

Health Inequalities in Milton Keynes

A report by the Director of Public Health



www.milton-keynes.gov.uk/social-care-and-health/public-health

Muriel Scott
September 2015

Contributing author: Sue Frossell

Thanks to: Peggy Bayliss, Jane Robinson, Sara Godward, Ivo Haest, Beccy White, Nermina Ferizovic, Richard Hall, Natalie Coghlan, Jo Trueman, Liz Wilson, Gail Addison, Julia Banham, Emma Bates, Trudy Hosker, Yvonne Hickmott, Gemma Hyde, Gavin Sandmann, Kathryn Eames and Diane Jeavons for their contributions, suggestions and corrections.

For further information, please contact: public.health@milton-keynes.gov.uk

Data Analysis

Ward boundaries changed in 2014. Not all data is presented using this new ward level data.

East of England is used as a comparator group where possible. Occasionally comparative data is only available using other comparator groups.

Table of Contents

Summary	5
1 Introduction	10
2 Inequalities and deprivation by geographical area	12
3 Life expectancy and mortality	17
3.1 Inequalities in life expectancy	17
3.2 Inequalities in mortality from all causes	18
3.3 Inequalities in premature mortality	19
3.4 Circulatory diseases inequalities	22
3.5 Cancer inequalities	24
3.6 Chronic respiratory disease inequalities	27
4 Lifestyles and health inequalities	29
4.1 Smoking	29
4.2 Adult Obesity, Physical Activity and Diet	31
4.3 Alcohol	34
5 Health inequalities affecting babies, children and young people	37
5.1 Healthy Pregnancy	37
5.2 Breastfeeding	39
5.3 Childhood obesity	41
5.4 Accidental injuries in children	44
5.5 Teenage pregnancy	46
6 Other wider determinants of health	48
6.1 Educational attainment	48
6.2 Improving employment	50
6.3 Housing	52
6.4 Fuel Poverty	54
6.5 Sustainable development	55
7 Conclusions	56
8 Glossary of Terms	58

Summary

“Inequalities are a matter of life and death, of health and sickness, of well-being and misery”¹.

Health inequalities are differences in health between two or more communities or populations. They can exist between different socio-economic, ethnic groups and genders. Milton Keynes’ local authority is ranked 211th out of 326 unitary and district authorities in England, where 1 is the most deprived.

The 2010 Marmot Review, *Fair Society, Healthy Lives*¹, proposed an evidence based strategy to address the social determinants of health - the conditions in which people are born, grow, live, work and age, and which can lead to health inequalities. The benefits of reducing health inequalities are economic as well as social; the review estimated that the annual cost of health inequalities in England was between £36 to £40 billion through lost taxes, welfare payments and costs to the NHS.

Marmot recognised that action should **not** be aimed solely at those who have the worst health outcomes and experiences, but that resource should be distributed proportionately across the social gradient, in a way which aims to achieve similar health outcomes across all communities. Additionally, a central theme in the Marmot Review is a recognition that disadvantage starts before birth and accumulates throughout life and that the early years should be given the highest priority for resource allocation.

Inequalities in life expectancy across the whole range of deprivation indicators in a population are measured by the Slope Index of Inequality (SII). The estimated measure for Milton Keynes (MK) for the three year period 2011-13, is a SII of 6.6 years for males and 5.7 years for females. A separate measure for all of England based on national deprivation deciles estimates a SII of 9.1 years for males and 6.9 years for females. Although this is not directly comparable, it is clear that Milton Keynes has a lower level of inequality than England as a whole.

Health inequalities are not inevitable and can be significantly reduced, which means reducing inequalities is clearly a matter of fairness and social justice. We need to take action to reduce the avoidable inequalities within MK, through a strategic approach across all partner organisations.

This report provides an overview of the *main factors* impacting on health inequalities in Milton Keynes and also recognises the impact of the wider determinants of health, such as employment, housing and education. There are many other important areas of health inequalities which are outside the scope of this report, including those that occur between gender, socio-economic status and ethnicity and within specific areas of health such as mental health and sexual health.

The key findings of this report are:

- There are clear **health inequalities** in Milton Keynes.
- The three ‘big killers’ which have the greatest impact on overall life expectancy are **circulatory diseases, cancers and respiratory diseases**. These are also the three most significant diseases contributing to the inequality in life expectancy at birth across our communities in Milton Keynes.

¹ The Marmot Review 2010, *Fair Society, Healthy Lives*.

- Local mortality data show that those living in the most deprived quintile of Milton Keynes suffer a higher burden of deaths from alcoholic liver disease (34%) and national data shows that this risk increases with increasing deprivation scores.
- Another measure used to assess inequality is 'years of life lost'. There are clear inequalities across MK, evidenced by those living in the most deprived quintile experiencing disproportionately higher levels of years of life lost (YLL) as a result of all of the **five top causes of death in MK**, with the exception of breast cancer, which caused an equal proportion of YLL.
- Smoking is the single, biggest cause of health inequalities because smoking increases risk of developing many diseases including cardiovascular diseases, cancers and chronic respiratory diseases.
- There are profound inequalities in levels of childhood obesity with a clear relationship between deprivation and childhood obesity seen across England where prevalence of obesity in the most deprived decile is approximately twice that of the prevalence in least deprived. This inequality is likely to be reflected across MK, although the small numbers at local level make this difficult to show clearly.
- Adult excess weight in Milton Keynes (72.5%) is the highest in the South Midlands and Hertfordshire area and statistically significantly higher than England (63.8).
- There is a very high level of inequality in deaths under the age of 18 years due to accidents. The comparisons show that the most deprived 20% of our population experience 29% of the overall deaths in children under the age of 18 and 67% of deaths from accidents.
- There are significant inequalities in the rate of teenage pregnancies (aged 15-17 years). During the years 2010-2012, the rate was 43 per 1000 in the 20% most deprived areas compared to a rate of 18.6 per 1000 in all other areas of Milton Keynes with 42.7% of all teenage pregnancies occurring in the 20% most deprived population.
- Using a proxy marker for deprivation (eligibility for free school meals), an analysis of the difference in early years attainment in Milton Keynes shows that 48% of children eligible for free school meals attained the expected standard compared to 64% in children who are not eligible for free school meals. This inequality is also evident in the analysis of the Key stage 4 data (age 16) where 26% of children eligible for free school meals attained five or more A*-C grade GCSEs (including English and Mathematics) compared to 64% in children not eligible for free school meals. This disadvantage was also more pronounced in males.
- The number and proportion of family homelessness in Milton Keynes has increased in each of the last three years from 236 in 2010/11 to 364 in 2013/4² and the proportion has been significantly higher than the national average over this period.
- The proportion of young people (16-19 year olds) in Milton Keynes who are not in Education, Employment or Training (NEET) in 2014 was 3.9% compared to 4.2% in the South East and 4.7% in England.

² Child Health Profiles 2015

- Milton Keynes has the seventh lowest level of fuel poverty in England³. Those living in the most deprived quintile of Milton Keynes experience disproportionately higher levels of fuel poverty (9%) compared to the rest of the population (5.6%).

This report is a call to action for all agencies who can play a part in the reduction of health inequalities: MK Clinical Commissioning Group (CCG), the Local Authority (LA), Milton Keynes University Hospital NHS Foundation Trust, MK Community Services, Primary Care (GP practices, community pharmacies and dentists), voluntary organisations and businesses.

Actions

Actions for all organisations

Staff who work for organisations who exist to serve the people of MK may need to rethink the issue of health inequalities. It's clear that there will always be health inequalities but all staff should be aware that the level of health inequality which exists is not inevitable and the social commitment to reducing inequalities is a matter of social justice and fairness.

There are some key actions for all organisations to take:

- Ensure that all services are commissioned or provided in a way which seeks to achieve similar outcomes for all our communities.
- Invest in the key effective interventions that reduce risk, prevalence and deaths from cardiovascular disease, cancer and respiratory diseases.
- Ensure that all partnership actions taken against Health and Wellbeing Board priorities are applied in a way which seeks to achieve similar outcomes across the communities in MK.
- Provide 'Making Every Contact Count' (MECC) or similar training for all frontline staff to ensure that all staff are equipped to raise lifestyle issues and refer into lifestyle services.
- Work effectively in partnership with other organisations, the voluntary sector and businesses.
- Ensure that workplace health is a priority, seeking to achieve an equal level of health and wellbeing for all staff.

³ Dept. of Energy and Climate Change (2015), 2013 sub-regional fuel poverty data: low income high costs indicator.

Additional actions for specific organisations

MK Clinical Commissioning Group

- Use the potential of the power of co-commissioning to influence the commissioning agenda and impact on health inequalities. Utilise the commissioning process to allocate resources in innovative ways to reduce health inequalities.
- Work to achieve proportionately increased uptake of stop smoking services and NHS Health Checks across the social gradient.
- Build prevention targets into provider contracts.

MK University Hospital NHS Foundation Trust and Central and North West London NHS Foundation Trust

- Ensure that patients are referred into secondary prevention programmes such as stop smoking, drug and alcohol and weight management services.
- Achieve UNICEF's Baby Friendly Hospital and Community Initiative awards.
- Implement NICE guidelines (PH48) Smoking cessation in secondary care⁴, including the recommendation that all NHS funded sites should become completely smokefree.
- Implement NICE guidelines (PH24) recommendations 5-10 on prevention of harmful drinking.

General Practices

- Maximise the potential of the stop smoking services, alcohol services and NHS Health Checks.
- Emphasise the importance of doing 150 mins/week of moderate exercise (heart beats faster, slightly out of breath but can still talk) or 75 mins of intensive exercise (can't hold a conversation).
- Encourage uptake of all screening programmes and work with the national campaigns to increase awareness of symptoms, such as the Be Clear on Cancer campaigns.

Dental Practices

- Ensure that all patients, but particularly those at increased risk, are given effective preventive health care and advice.
- Follow advice in 'Delivering Better Oral Health', supporting patients to reduce the use of tobacco and alcohol and maintain a healthy diet⁵.
- Target patients who are exempt from payment for dental care (often from vulnerable groups) to receive additional care.

⁴ Smoking cessation in secondary care (2013)

⁵ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/367563/DBOHv32014OCTMainDocument_3.pdf

Pharmacies

- Develop a workforce which pro-actively supports and promotes behaviour change.
- Work closely with their local community, other health professionals (especially GPs), social care and public health professionals and local authorities.
- Work towards 'Healthy Living Pharmacy'⁶ status.

Local Authority

- Increase the focus on prevention in provider contracts.
- Policies and strategies relating to the wider determinants of health, such as housing, education, employment and transport should aim to reduce the disparity in health and social outcomes in communities across MK.
- Ensure Key prevention programmes are delivered to a high quality, especially with regard to sexual health, drug and alcohol misuse, smoking, accident prevention, childhood obesity and teenage pregnancy.
- Work with Public Health England to ensure that screening and immunisation programmes do not increase health inequalities.
- Give a high priority to early years programmes.
- Work to reduce childhood accidents in areas with higher incidence.
- Reduce the number of homeless families requiring accommodation outside the area.
- Work towards the implementation of the Regeneration Strategy for Milton Keynes: 2015 – 2030⁷.

MK Businesses

- Ensure that workplace health is a priority, seeking to achieve an equal level of health and wellbeing for all staff.

⁶ <http://psnc.org.uk/services-commissioning/locally-commissioned-services/healthy-living-pharmacies/>

⁷ RegenerationMK Strategy 2030 (2015)

1 Introduction

Health inequalities are differences in health between two or more communities or populations. They can exist between different socio-economic groups, ethnic groups and genders. For example, women generally have a longer life expectancy but can also experience more years of poor health towards the end of their lives. Vulnerable groups, such as people with mental health problems and learning disabilities, also suffer poorer health outcomes than the rest of the population.

