heart disease and suicides (Figure 2). Overall, Buckinghamshire is one of the affluent counties in England with lower levels of deprivation (as measured through the Index of Multiple Deprivation) ranking fifth lowest in terms of deprivation levels in England (Index of Multiple Deprivation, 2015), and better population health outcomes compared to the English population. However there are marked health inequalities that result in poorer health and outcomes in population groups resulting in increased burden of disease in the deprived population leading to lower life expectancy in people living in poorer areas. The YLL in Buckinghamshire are lower compared to the England and South East average for most causes except for accidents. (Figure 3)

**Figure 1 Years of life lost due to selected causes in all persons <75 years n Buckinghamshire in 2012-14**



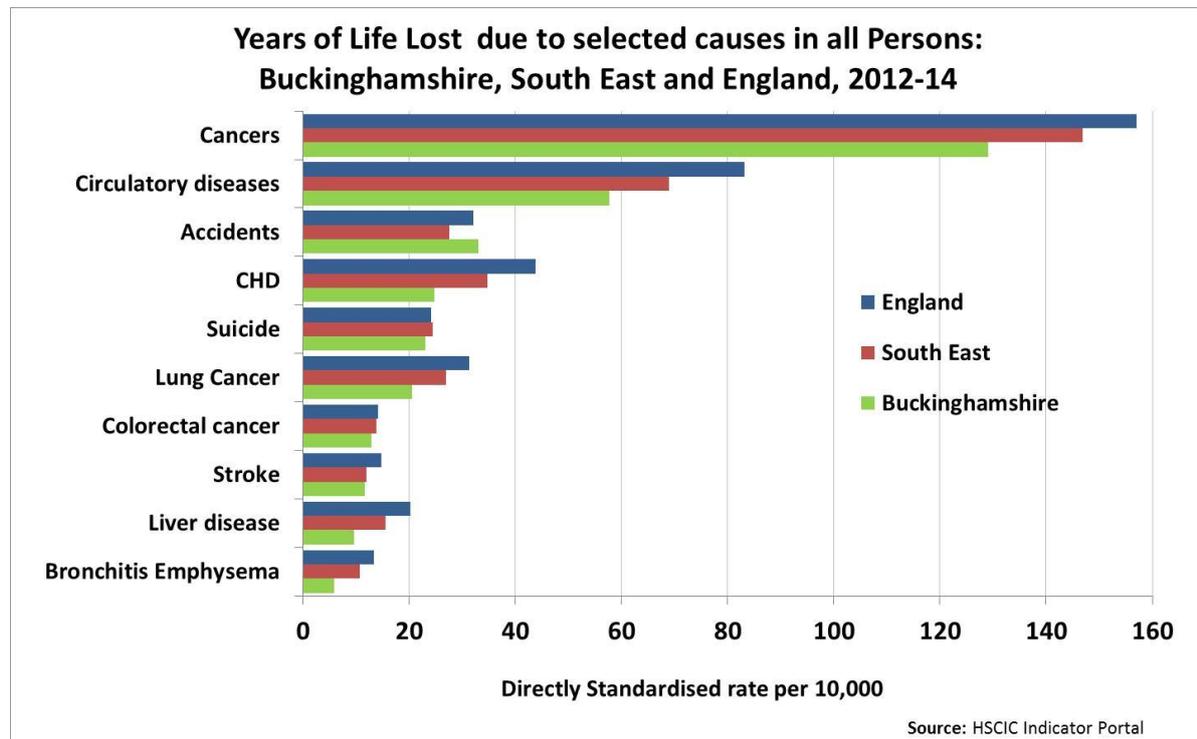
Source: Health and Social Care Information Centre, Indicator portal.

**Figure 2 Years of life lost due to premature deaths (<75 years) for selected causes in males and females in Buckinghamshire in 2012-14**



Source: Health and Social Care Information Centre, Indicator portal.

**Figure 3 Years of life lost due to selected causes in all persons <75 years in Buckinghamshire compared to South East and England in 2012-14**



Source: Health and Social Care Information Centre, Indicator portal.

#### 7.1.2.1 Potential years of life lost (PYLL) from causes considered amenable to healthcare

This indicator measures death from causes considered ‘amenable’ or attributable to healthcare that ideally should not occur in the presence of timely and effective healthcare. This indicator was introduced to ensure that the NHS is held to account for doing all that it can to prevent amenable deaths. PYLL is measured as the number of years of life lost by every 100,000 dying from a condition which is usually treatable, measured in a way which allows for comparisons between populations with different age profiles and over time.

In Buckinghamshire, the PYLL rates in 2012-14 are significantly lower compared to the England average. Buckinghamshire has the lowest PYLL rates compared to its statistical neighbours (CIPFA peers). The three year pooled averages for PYLL are published by the Health and Social Care Information Centre (HSCIC) at Clinical Commissioning Group (CCG) level, and results show that there has been a minor reduction (insignificant) of 8% in Aylesbury Vale CCG and 3% in Chiltern CCG compared to 2% in England from 2009-11 to 2012-14 (five year period). The rates are higher in males compared to females with no major change over past five years in both CCGs in Buckinghamshire.