When describing any population, it is useful to split the population into smaller geographic areas and compare sub populations. Ward boundaries are sometimes used for comparisons within populations but these are affected by changes in ward boundaries over time and are not of uniform population size. Time trends are often better described using the stable small area geographies known as middle and lower super output areas (MSOA and LSOA)⁸ which have been defined by the Office for National Statistics (ONS). This report describes health inequalities which have been observed between geographical areas within Milton Keynes, particularly in relation to deprivation by ward and by MSOAs and LSOAs.

Other health inequalities which are known through national studies, may well occur in Milton Keynes, but without local evidence we cannot be sure. These are considered towards the end of the report. More specific health inequalities suffered by vulnerable groups are beyond the scope of this report, and are documented in the Joint Strategic Needs Assessment (JSNA)⁹.

The 2010 Marmot Review, Fair Society, Healthy Lives¹⁰, proposed an evidence-based strategy to address the social determinants of health - the conditions in which people are born, grow, live, work and age, and which can lead to health inequalities. The Review identified six objectives to reduce inequalities in health:

1. giving every child the best start in life;
2. enabling all children, young people and adults to maximize their capabilities and have control over their lives;
3. creating fair employment and good work for all;
4. ensuring a healthy standard of living for all;
5. creating and developing sustainable places and communities;
6. strengthening the role and impact of ill-health prevention.

The benefits of reducing health inequalities are economic as well as social; the Marmot Review estimated that the annual cost of health inequalities in England was between £36 to £40 billion through lost taxes, welfare payments and costs to the NHS. Marmot recognised that action should not be aimed solely at those who have the worst health outcomes and experiences, but should be directed proportionately across the social gradient. In simple terms, this means investing our resources across our communities in a way which achieves similar outcomes for each. This is the big challenge for all agencies who commission services across our population, including charitable organisations. Additionally, a central theme in the Marmot Review is a recognition that disadvantage starts before birth and accumulates throughout life. The review advocates that there should be an increase in the proportion of overall expenditure allocated to the early years giving the highest priority to the first objective: giving every child the best start in life.

⁸ Office for national statistics – super output areas

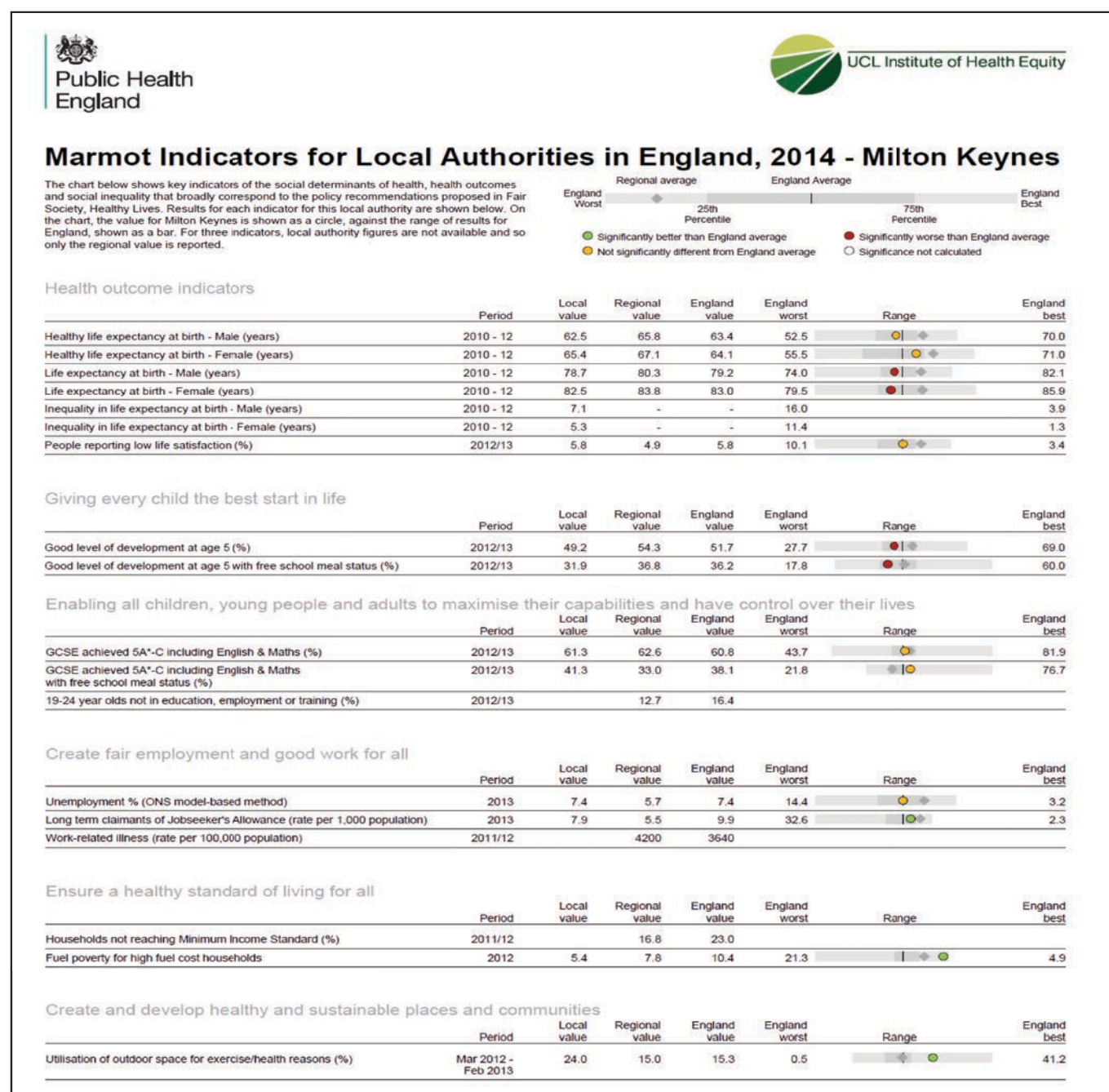
⁹ Joint Strategic Needs Assessment 2014-15

¹⁰ The Marmot Review 2010, Fair Society, Healthy Lives.

Comparative national, regional and local values against a set of Marmot Indicators are now published yearly by the UCL Institute of Health Equity. These key indicators of the social determinants of health and health outcomes correspond, as closely as is currently possible, to the indicators proposed in the Marmot Review. Results for each indicator for Milton Keynes local authority are shown in Figure 1 below (see key).

Figure 1: Marmot Indicators for Milton Keynes, 2014

Source: UCL Institute of Health Equity¹¹



¹¹ UCL Institute of Health Equity,

2 Inequalities and deprivation by geographical area

The 2011 Census uses the LSOA as the geographical measure to compare the level of deprivation across local populations. The Index of Multiple Deprivation (IMD)¹² provides an overall score of deprivation which is built up from seven components: Income; Employment; Crime and Disorder; Barriers to Housing and Services; Education Skills and Training; Living Environment; Health Deprivation and Disability. The weighted average gives the overall IMD score for each LSOA. There are 32,844 Lower Layer SOAs (2010) in England and 152 in Milton Keynes. The average (mean) population of MK's LSOAs is 1,660 which is similar to the national average of 1,630.

Milton Keynes' local authority is ranked 211th out of 326 unitary and district authorities in England, where 1 is the most deprived. Authorities ranked closely to Milton Keynes include Cheltenham (214); Chichester (213); Solihull (212); Braintree (210); and East Devon (209).

Nationally, the IMD score ranges from 4.47 (Hart District) to 43.45 (Liverpool District) – higher score with higher deprivation. The overall IMD score for Milton Keynes is 15.59 which masks pockets of deprivation affecting many residents of Milton Keynes.

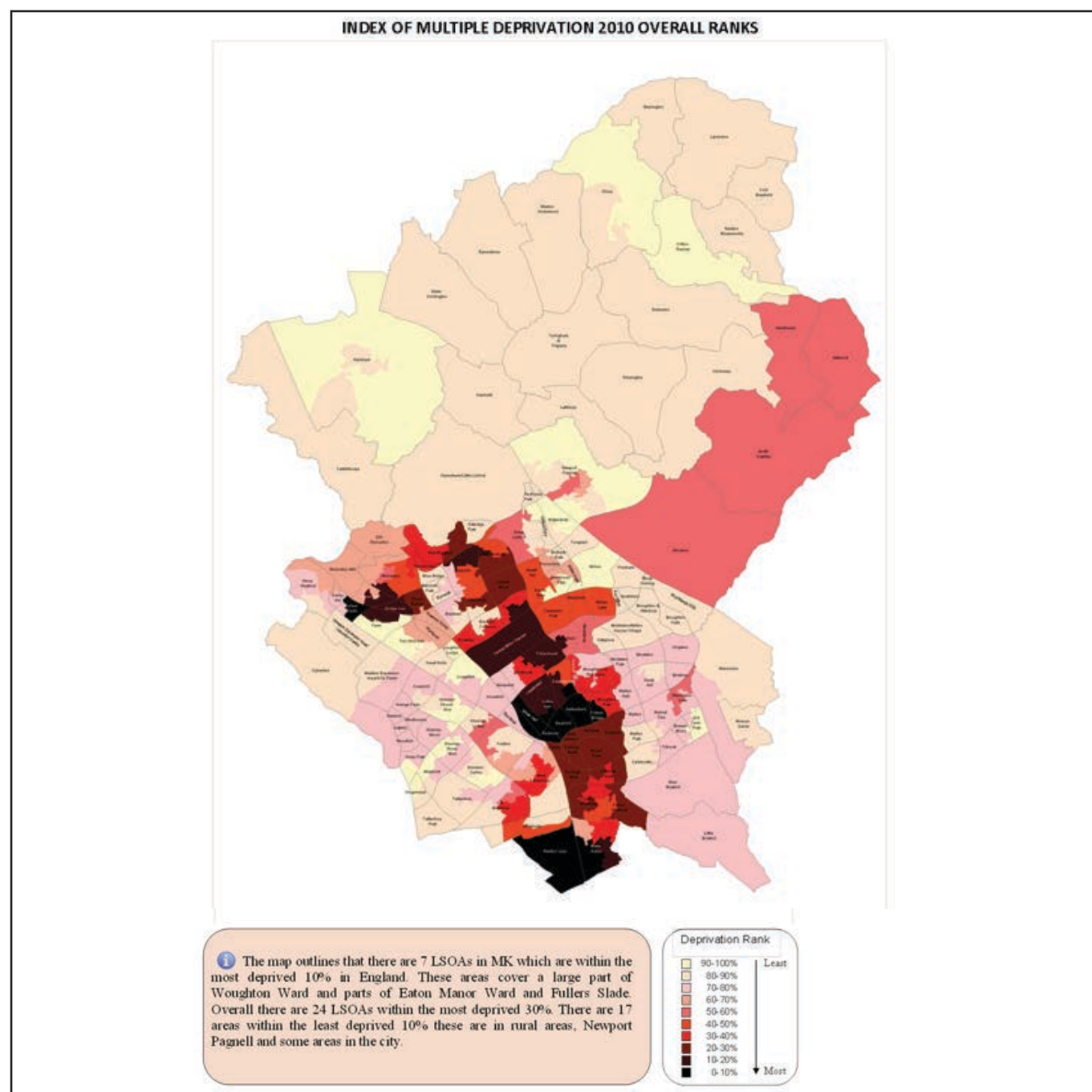
Figure 2 shows the deprivation rank of wards within MK. The most deprived 20% of LSOAs within Milton Keynes are those shaded in the darkest two¹³ colours on the map. Seven of the 152 LSOAs in Milton Keynes are among the 10% most deprived in England; 11 are in the most deprived 10-20%; and 24 are in the 30% most deprived range.