### 7.1.2.2 Mortality from causes amenable to healthcare

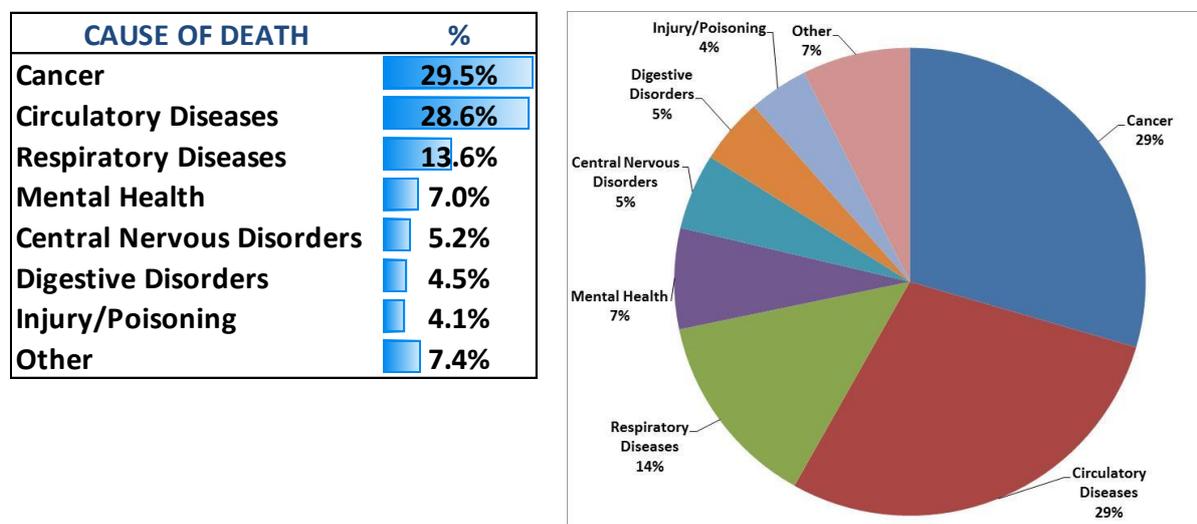
Primary aim of healthcare intervention is to treat disease by timely, appropriate and high quality healthcare to ensure positive patient outcomes and to ensure death rates are low in all age groups. Mortality from causes amenable to healthcare adds to the burden of disease in the population and is measured and expressed as a directly standardised rate in <75 population.

The mortality rate from causes amenable to healthcare in <75 population in Buckinghamshire at 81.7 per 100,000 is lower compared to the England rate of 109.3 per 100,000. Annual trend data from 1995 to 2014 shows a reduction in by 62% in Buckinghamshire compared to 58% reduction in England. The rate in females is lower than males but the percentage reduction over the years is similar in both males and females in Buckinghamshire.

### 7.1.2.3 Main causes of death in Buckinghamshire

The main causes of death in Buckinghamshire in 2014 in all persons of all ages that contribute to the DALYs are – Cancers, circulatory diseases, respiratory diseases, mental health, diseases of the central nervous system, digestive disorders and injury/poisoning (Figure 4). These are in mostly similar to the national average.

**Figure 4 Main causes of death in all persons of all ages in Buckinghamshire, 2014.**



Source: Office for national statistics, primary care mortality files. 2014

The findings from the mortality or deaths analysis shows that the standardised mortality rates in Buckinghamshire are significantly better than the National average. 10 year reduction in mortality rate is faster in females (37%) compared to males (35%) in Buckinghamshire. 1 in 3 males, 1 in 5 females and on average 1 in 4 persons (26.8%) die under the age of 75 years (premature mortality).

There were 4014 deaths in all persons of all ages from any cause in Buckinghamshire in 2014. 1079 of all deaths from any cause in Buckinghamshire are in population aged under 75. 36% reduction in all age all cause mortality rates over past 10 years higher than the National and South East reduction of 32%. Premature mortality rate (<75 years) in the most deprived population is significantly higher than the least deprived population.

For cancer, 1 in 3 of all deaths are due to cancer (1190 deaths in 2014). There has been a 22% reduction in cancer mortality rate over past 10 years compared to the national reduction of 19%. In Buckinghamshire, cancer mortality rate in the most deprived population is significantly higher compared to the least deprived population. Cancer mortality rate in Buckinghamshire is significantly better than the England average

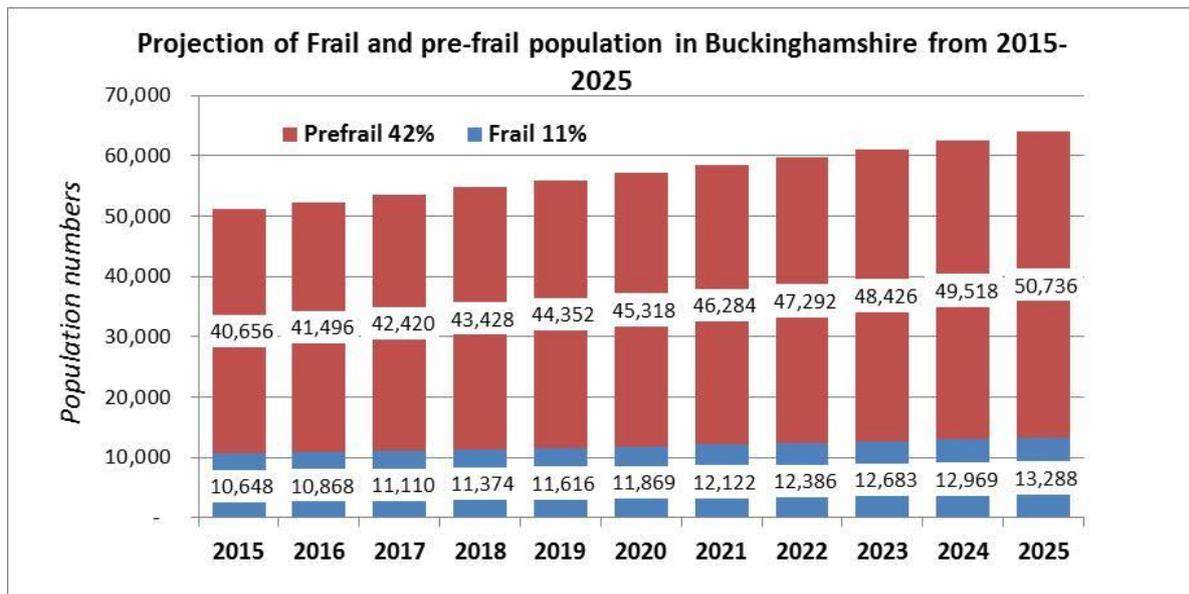
For cardio-vascular diseases, 1 in 3 of all deaths are due to circulatory diseases (1107 in 2014). Buckinghamshire has seen a 49% reduction in circulatory disease mortality over past 10 years compared to a 38% reduction nationally. Circulatory disease mortality rate in Buckinghamshire is significantly better than the England average. Mortality rate in the most deprived population (DQ5) is more than twice compared to the least deprived population (DQ1).

#### 7.1.2.4 Frailty

Frailty is a state where an individual may be living with one or more limiting long term conditions that has an impact on their physical and mental health leading to dependency to carry out their activities of daily living with a risk of developing long term disability. Estimated based on work done by Collard et.al 2012<sup>ii</sup> shows that in 2015, around 10,700 Bucks residents are estimated to be frail elderly meaning those with more than one long term condition or those with a condition that needs assistance with activities of daily living (approximately 11% of the elderly population in community dwellings is estimated to be frail and 42% considered pre-frail).

By 2020, the estimated frail elderly population is expected to rise to around 12,000 means a rise of 1300. Evidence shows that the frail elderly population is 3 times more likely to end up in a hospital compared to the non-frail older population aged 65 and over. Around 42% elderly population are considered as pre-frail which equates to around 45,000 people pre-frail in Bucks by 2020 compared to 40,000 in 2015. (Figure 5).

**Figure 5 Projection of frail and pre-frail population in Buckinghamshire. 2015-2025**



Source: Office for national statistics sub-national population projections, 2014

### 7.1.3 Comparisons

The burden of disease is highest in older population aged 65 and over, due to the presence of long term conditions that affect the quality of life of an individual. Buckinghamshire’s older population aged 65+ is expected to increase by 11% over the next 5 years which consequently will result in an increase in long term conditions such as diabetes, dementia, cancer and lung disease. Enhanced detection, increased survival rate and life expectancy also contributes to increase in the burden of disease in the population.

The annual growth rate of Buckinghamshire population is 0.7% while the growth in 65+ population is three times that, at 2.2%. By 2020, the 80+ population is projected to rise by 20% compared to 2015, and by 44% by 2025 compared to 2015. By 2020 the estimated population aged 65 and over who will be considered as frail elderly is 12,000 a rise of 12% over 2015.

In Mar 2015 there were a total of 24,925 registered diabetes patients and 3,733 patients with Dementia in Buckinghamshire. From 2015 to 2020, the estimated prevalence of dementia in 65+ population is expected to rise by 19% (8,123 people) while that of diabetes is expected to rise by 11% (13,374 people in 2020) compared to 2015 based on modelled estimates for 65+.

The proportion of people estimated to have a limiting long term illness that affects their life significantly is expected to rise by 15% by 2020 compared to 2015 to around 20,000 individuals aged 65+. The proportion of people aged 65+ admitted to

hospitals due a fall related injury is expected to rise by 17% by 2020 to around 2340 compared to 2014-15 baseline.

2% of the most complex patients in both CCGs in Buckinghamshire account for 15% of the total spend by CCGs. Around 760 patients in Chiltern CCG and 490 patients in Aylesbury Vale CCG have complex co-morbid conditions that result in non-elective hospital admission. Majority of these patients are aged 55 and over with patients aged 65-85 accounting for highest number of hospital admissions.

Lifestyle related issues such as diet, smoking, alcohol consumption, physical activity will have a great influence on prevalence of long term conditions such as diabetes, CVD, stroke and dementia over the next 5-10 years. Early intervention and prevention is beneficial in reducing the future burden of disease and secondary care activity.

#### 7.1.3.1 Preventable mortality

According to Public Health England, deaths are considered preventable if, in the light of the understanding of the determinants of health at the time of death, all or most deaths from the underlying cause (subject to age limits if appropriate) could potentially be avoided by public health interventions in the broadest sense. Preventable mortality overlaps with, but is not the same as 'amenable' mortality, which includes causes of deaths which could potentially be avoided through good quality healthcare. Preventable mortality and amenable mortality are the two components of 'avoidable' mortality, as defined by the Office for National Statistics in April 2012.

The inclusion of this indicator (alongside other indicators in the Public Health and NHS Outcomes Frameworks) reinforces the Government's commitment to reducing avoidable deaths through public health policy and interventions and sends out a clear signal that prevention of respiratory disease is just as important as treatment. Age-standardised rate of mortality that is considered preventable from respiratory disease in persons less than 75 years per 100,000 population. Data is sourced from the Office for National Statistics.