¹² English Indices of Deprivation 2010 Guidance document

¹³ The thresholds for the colours on the map are set to show the range of the IMD scores which are wider at the higher levels of deprivation. There are seven LSOAs in the darkest category and 11 LSOAs in the next darkest group, which makes a total of 18 – approximately 12% of the LSOAs in Milton Keynes.

Figure 2: Map showing distribution of the combined IMD score within Milton Keynes

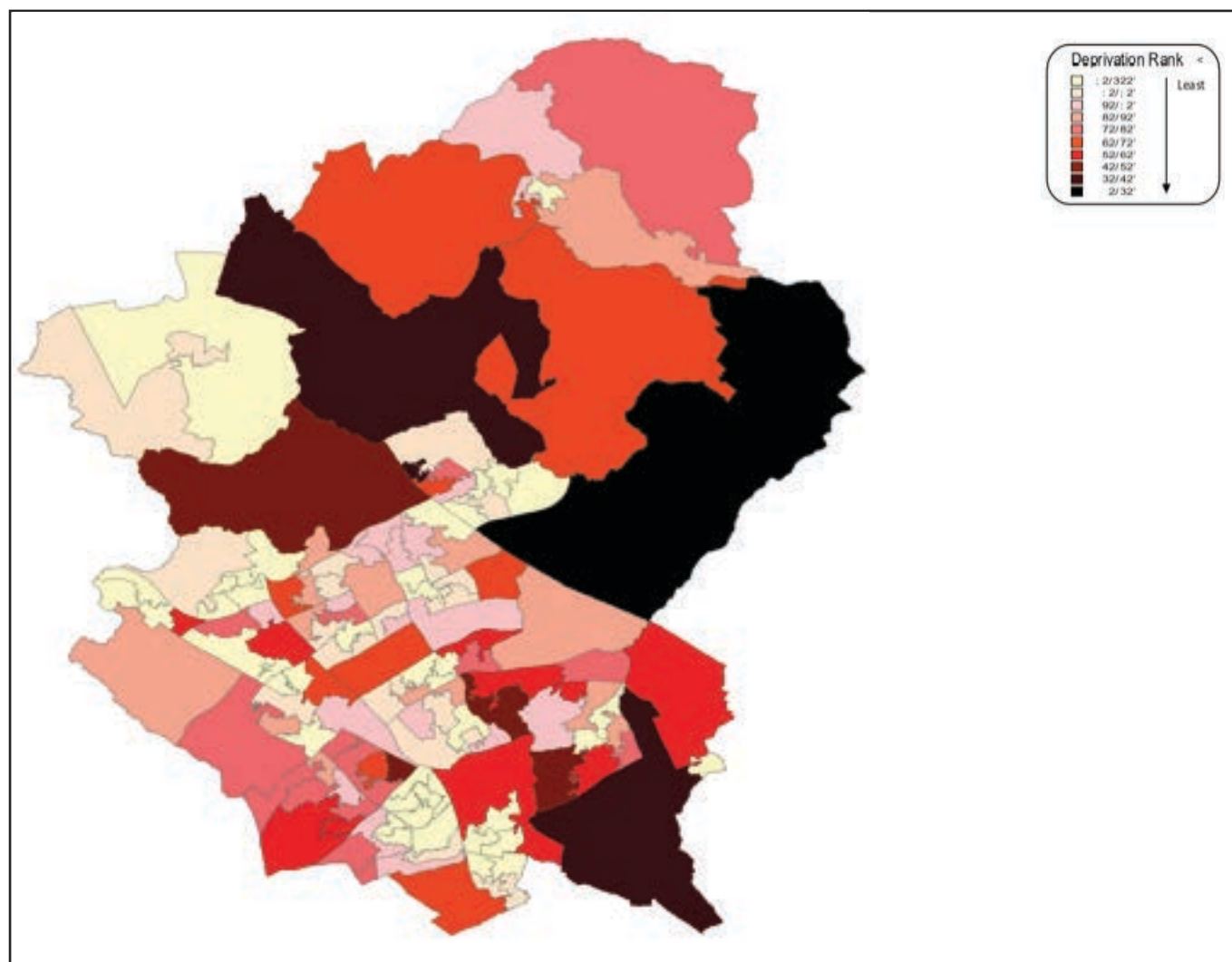
Source: Department for Communities and Local Government, Indices of Deprivation 2010



Five of the seven components of the IMD assessment method described a similar picture across Milton Keynes. However in two components of the deprivation score, 'Barriers to Housing and Services' and 'Living Environment', there was a very different picture.

Figure 3: Index of Multiple Deprivation - Barriers to Housing and Services

Source: Department for Communities and Local Government, Indices of Deprivation 2010



This figure shows a picture of how the MK population experiences this aspect of deprivation with the highest deprivation pattern outside the centre of MK where there are barriers to both housing and access to services.

Figure 4: Index of Multiple Deprivation - Living Environment Deprivation

Source: Department for Communities and Local Government, Indices of Deprivation 2010

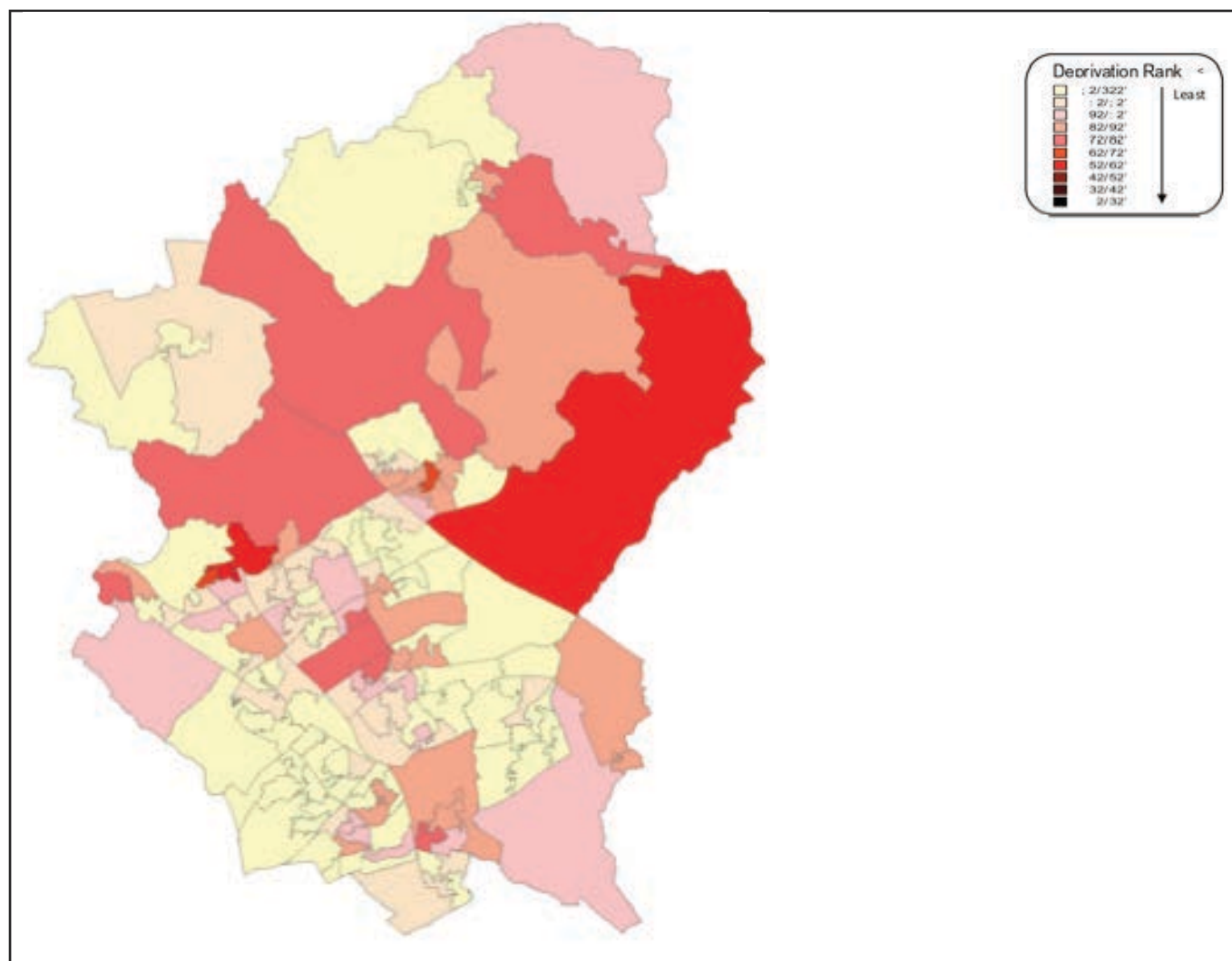


Figure 4 clearly shows that there is less deprivation in MK relating to this domain of the IMD score which relates to both indoor and outdoor environments. Measures include: the proportion of social and private homes that fail to meet the decent homes standard; the proportion of houses that do not have central heating; a measure of air quality based on emissions rates for four pollutants; and a measure of road traffic accidents involving injury to pedestrians and cyclists among the resident and workplace population. This map shows that those experiencing this aspect of deprivation tend to be living in the more rural areas within MK.

Figure 5: The proportion of Black and Minority Ethnic (BME) groups in wards within Milton Keynes

Source: Milton Keynes Population Bulletin 2013/14

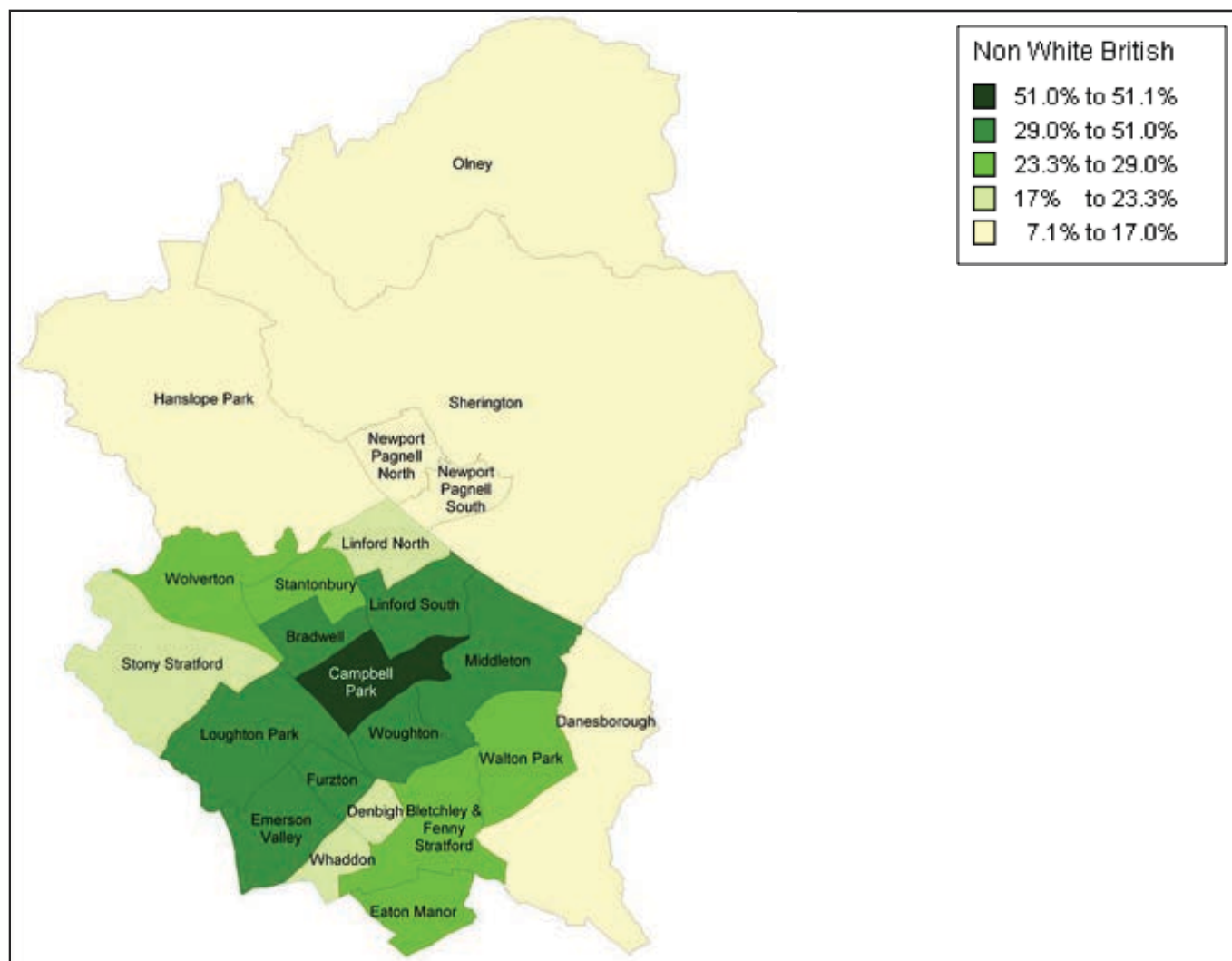


Figure 5 shows the BME population as a proportion of each ward's total population, with Campbell Park ward having the highest proportion (51%) of its population defined as non-white British. Areas of higher deprivation in Milton Keynes generally have a significantly higher proportion of Black and Minority Ethnic (BME) groups than Milton Keynes as a whole but figure 5 illustrates that the non-white British population does not necessarily live in the most deprived areas. Rural areas tend to have the lowest proportion of BME population.