The mortality rates from deaths considered preventable are significantly lower in Buckinghamshire compared to the England average for most indicators for persons and also males and females as seen in the grid below. (Table 1)

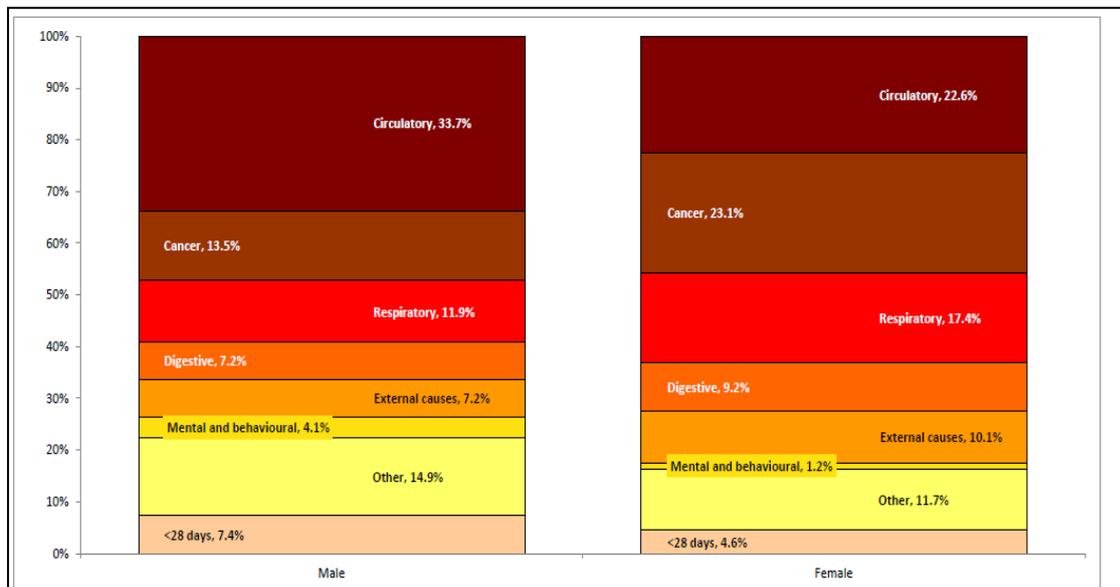
**Table 1 Age standardised mortality rates from causes considered preventable per 100,000 population**

Indicator	Period	Bucks		Region Value	England Value	CIPFA Rank
		Count	Value			
4.03 - Mortality rate from causes considered preventable (Persons)	2012 - 14	1956	135.3	160.2	182.7	1
4.03 - Mortality rate from causes considered preventable (Male)	2012 - 14	1132	167.2	203	230.1	1
4.03 - Mortality rate from causes considered preventable (Female)	2012 - 14	824	107.4	120.9	138.4	1
4.04ii - Under 75 mortality rate from cardiovascular diseases considered preventable (Persons)	2012 - 14	425	32.8	41	49.2	1
4.04ii - Under 75 mortality rate from cardiovascular diseases considered preventable (Male)	2012 - 14	306	48.7	62.5	74.1	1
4.04ii - Under 75 mortality rate from cardiovascular diseases considered preventable (Female)	2012 - 14	119	17.9	20.7	25.6	2
4.05ii - Under 75 mortality rate from cancer considered preventable (Persons)	2012 - 14	827	62.9	75.1	83	1
4.05ii - Under 75 mortality rate from cancer considered preventable (Male)	2012 - 14	400	63.8	80.9	90.5	1
4.05ii - Under 75 mortality rate from cancer considered preventable (Female)	2012 - 14	427	62.5	69.9	76.1	1
4.06ii - Under 75 mortality rate from liver disease considered preventable (Persons)	2012 - 14	121	8.9	12.9	15.7	1
4.06ii - Under 75 mortality rate from liver disease considered preventable (Male)	2012 - 14	80	12.1	17.4	21	1
4.06ii - Under 75 mortality rate from liver disease considered preventable (Female)	2012 - 14	41	5.9	8.7	10.6	1
4.07ii - Under 75 mortality rate from respiratory disease considered preventable (Persons)	2012 - 14	110	8.7	14.7	17.8	1
4.07ii - Under 75 mortality rate from respiratory disease considered preventable (Male)	2012 - 14	55	9.1	17.5	20.1	1
4.07ii - Under 75 mortality rate from respiratory disease considered preventable (Female)	2012 - 14	55	8.3	12	15.7	1

#### 7.1.4. Inequalities

Burden of disease has a direct impact on the life expectancy (LE) of the population. While the LE in Buckinghamshire population has been on the rise over past ten years and is significantly better than the England average; there is a gap in LE between the most and least deprived population as a result of certain disease groups. In Buckinghamshire the main causes of mortality in males that contributes to the gap in LE between the most and least deprived population are circulatory disease, cancers, respiratory, digestive diseases and external causes. In males, circulatory disease followed by cancer, are the top causes contributing to the gap in LE between the most and least deprived population. In females, cancers (mainly breast cancer) followed by circulatory diseases are the top causes resulting in gap in LE as seen in Figure 6.

**Figure 6 Life expectancy gap between the most and least deprived population in Buckinghamshire due to broad causes of mortality in Males and Females. 2010-12**



Source: Public Health England. Analysis by Public Health England Knowledge and Intelligence Teams (London and East Midlands) based on ONS death registration data, and mid-year population estimates, and DCLG Index of Multiple Deprivation, 2010.

Note: Circulatory diseases includes coronary heart disease and stroke. Digestive diseases includes alcohol-related conditions such as chronic liver disease and cirrhosis. External causes include deaths from injury, poisoning and suicide.

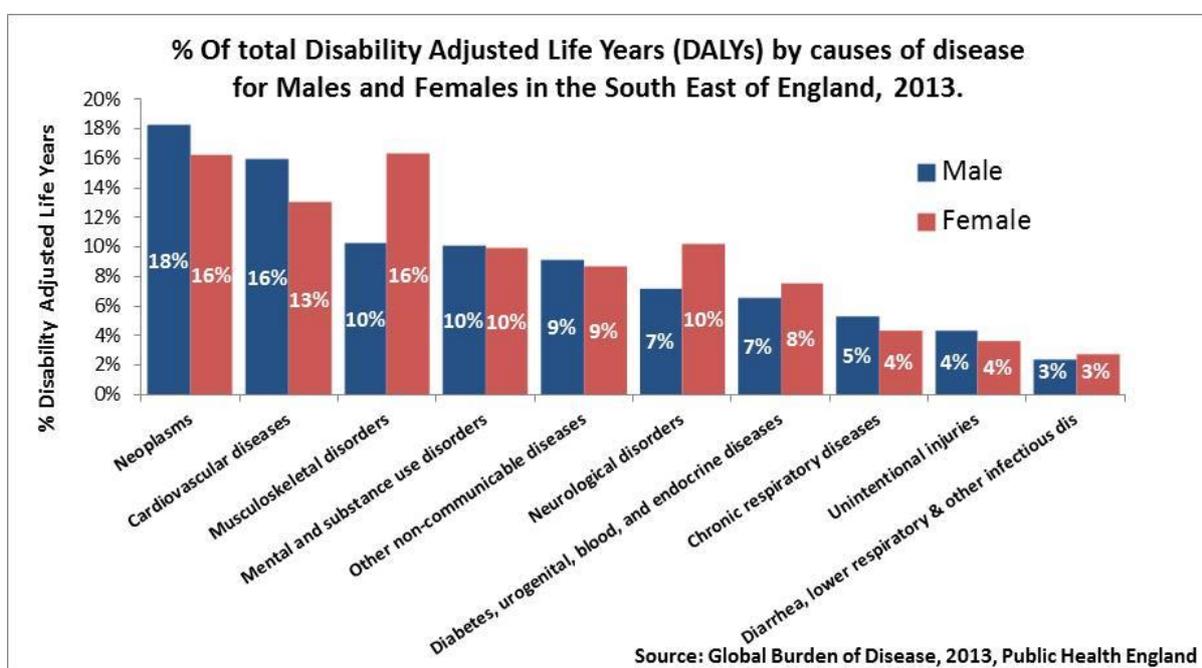
### 7.1.5 Demand – Current pressures, Future projections

Burden of disease has a direct impact on the uptake of health and care services. Analysis done by the public health team to forecast demand in secondary care using hospital activity data and population projection estimates shows an increasing population size that will have an impact on demand on local primary and secondary care services. The secondary care activity growth can be co-related to population growth till 2020 and beyond based on the average increase in IP and OP activity over past two years. The secondary care IP activity is projected to increase by 16.7% for all ages if trend of past two years continues over next five years. In 65+ the activity is projected to increase by 36.8% by 2020 compared to 2015. In 80+ the IP activity is projected to increase by 56.8%. The total OP activity for all ages is projected to increase by an average of 4.8%. The OP activity in 65+ population is projected to increase by 9.9% annually and the 80+ activity is projected to increase by an average of 13.3% annually till 2020. This highlights the growing need to plan services taking into account the population growth and likely increase in demand in the future, especially due to new housing and corresponding population growth.

### 7.1.6 Horizon scanning

The global burden of disease 2013<sup>iii</sup> findings for the South East of England show the main conditions contributing to maximum percentage of DALYs lost as – Cancers, circulatory diseases, musculoskeletal disorders, mental and substance misuse disorders, other non-communicable diseases, neurological disorders, diabetes, respiratory diseases and unintentional injuries. In males, the DALYs lost due to cancers, cardio-vascular diseases are higher than females while in females the DALYs lost are higher due to musculoskeletal disorders and neurological disorders compared to males, (Figure 7).

**Figure 7 Percentage total disability adjusted life years lost due to different diseases for males in females in the South East of England. 2013.**



Source: Global Burden of Disease, 2013, Public Health England

The results presented from the Global Burden of Disease study (2013) comparing health levels and trend for England by region. This data is not available at Local Authority level and hence results are presented at regional level eg – South East of England which includes Buckinghamshire as one of the Local Authorities in the South East. In the South East of England, the maximum DALYs are lost due to Cardiovascular diseases, Cancers, Mental health (including substance misuse), Diabetes and Musculo-skeletal diseases.

There is a direct relation between deprivation and risks classified as behavioural, metabolic and environmental. The higher the deprivation levels, the higher the risks and consequent DALYs lost. There is also a direct relation between deprivation and % years of life lost, % years of life lived with disability. The most deprived population

have a high percentage of DALYs lost compared to the least deprived population due to behavioural, metabolic and environmental risk factors.