It is important to recognise that not everyone living in a deprived area is deprived – and that not all deprived people live in deprived area.

3 Life expectancy and mortality

3.1 Inequalities in life expectancy

One key measure of the overall health of any population is life expectancy at birth. This takes into account the current rates of death in all age-bands. The smallest areas that life expectancy has been calculated for are Middle Layer Super Output Areas (MSOAs), which are groupings of LSOAs.

Inequalities in life expectancy across the whole range of deprivation in a population are measured by the Slope Index of Inequality (SII). This is used to report against the Marmot Indicators for Local Authorities. The SII is calculated by grouping LSOAs into approximate tenths by deprivation and calculating the life expectancy for each tenth. The best-fit straight line is calculated and its slope is the SII. The higher the SII, the greater the health inequality within the area. A slope of zero means that life expectancy does not vary with deprivation, whereas an SII of 10 years indicates that life expectancy for the tenth of the population with the lowest score of deprivation is, on average, 10 years higher than the tenth of the population with the highest score.

Table 1 below shows the comparative data for the 3-year period 2011-13, comparing Milton Keynes with the national data for inequality in life expectancy at birth within all Local Authorities and within populations which are similar to Milton Keynes. Milton Keynes has a lower level of inequalities than many similar populations.

Table 1: Inequality in life expectancy at birth (SII) in Milton Keynes (2011-2013), compared to the range within all other Local Authorities and Milton Keynes's CIPFA neighbours ¹⁴

Source: Marmot Indicators for Local Authorities in England, 2014 – Milton Keynes. UCL Institute of Health Equity

	Milton Keynes LA	England LA range	CIPFA Neighbours range
Male	6.6	2.4 to 17.3	5.8 to 11.3
Female	5.7	0.6 to 11.5	4.8 to 11.1

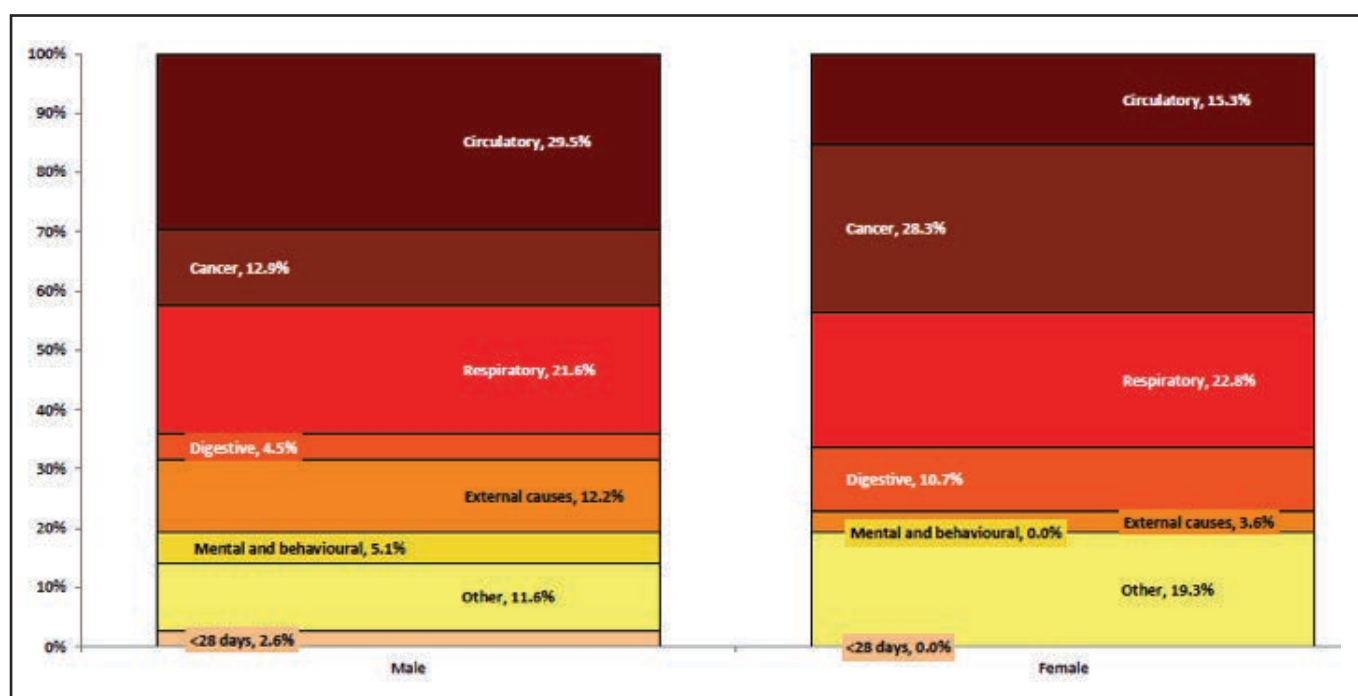
¹⁴ Chartered Institute of Public Finance and Accountancy (CIPFA) have developed specific family groups based upon a wide range of socio-economic indicators to aid local authorities to compare themselves against other similar populations.

3.2 Inequalities in mortality from all causes

The three 'big killers' which have the greatest impact on overall life expectancy for both males and females are circulatory diseases, cancers and respiratory diseases. These are also the three diseases contributing most to the gap in life expectancy at birth (Figure 6).

Figure 6: Leading causes of the life expectancy gap for males and females, between the most deprived quintile (fifth) and least deprived quintile in Milton Keynes, 2010-2012

Source: The Segment Tool Public Health England



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

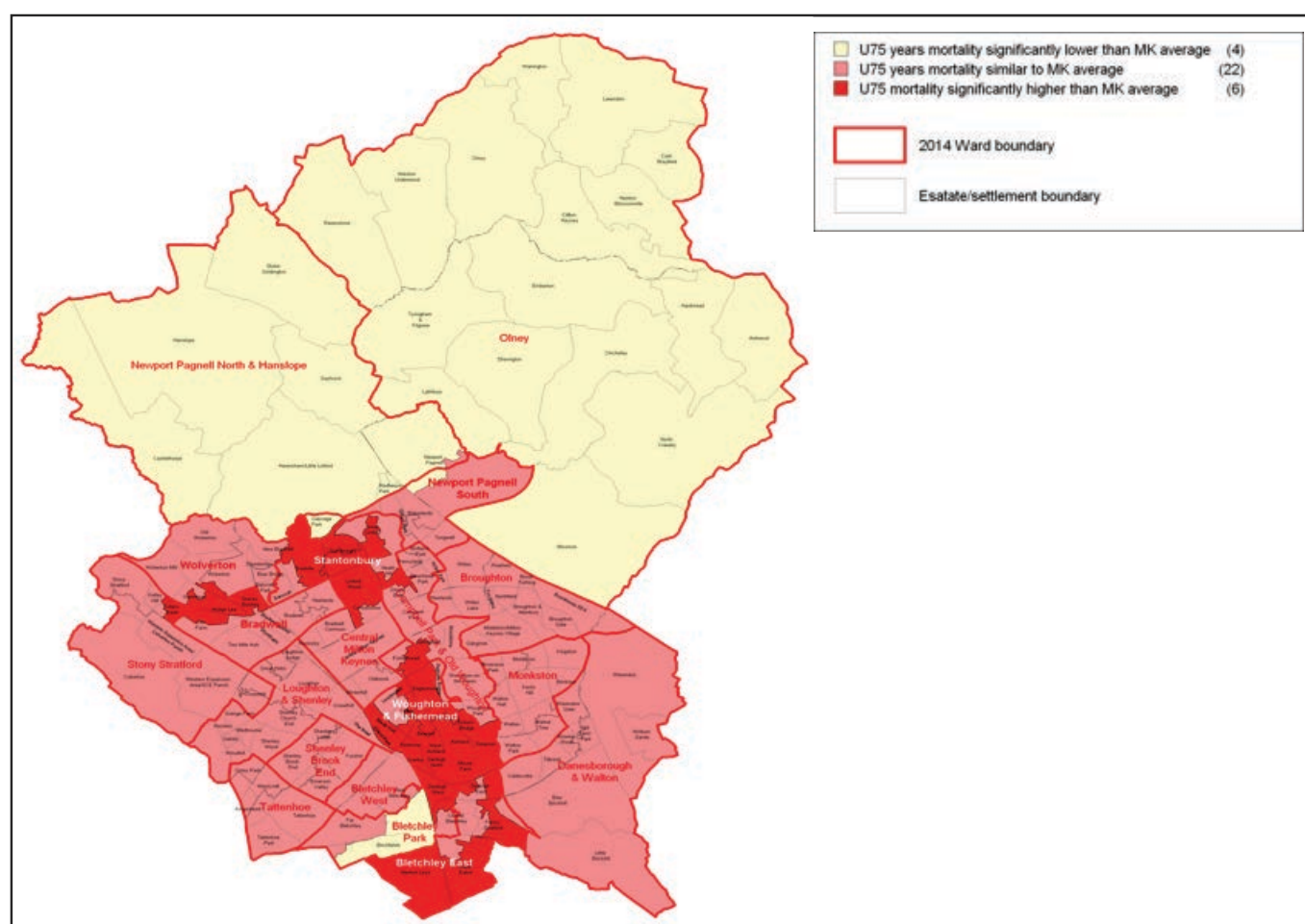
3.3 Inequalities in premature mortality

Premature mortality, defined as death under the age of 75 years, has a big impact on overall population life expectancy. Figure 7 shows a map of premature mortality which demonstrates that communities living in the more deprived areas of Milton Keynes suffer the highest rates of early death. This data are grouped by MSOAs, which do not cover the same geography as electoral wards but in most cases approximate quite closely to ward boundaries.

The area which overlaps parts of Wolverton and Stony Stratford wards (see figure 7) has the highest rate of premature mortality in Milton Keynes and is 2.6 times greater than the lowest rate in the North of Olney.

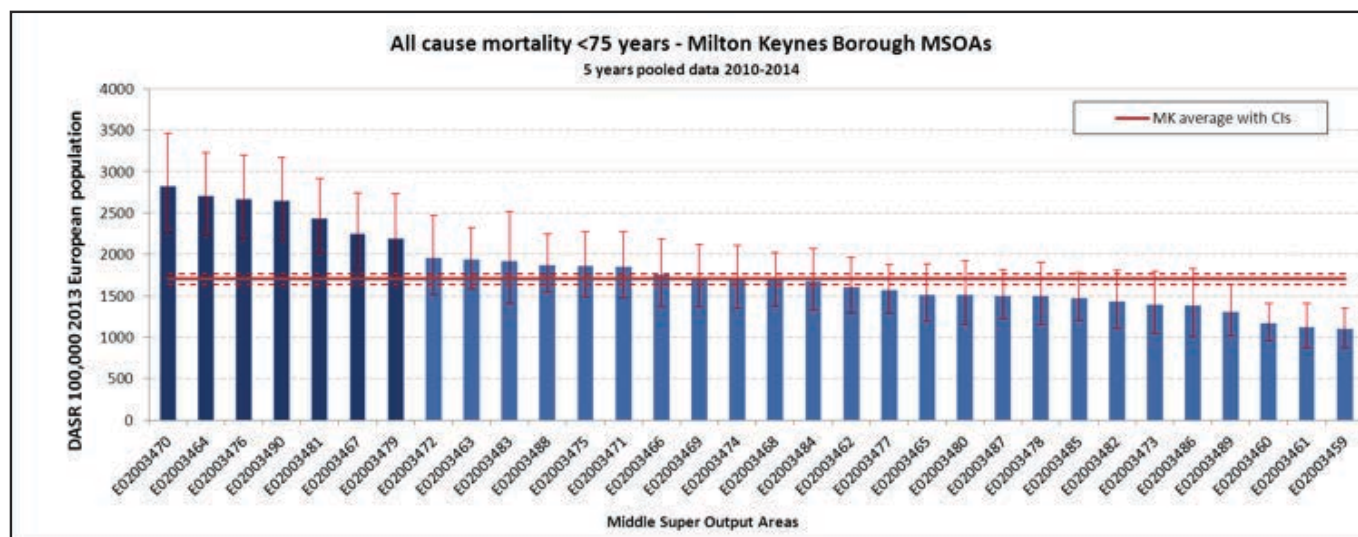
Figure 7: Milton Keynes Premature Mortality Rates (<75) by Middle Layer Super Output Area (MSOA); Directly Standardised by Age; 5 Years Pooled Data 2010-2014

Source: Office for National Statistics



The variation in premature mortality between the different geographical areas of Milton Keynes is also shown in Figure 8.

Figure 8: Directly Age Standardised (DASR) premature mortality rates by Middle Layer Super Output area, with confidence intervals (CI), Milton Keynes 2010-2014



The seven dark blue coloured bars represent the most deprived quintile of Milton Keynes. The MSOA with the highest level of premature mortality (E02003470), which includes Greenleys, Hodge Lea, Stacey Bushes and Fullers Slade, has a premature mortality rate which is 2.6 times greater than the lowest rate. Other areas with a high mortality rate are Bradville and Stantonbury (E02003464), Eaglestone and Fishermead (E02003476), Newton Leys and Water Eaton (E02003490), Ashland, Denbigh, Fenny Stratford, Granby and Mount Farm (E02003481) and Great Linford and Linford Wood (E02003467). These five areas in MK have statistically significant higher rates of premature mortality than the MK average.

Years of life lost (YLL) is another measure used to describe premature mortality. This measure takes into account the age at which deaths occur, giving greater weight (or emphasis) to deaths at a younger age and lower weight to deaths at an older age. It measures the number of years that people have not lived, assuming they would otherwise have lived to the age of 75 years.

Table 2 shows how those living in the most deprived quintile of Milton Keynes experience disproportionately higher levels of years of life lost (YLL) with the exception of breast cancer which accounts for exactly 20%.

Table 2: Number of deaths under 75 years and potential years of life lost from the five main causes of death in Milton Keynes, within the most deprived MSOAs, 2010-2014.

Source: Office for National Statistics mortality data files.

Cause of death	Milton Keynes Overall			20% most deprived population in MK (by MSA)		
	Rank order of cause	Number of deaths	Years of life lost (YLL)	Number of deaths	Years of life lost (YLL)	Percentage of YLL
ALL	n/a	3,116	53,908	793	15,445	28.7%
Lung cancer (C34)	1	271	3,168	76	883	27.9%
Chronic ischaemic heart disease (I25)	2	219	2,823	72	1,067	37.8%
Acute MI (I21)	3	159	1,774	52	669	37.7%
Chronic obstructive pulmonary disease (COPD) (J40-J44)	4	158	1,446	48	518	35.8%
Breast cancer (C50)	5	119	2,200	21	440	20.0%

Other categories of deaths from 'Alcoholic Liver Disease' and 'All Suicide and Undetermined' have not been included in this table because the number of deaths is relatively small. However, they represent a high proportion of YLL, 36.9% and 30.7% respectively for those living in the highest deprivation quintile.

A focus on tackling both the causes of high levels of YLL and the main causes of early deaths will have a big impact on life expectancy and should reduce health inequalities.

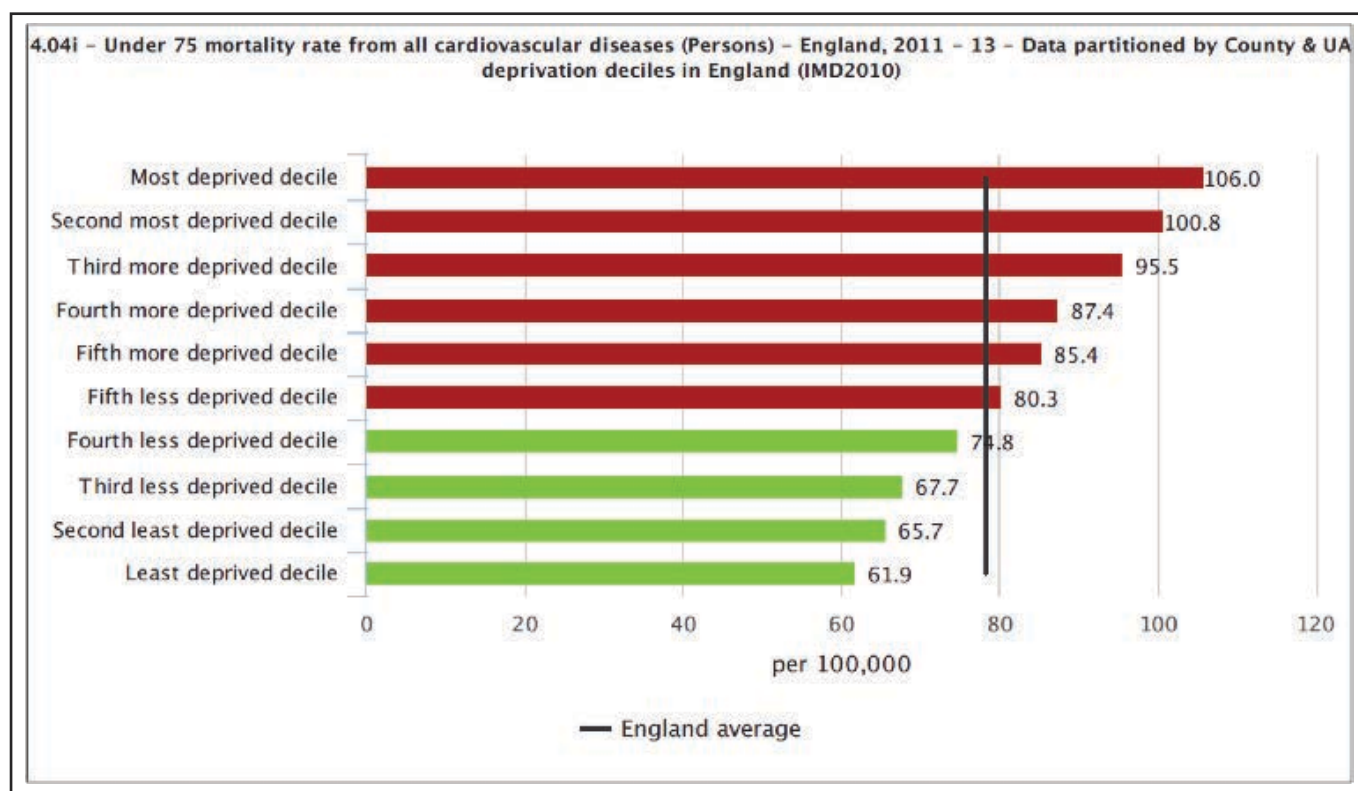
3.4 Circulatory diseases inequalities

Circulatory disease is a collective term for a group of related conditions affecting the heart, arteries or blood vessels. It includes coronary heart disease and stroke, which account for about 50% and 25% of these conditions respectively. Circulatory disease is one of the main causes of premature death in the UK. Cardiovascular disease is another term used which mainly includes coronary heart disease and stroke.

Figure 9 shows that there are clear inequalities across England, with increasing rates of death across the deprivation deciles – from 106/100,000 population in the most deprived deciles to a rate of 61.9/100,000 in the least deprived deciles¹⁵.

Figure 9: Inequalities in under 75 mortality rates from cardiovascular diseases by deprivation decile

Source: Public Health Outcomes Framework

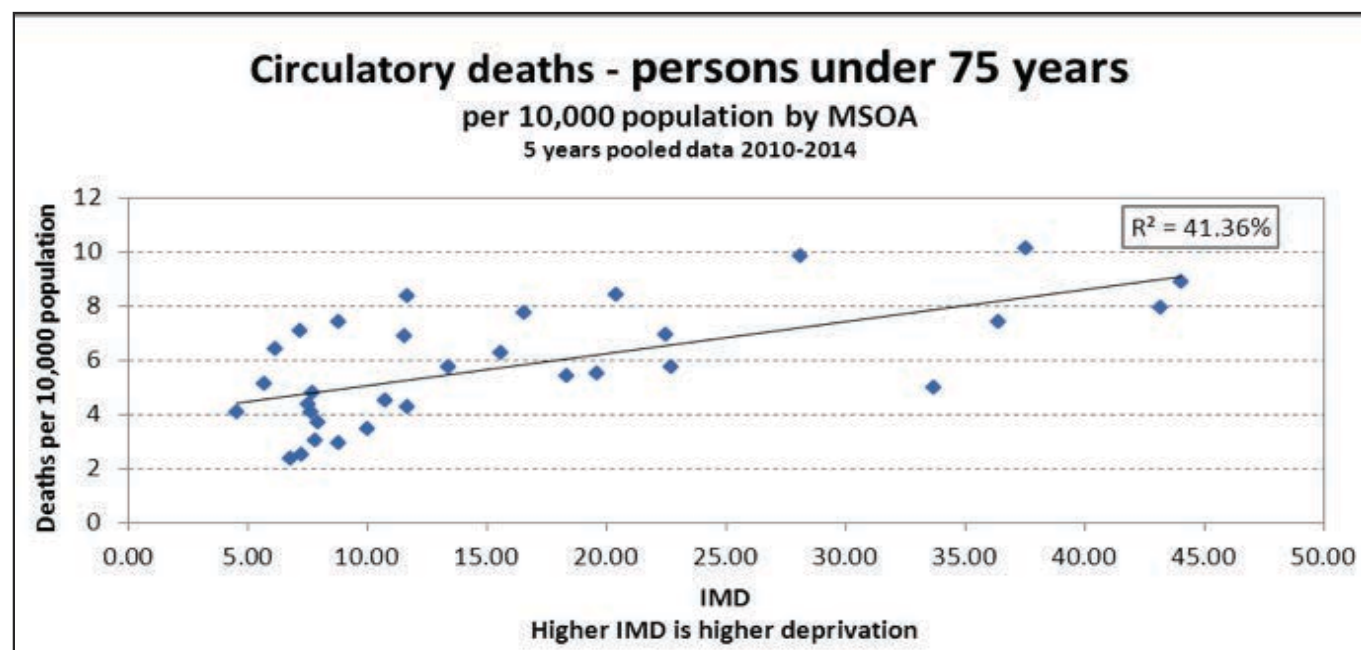


This health inequality is likely to exist across Milton Keynes although the relationship is blurred by the lower numbers involved at a local level. However, Figure 10 shows that in Milton Keynes there is a correlation between MSOA deprivation score and early death from circulatory disease.