The Global Burden of Disease 2013 outputs for the South East of England show the following results -

- 25.8% DALYs are attributed to Behavioural risk factors
- 4.5% to Environmental risk factors
- 18.7% to Metabolic risk factors

The main **behavioural risk** factors contributing to maximum lost DALYs are dietary risks, smoking, alcohol and low physical activity as seen in figure 8.

- Dietary risks results in the highest % of DALYs lost due to cardiovascular diseases, cancers, and diabetes.
- Tobacco related harm has highest % of DALYs lost due to cancers, respiratory diseases and cardio-vascular diseases.
- Alcohol related harm results in highest % of DALYs lost due to mental disorders, injuries, cancers and liver cirrhosis.
- Low physical activity attributes to highest % of DALYs lost due to cardiovascular diseases, diabetes and cancers

The attributable risk due to behaviour rises with age from a low of 16% in <18s to 30% in older adults.

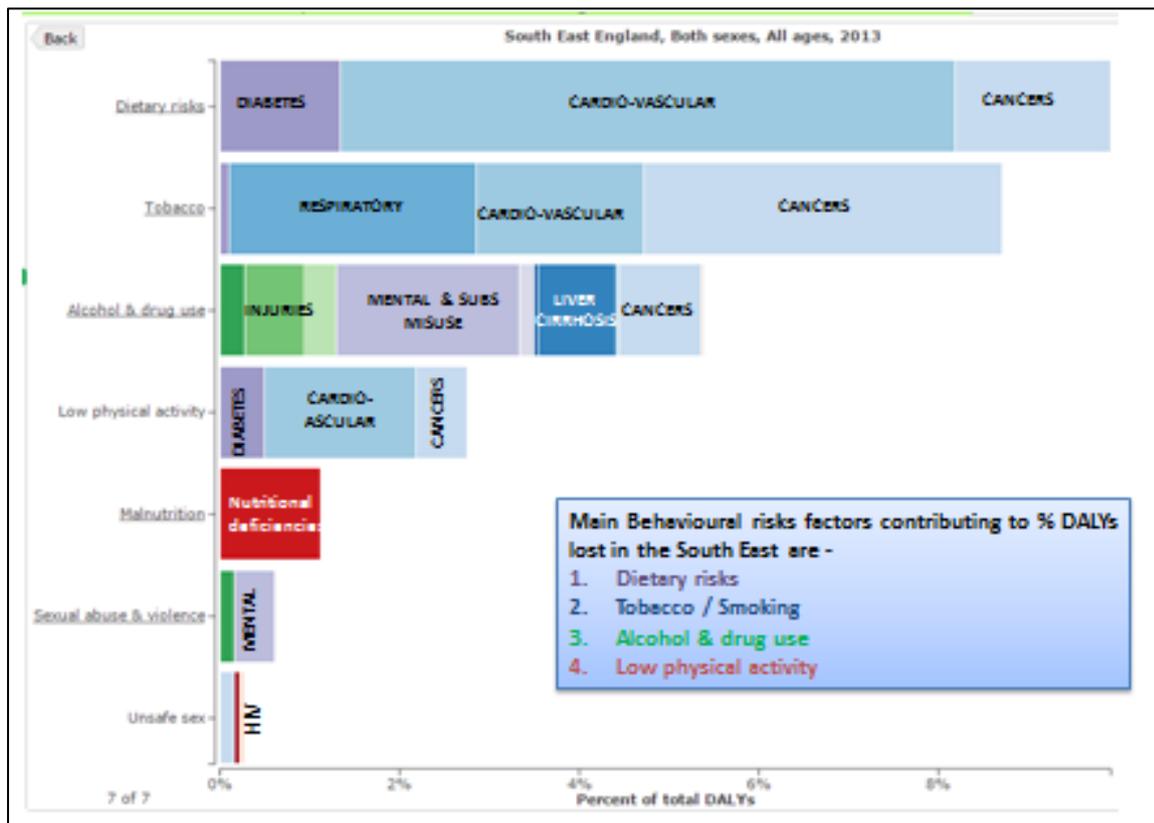
The attributable risk due to metabolic factors is very low in young population (7% in <40 year olds) and rises to 25% in the older population (65+)

The % DALYs lost in males due to behavioural and environmental risk is higher than females, however the % DALYs lost due to metabolic risk factors is similar in both males and females.

The % DALYs lost due to behavioural, metabolic and environmental risks increases with increases with rising levels of deprivation. Behavioural risks are predominantly higher and rise with rising levels of deprivation compared to metabolic risks.

Over the past ten years the % DALYs lost due to behavioural and metabolic risk factors have reduced but not substantially. Further concerted efforts to prevent avoidable risk factors (behavioural) through public health prevention programmes will have a substantial impact on the % DALYS as well as the years of life lived with disability, thereby reducing the impact on health and social care services. (Figure 8)

**Figure 8 Attributable behavioural risk factors contributing to lost DALYs in the population in South East of England. 2013**



Source: Global Burden of Disease, 2013, Public Health England

Metabolic risks result in almost 1 in 5 DALYs lost due to diseases such as cardiovascular disease (CVD), diabetes, cancers and musculo-skeletal diseases in the South East of England. The proportion is more or less similar in males and females with the exception of CVD where the % DALYs lost in males is higher than females due to metabolic risk factors. The metabolic risks rise with age starting from 50 and rising to 75 years and beyond.