¹⁵ Public Health England; Public Health Outcomes Framework

Figure 10: : Circulatory disease mortality per 10,000 and MSOA Index of Multiple Deprivation (IMD) score under 75 years in Milton Keynes 2010-2014

Source: Office for National Statistics (ONS)



There are also clear inequalities in early deaths from circulatory diseases between men and women; with a rate of 110.4 per 100,000 for men and 44.4 per 100,000 for women.

Key actions

- Invest in the key effective interventions that reduce risk, prevalence and deaths from CVD: medical interventions, healthy diet, regular physical activity, stopping smoking, using alcohol in moderation, weight management and prompt access to services. A comprehensive list of recommendations for the prevention of cardiovascular disease is available from the National Institute of Health and Care Excellence (Public Health 25)¹⁶.
- We need to ensure that the NHS Health Checks programme, which identifies those aged 40 – 74 at greatest risk of a cardiovascular event (e.g. heart attack, stroke, etc.) and the resulting recommended actions are equally taken up right across our social gradient. In simple terms, this means we need to be investing the resources available for this programme across our communities in a way which achieves similar outcomes for each.
- Our stroke services should include the four main components of a quality integrated service which are: the identification, treatment and follow-up of those at risk of stroke (prevention e.g. management of hypertension, atrial fibrillation and lifestyles); immediate care (including care from a specialist stroke team); early and continuing rehabilitation and long-term support for the stroke patient and their carers.

¹⁶ National Institute of Health and Care Excellence (2010) Prevention of Cardiovascular Disease

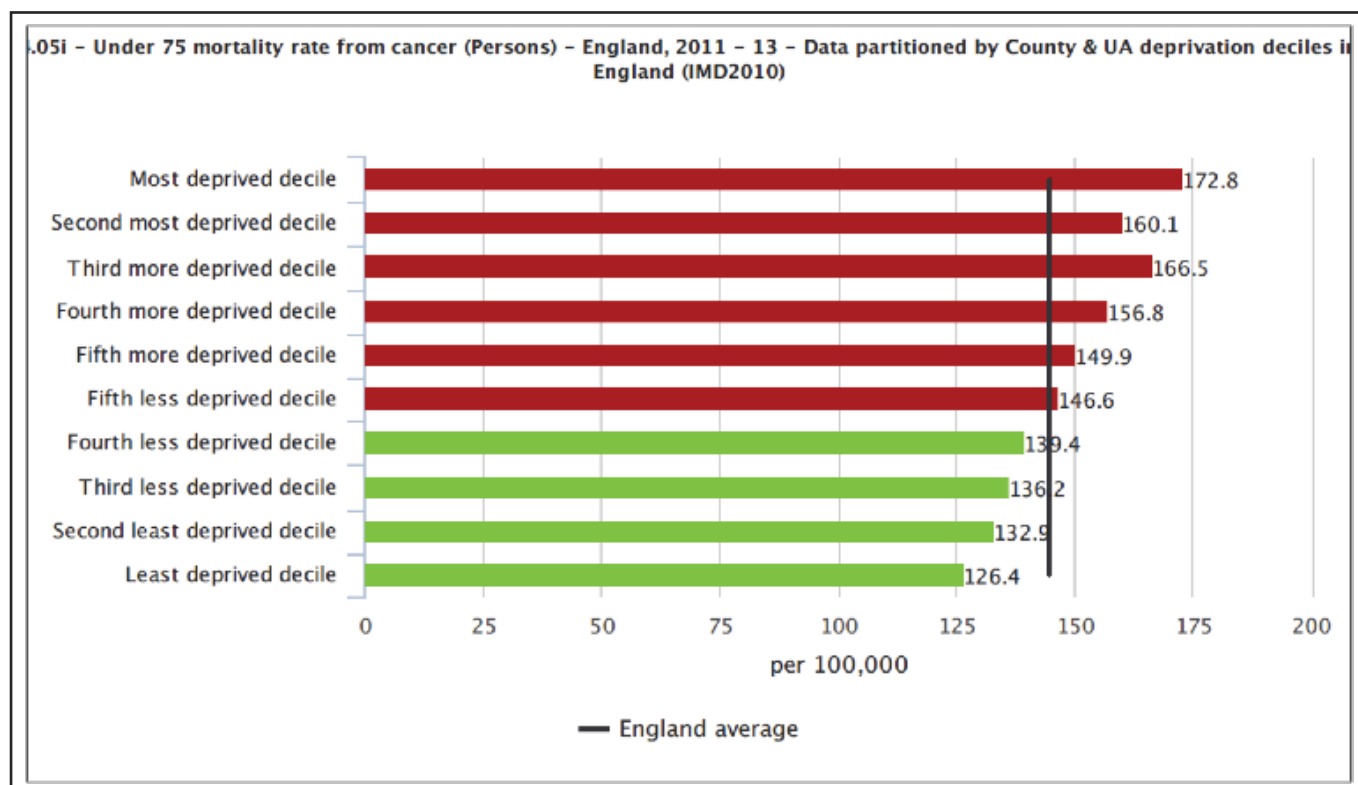
3.5 Cancer inequalities

We have previously seen (Figure 6) that cancer is an important cause of the life expectancy gap between the most and the least deprived population decile. It is also the largest cause of premature mortality in Milton Keynes, accounting for around 40.5% of deaths before the age of 75 years (Office for National Statistics 2014).

Figure 11 shows that there are clear inequalities across England, with increasing rates of death across the deprivation deciles – from 172.8/100,000 deaths in the most deprived deciles to a rate of 126.4/100,000 in the least deprived deciles¹⁷.

Figure 11: Inequalities in under 75 mortality rates from cancer by deprivation decile

Source: Public Health Outcomes Framework

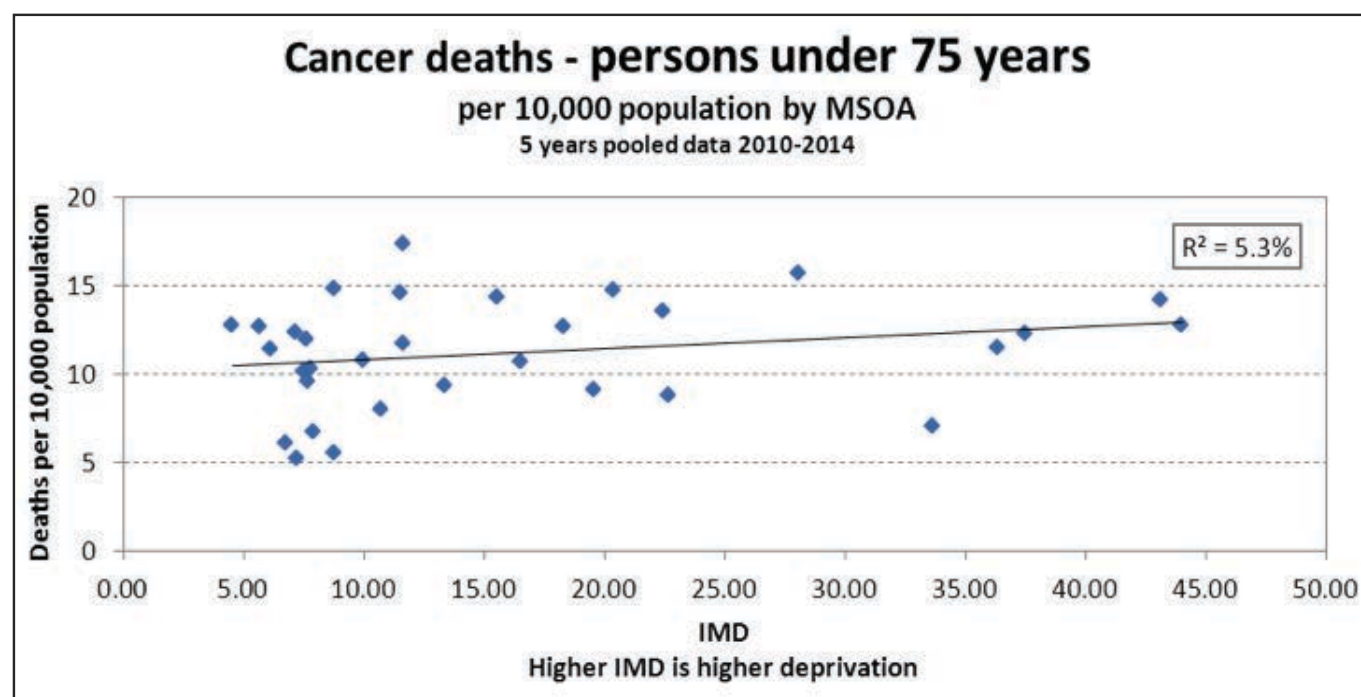


Based on the national data, this inequality is also likely to exist across Milton Keynes although it is more difficult to show a clear relationship due to the lower numbers involved at a local level. Figure 12 shows cancer mortality increasing slightly with level of deprivation using 5-year pooled data for 2010-2014 for people aged below 75 years in Milton Keynes.

¹⁷ Public Health England; Public Health Outcomes Framework

Figure 12: Cancer disease mortality per 10,000 and Index of Multiple Deprivation (IMD) score under 75 years in Milton Keynes 2010-2014

Source: Office for National Statistics (ONS)



There are also clear inequalities in Milton Keynes between early cancer deaths in men and women; with a rate of 171.6 per 100,000 for men and 132.9 per 100,000 for women¹⁸.

The five most common cancers accounting for over half of all cancer deaths in all the under 75 year olds for the five year period 2010 - 2014 are: lung (21%); colorectal (9.9%); breast (9.2%) pancreas (6%); and oesophagus/brain (both at 4.8%). For men, prostate (6.3%) and oesophagus (6.3%) cancer are in the top five. For females the top five includes ovarian cancer (8.6%) and breast cancer (19.6%).

By far the largest, preventable risk factor for cancer is smoking¹⁹ but experts estimate that more than four in every 10 cancer cases could be prevented by additional factors, such as: keeping a healthy body weight; cutting back on alcohol; eating a healthy, balanced diet; and keeping active.

Early diagnosis is important for improving survival and preventing avoidable deaths. This is supported through promoting public awareness of signs and symptoms of cancers, and excellent screening programmes.

¹⁸ Public Health England; Public Health Outcomes Framework

¹⁹ Cancer Research UK

Key actions

- Increasing awareness of symptoms. The National Awareness and Early Diagnosis programme has shown promising results and should be continued and expanded.
- Peer-to-peer discussion about the GP Practice Cancer profiles to reduce variation in primary care outcomes.
- Continued emphasis on the delivery of an effective Stop Smoking and Weight Management Service.
- Increasing uptake of cancer screening programmes, particularly bowel cancer screening, through health promotion activities - starting with the GP practices and communities where there is low uptake of the programme.
- Ensure that the resources available for all cancer prevention and early identification services are invested across our communities in a way which achieves similar outcomes for each.

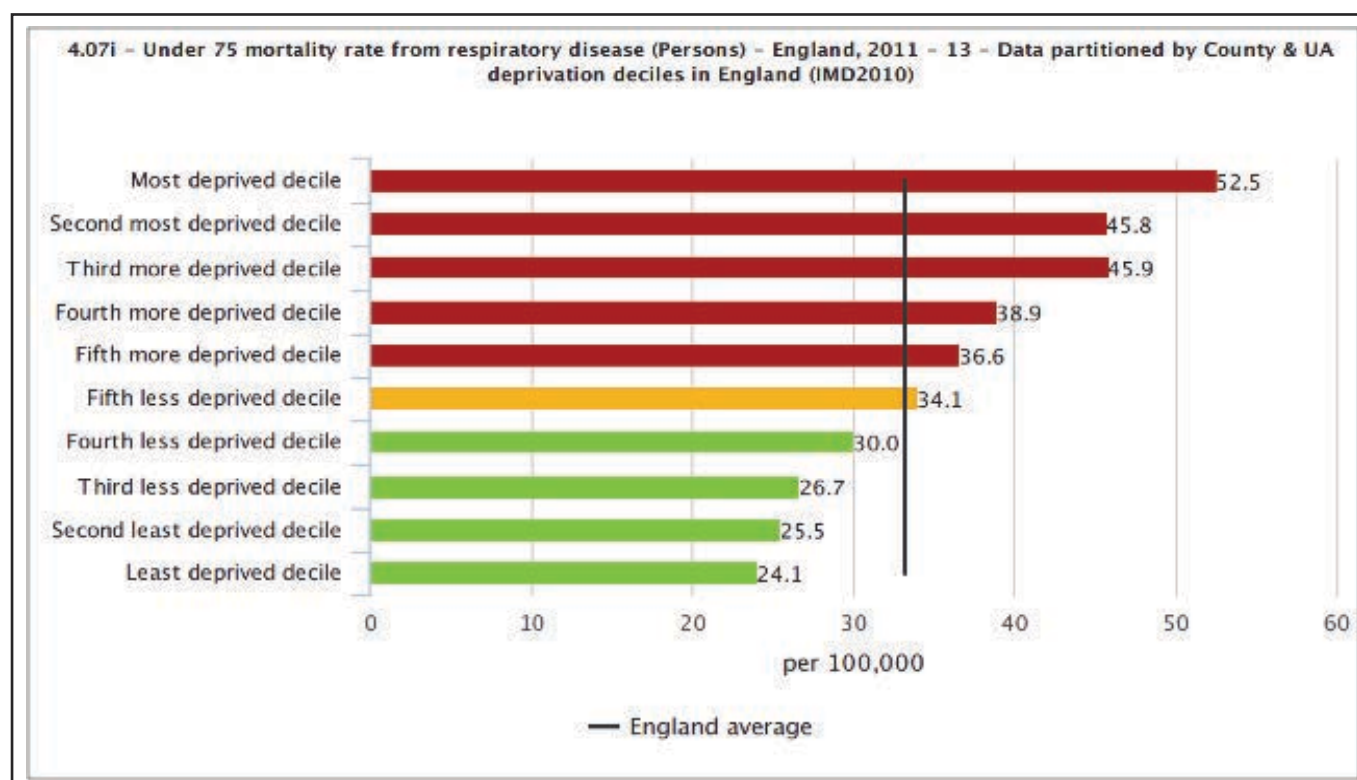
3.6 Chronic respiratory disease inequalities

In Milton Keynes, chronic respiratory diseases are the second biggest contributor to the inequalities gap among both females and males. The most common respiratory diseases, which account for more than 71% of all deaths in this group (2010 -2014) are chronic obstructive pulmonary disease (51%) and pneumonia (20.3%).

Figure 13 shows that there are clear inequalities across England, with increasing rates of death across the deprivation deciles – from 172.8/100,000 deaths in the most deprived deciles to a rate of 126.4/100,000 in the least deprived deciles ²⁰.

Figure 13: Inequalities in under 75 mortality rates from respiratory disease by deprivation decile

Source: Public Health Outcomes Framework

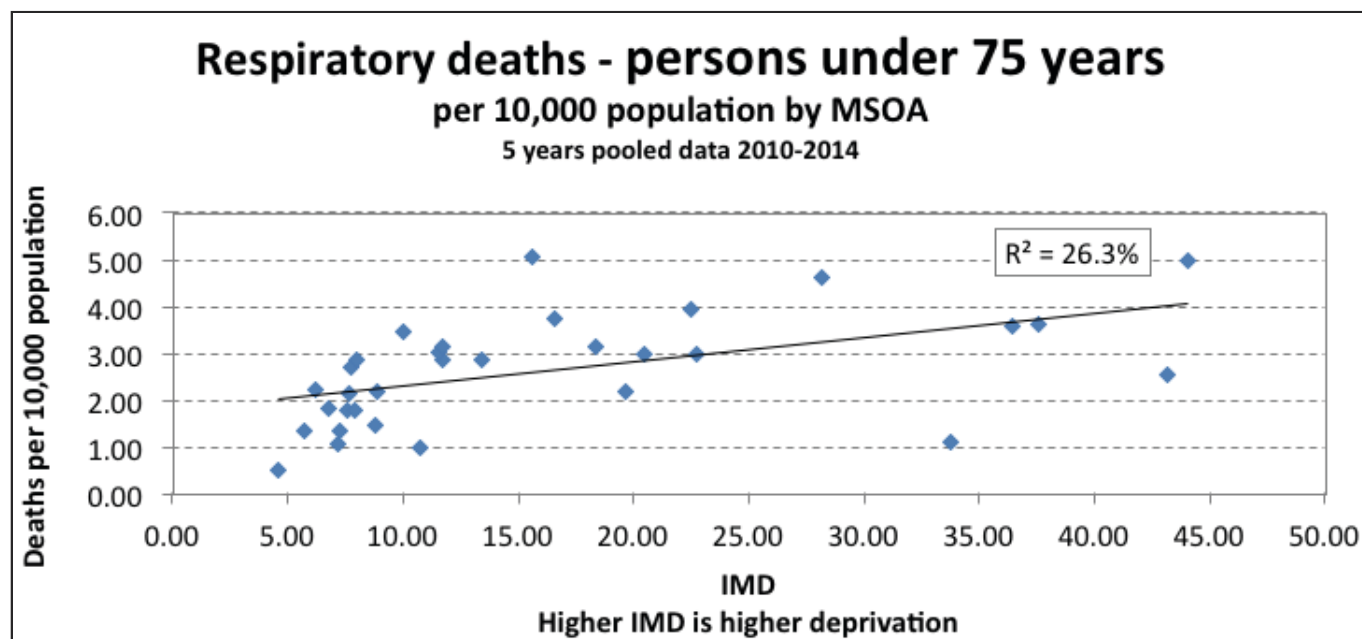


Based on this national data, this inequality is also likely to exist in Milton Keynes. Figure 14 shows that there is a correlation between deprivation score and early death from respiratory disease. Inequalities in premature mortality from respiratory disease exist across our population and the risk of premature death from this disease increases with increasing levels of deprivation.

²⁰ Public Health England; Public Health Outcomes Framework

Figure 14: Respiratory disease mortality per 10,000 and Index of Multiple Deprivation (IMD) score under 75 years in Milton Keynes 2010-2014

Source: Office for National Statistics (ONS)



Key actions

- Most of the chronic respiratory diseases are a result of smoking. Reducing the rates of smoking through high quality stop smoking services and through multi-agency work on tobacco control is the highest priority.
- Stop smoking services and services which improve early diagnosis, secondary prevention and treatment should be provided in a way which ensures that the uptake of services across the social gradient is proportionate to the estimated smoking prevalence.
- A reduction in deaths from pneumonia can be achieved through increased uptake of the national pneumococcal vaccination programme for the over 65s and high quality care for patients admitted to hospital with pneumonia.

4 Lifestyles and health inequalities

Health inequalities occur as a result of a wide range of factors, including government policies, employment, housing, early development and lifestyles. It is clear that lifestyle factors such as smoking, poor diet, inactivity and higher risk alcohol consumption all play an important part in determining poor health; on average, people with all four of these unhealthy behaviours die 14 years earlier than those with none²¹. Mental wellbeing is also a fundamental component of good health and poor mental health contributes to the adoption of unhealthy lifestyles.

Each individual is at risk from unhealthy lifestyles but these lifestyle factors are often adopted as a result of living in families or communities where these lifestyles are prevalent and considered normal.

4.1 Smoking

Smoking increases the risk of developing many diseases including cardiovascular diseases, cancers, and chronic respiratory diseases. Smoking is the single, biggest cause of health inequalities in the UK and accounts for over half of the difference in risk of premature death between the least and most well off²².

Since the health dangers of smoking have become well known, rates of smoking have declined significantly. However, the gradient of smoking behaviour across the population is consistent with the gradient of deprivation (IMD), with increasing proportions of people smoking across increasing levels of deprivation.

In 2013, it was estimated that 30.2% of adults in Milton Keynes within the 'routine and manual' social grouping smoked compared to 19% for Milton Keynes as a whole. The difference between managerial and professional households, and routine and manual households, is estimated to be even greater - at 15% compared to 30.2%²³.

Smoking in pregnancy has a significant impact on the health of the developing foetus and impacts on the health of the newborn and on into the rest of their lives. It is estimated that 11.1% of women in Milton Keynes are still smoking at the time of delivery compared to 12% nationally²⁴. The Local Tobacco Profiles for Milton Keynes (Figure 15) show the estimated number of deaths in Milton Keynes which are attributable to smoking and the individual diseases which are directly related to smoking. It also shows that Milton Keynes has a higher level (statistically significant) of smoking attributable hospital admissions, deaths from chronic obstructive pulmonary disease, successful quitters and completeness of recording by Stop Smoking Services compared to the national average.



²¹ Khaw K-T, Wareham N, Bingham S, Welch A, Luben R et al. (2008) Combined Impact of Health Behaviours and Mortality in Men and Women: The EPIC-Norfolk Prospective Population Study. *PLoS Med* 5(3)

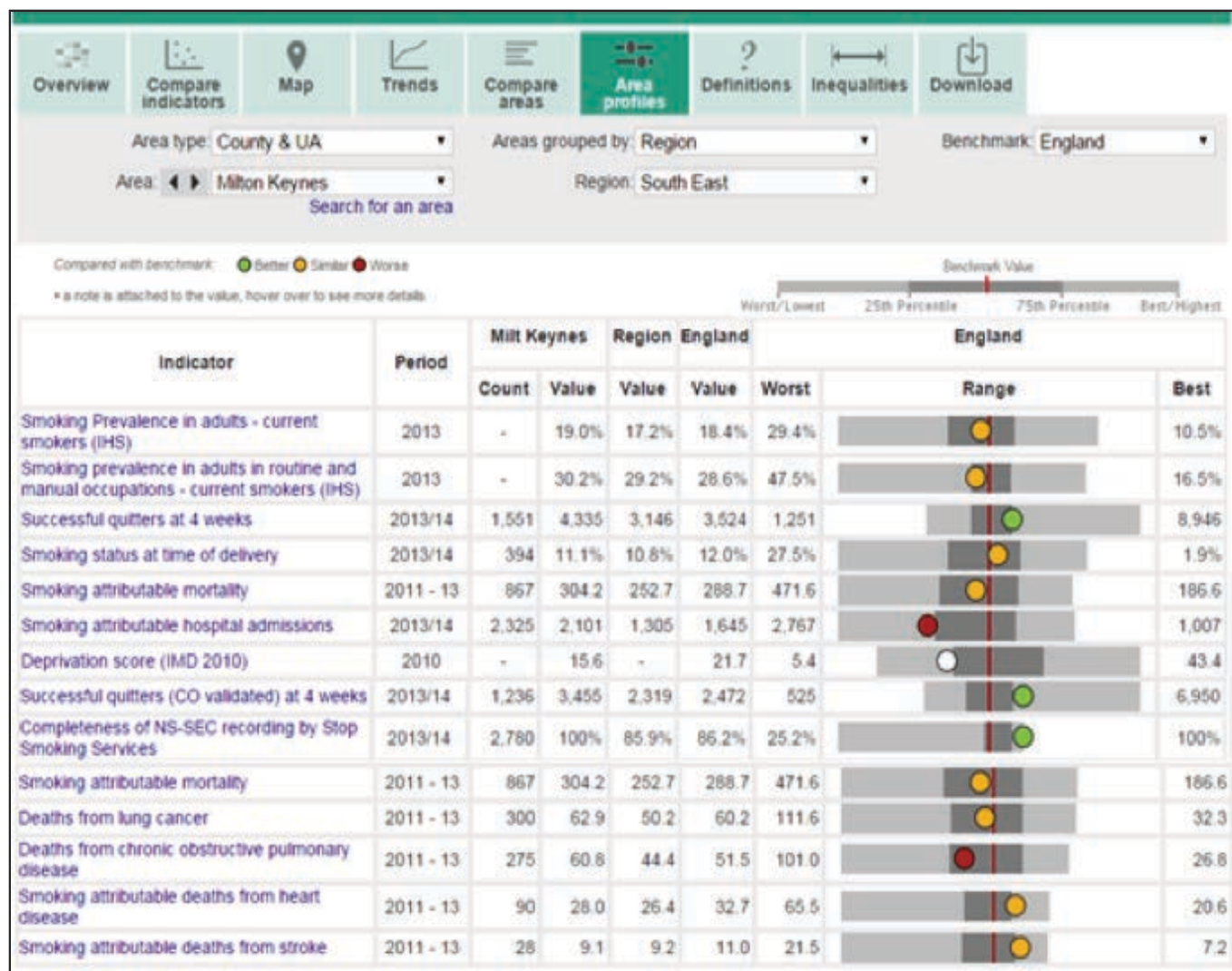
²² ASH, Smoking and Health Inequalities, 2015

²³ ONS, 2011; Smoking and drinking among adults, 2009; A report in the General Lifestyle Survey 2009.