In the year 2000 the highest % of DALYs lost due to a metabolic risk were due to high blood pressure followed by high body mass index, followed by total cholesterol, followed by high blood glucose. In 2013, the highest % of DALYs lost are due to high body mass index, followed by high blood pressure, followed by high blood glucose followed by high total cholesterol. Over the past ten years the % DALYs lost due to high body mass index have exceeded % DALYs lost due to high blood pressure in persons in South East of England as per the Global Burden of Disease study of 2013.

In 2013 the top metabolic risks attributing to maximum % DALYs lost in both males and females are – High body mass index followed by High blood pressure and then high blood glucose.

High body mass index (BMI) results in highest % of DALYs lost due to cardiovascular diseases, diabetes, cancers, and musculo-skeletal diseases.

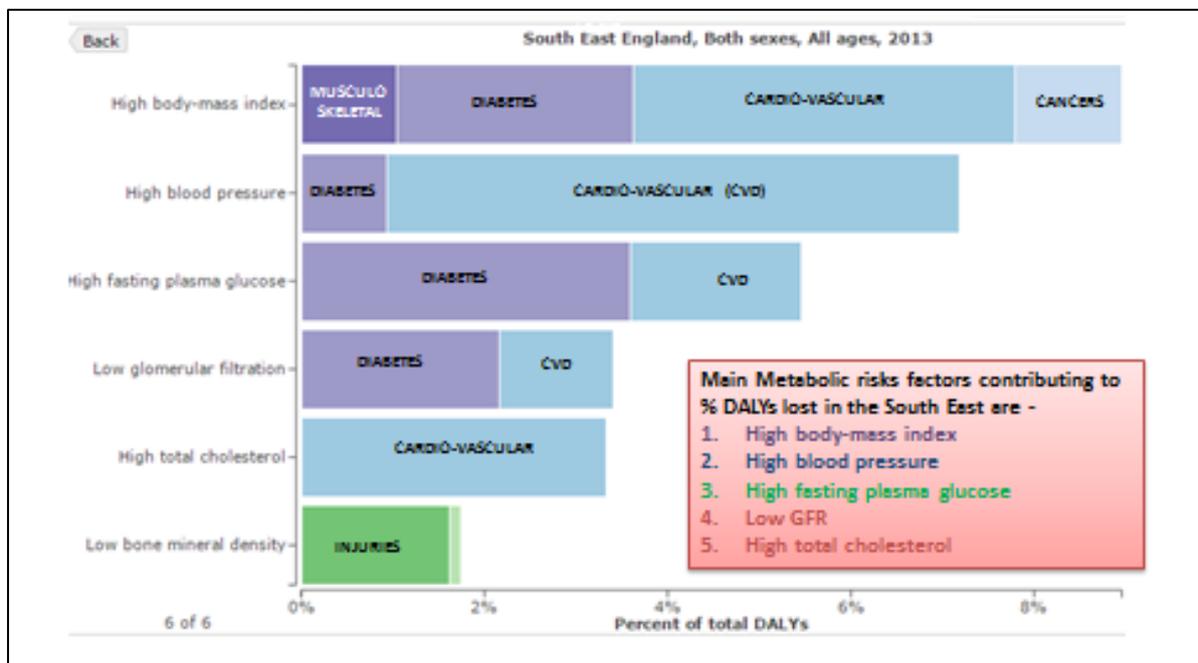
High blood pressure results in highest % of DALYs lost due to cardio-vascular diseases and diabetes .

High blood glucose levels result in highest % of DALYs lost due to diabetes and consequent cardio-vascular diseases.

Low glomerular filtration attributes to highest % of DALYs lost due to diabetes and cardiovascular diseases.

High total cholesterol is a risk factor for CVD and resulting in high % of DALYs lost due to cardiovascular disease.(Figure 9)

**Figure 9 Attributable metabolic risk factors contributing to lost DALYs in the population in South East of England. 2013**



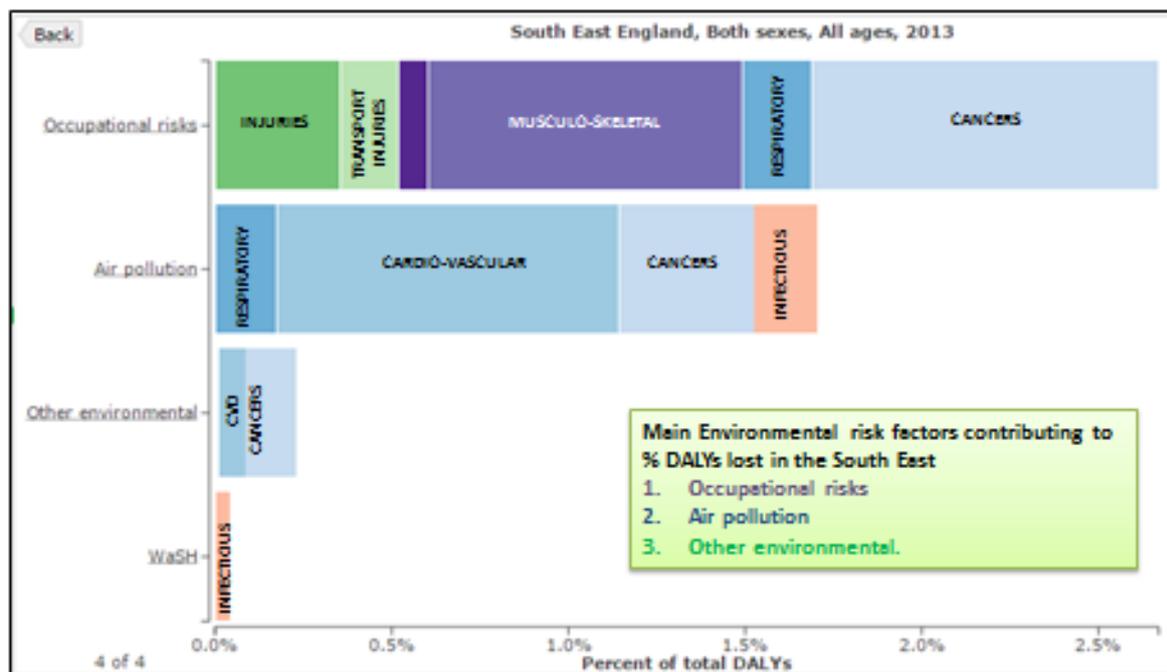
Source: Global Burden of Disease, 2013, Public Health England

Environmental risks result in almost 1 in 10 DALYs lost in 2013 in the South East of England with highest due to Occupational risks followed by air pollution, then other environmental (including water related). In the year 2000, air pollution was the number one risk factor attributing to % DALYs lost which is overtaken by occupational risks in 2013. The proportion impact of environmental risk is higher in males compared to females, with occupational risks impact almost twice in males compared to females on % DALYs lost. Environmental risks are significantly higher in the 15-49 year old group reducing in 50-69 and 70+ year group.

In 2013, occupational risks contributed to most % DALYs lost due to musculo-skeletal conditions followed by cancers, the injuries and then chronic respiratory disorders.

Air pollution contributed to most % DALYs lost due to cardio-vascular diseases, cancers then respiratory infections and chronic respiratory diseases. Other environmental risks had a smaller attributed risk resulting in % DALYs lost. (Figure 10)

**Figure 10 Attributable environmental risk factors contributing to lost DALYs in the population in South East of England. 2013.**



Source: Global Burden of Disease, 2013, Public Health England

### 7.1.8 Conclusions

Burden of disease in Buckinghamshire can be stated as similar or better compared to the England average for several diseases and conditions. However there are marked differences in health outcomes in population from different socio-economic groups (most and least deprived) The main causes of diseases resulting in maximum years of life lost in the 1 to 75 year old population in Buckinghamshire are cancer, circulatory diseases (including coronary heart disease), accidents and suicides. For cancers the maximum years of life lost are due to lung cancer, colorectal cancer, oesophageal cancers and stomach cancers. In females, breast cancers results in maximum years of life lost amongst different types of cancer.

Life expectancy in Buckinghamshire is better than the national average but there a gap of almost 14 years for male LE between Buckinghamshire wards and 18 years for LE in women. Biggest killers are cancers, circulatory diseases accounting for 3 in

5 deaths. Premature mortality rates due to cancer and heart disease are declining however gap between the most and least deprived population remains. Mortality rates due to certain conditions such as heart disease, cancer are significantly higher in the most deprived population compared to the least deprived population.

With regard to behavioural risk factors, 3 in 5 adults are physically active but 1 in 5 are inactive. 3 in 5 adults have excess weight which is a risk to develop diabetes and consequent heart disease. 1 in 3 adults are at risk of developing diabetes. 1 in 7 adults smoke but 1 in 4 adults from routine and manual occupations smoke. Harmful alcohol consumption is a concern with a rise in alcohol related hospital admissions over the past five years although significantly better than England.

Cost of managing illness and disease and providing primary, community, secondary healthcare and social care services can be estimated at over £1billion each year. Health and wellbeing problems and issues lead to productivity losses to the economy. Health inequalities and resulting issues result in a cost to the local economy by way of lost taxes, higher welfare payments as well as uptake of health and care services. Good health and wellbeing outcomes at individual and population level can be achieved through preventative interventions and specially targeting population that has the greatest need as this will have a positive impact on the health, social and economic outcomes in the society. Buckinghamshire's population experiences good health which is evident through indicators such as premature mortality rate and life expectancy. In addition the mortality rates from causes preventable are also significantly lower than the England average which is an advantage to public health and an incentive to improve health and wellbeing outcomes even better.

Projected population increase, longer life expectancy and increase in the frail elderly population will directly influence demand in primary and secondary care over the next five to ten years which health and social care planners need to take account of while determining resource allocation, planning and investment.

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*June 2016*

## References

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<sup>i</sup> World Health Organisation (2015): About the Global Burden of Disease (GBD) project - Health statistics and information systems. Available from [http://www.who.int/healthinfo/global\\_burden\\_disease/about/en/](http://www.who.int/healthinfo/global_burden_disease/about/en/) . Accessed 29 March 2016

<sup>ii</sup> Collard et al (2012). Prevalence of frailty in community-dwelling older persons: A systematic review. *J Am Geriatr Soc*; 60: pp1487-92.

<sup>iii</sup> Global Burden of Disease (GBD) Compare – Public Health England. 2015. Available via <http://vizhub.healthdata.org/gbd-compare/england> . Accessed 03 March 2016