²⁴ Child Health Profiles

Figure 15: Local Tobacco Control Profiles for Milton Keynes 2015

Source: Public Health England, Tobacco Control Profiles



Research shows that the greatest proportion of smokers is found in the routine and manual (R&M) worker socio-economic group. Whilst this group find it harder to give up smoking, a focussed investment of resources in this group has been shown to have the greatest impact on reducing health inequalities and there is a clear evidence base on how to engage and support them to give up smoking²⁵. Additionally, reducing smoking prevalence in R&M smokers has further health gains in that it de-normalises smoking in communities where other smokers live.

²⁵ Department of Health National Support Team for Tobacco Control June 2009 Tackling Health Inequalities – Targeting routine and manual smokers in support of the public service agreement smoking prevalence and health inequality targets. accessed 15th April 2014

Key actions

- Invest stop smoking services resources in Milton Keynes in a way which seeks to achieve similar outcomes across all communities.
- Promote stop smoking services through a targeted approach to routine and manual workers.
- Work with maternity services to provide stop smoking services specifically targeted to smoking in pregnancy.
- Prevent uptake of smoking in school children and in the workplace through the SmokeFree MKTobacco Control Partnership, combining the work of environmental health experts and tackling illegal and underage tobacco sales.

4.2 Adult Obesity, Physical Activity and Diet

Physical inactivity and quality of diet both impact on levels of obesity. However, these factors impact independently on health and life expectancy. Physical inactivity is the fourth leading global risk factor for mortality accounting for 6% of deaths, with overweight and obesity accounting for 5%²⁶. Conditions linked with obesity and the associated lifestyle choices include: cardiovascular disease; respiratory conditions; type 1 and type 2 diabetes; certain cancers; musculoskeletal problems; low self-esteem and depression.

The most recent national publication on obesity, physical activity and diet²⁷ shows that the proportion of women who were obese was higher in the lowest income quintiles (26 per cent - 31 per cent) and lower in the highest quintiles (15 per cent - 18 per cent). For men, the proportions who were obese were also higher in the lowest income quintiles (29 per cent - 30 per cent) and lower in the highest quintiles (23 per cent - 24 per cent).

The prevalence of obese adults in Milton Keynes is estimated to be 23.4%, similar to the England average (23%)²⁸. The Public Health Outcomes Framework (PHOF) indicator, 'excess weight in adults' (2.12), incorporates both overweight and obese adults. Figure 16 below shows that an estimated 72.5% of adults in Milton Keynes are either overweight or obese which is significantly higher than England (63.8%) and the highest in the East of England.

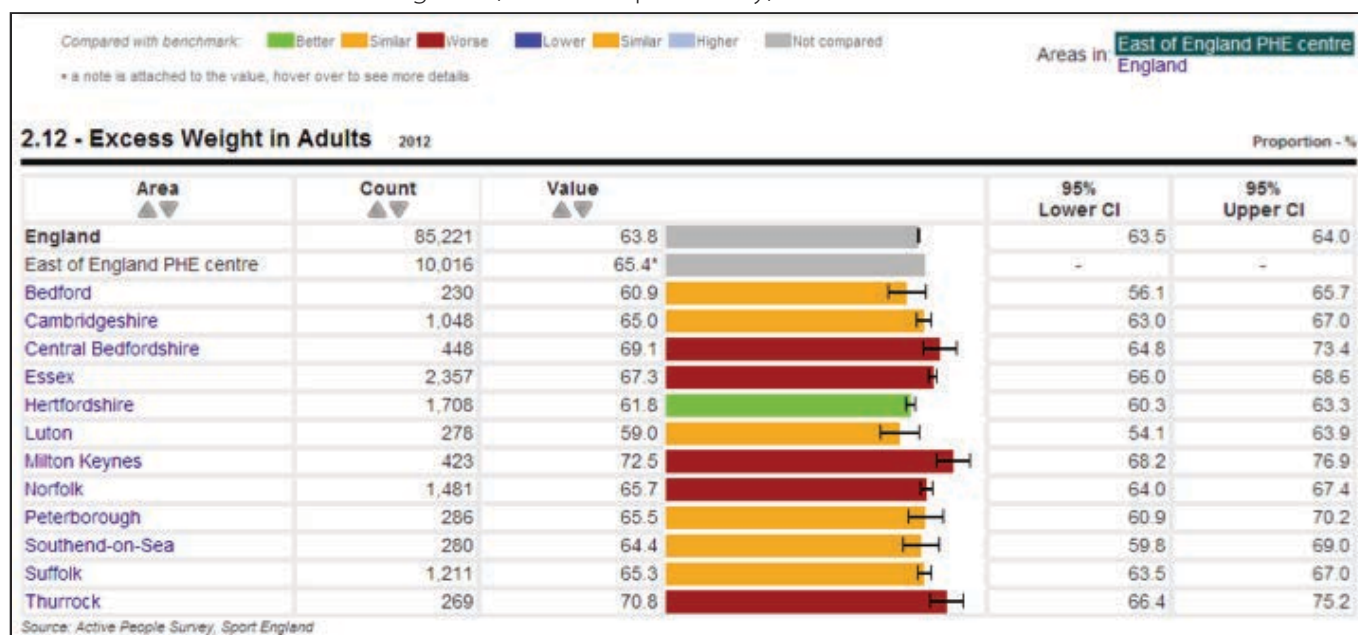
²⁶ World Health Organisation (2009) Global Health Risks Mortality and burden of disease attributable to selected major risks

²⁷ Health Survey for England (2015)

²⁸ Public Health England Profiles

Figure 16: Excess Weight in Adults in Milton Keynes compared to East of England (2012)

Source: PHOF Public Health England (Active People Survey)



A person's diet has an important impact on their overall health and their potential for being overweight or obese. The key data we collect about the quality of the diet in our population is the '5 a day' measure which aims to capture the proportion of individuals who regularly eat five or more pieces of fruit and vegetable per day. An estimated 53.8% of adults in Milton Keynes eat more than five portions of fruit and vegetables per day, compared to an England average of 56.3%. It is clear that level of income has an impact on the proportion of adults who consume five or more portions of fruit and vegetables per day²⁹.

The benefits of regular physical activity across the lifecourse have been clearly set out³⁰ and the relationship between physical inactivity and poor health persists throughout people's lives. Level of income has some impact on the proportion of adults meeting the recommended levels of physical activity³¹ and there are differences between men and women. There is little variation found with income in the top four quintiles for men, whilst those in the lowest income quintile are least likely to meet the recommended levels of physical activity (31%). The proportion of women meeting the recommended levels was found to be highest in the top quintile (34%) with little variation in the lowest four.

The percentage of physically active and inactive adults (2.13i) is one of the PHOF indicators. These indicators measure the percentage of adults (aged 16+) achieving at least 150 minutes of physical activity per week (Chief Medical Officer's guidelines)³². Figure 17 below shows that the percentage of physically active adults in Milton Keynes (56.8%) is similar to England (56.0%) and the East of England.

²⁹ Public Health England (2013) Social and economic inequalities in diet and physical activity

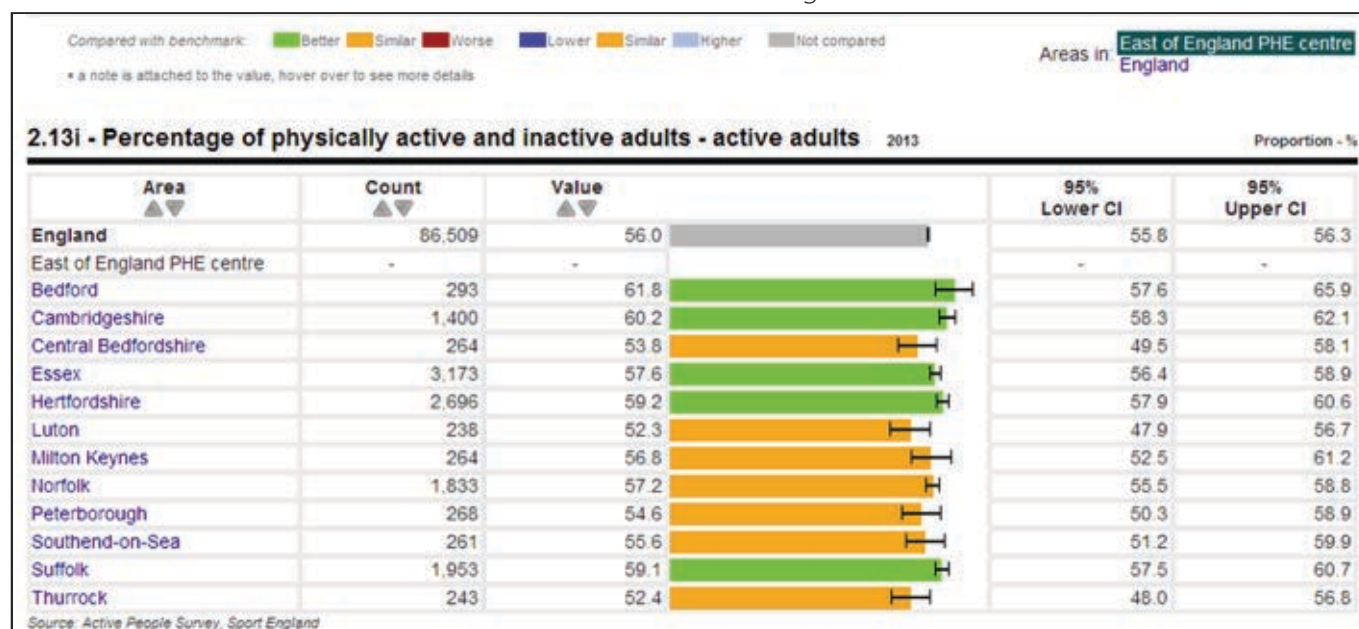
³⁰ Department of Health 2011 Start Active, Stay Active: A report on physical activity from the four home countries' Chief Medical Officers

³¹ Public Health England (2013) Social and economic inequalities in diet and physical activity

³² Department of Health 2013 (update) Improving outcomes and supporting transparency

Figure 17: Physically Active Adults in Milton Keynes compared to East of England (2013)

Source: Public Health Outcomes Framework - Public Health England



The Active People's survey reported that in Milton Keynes, the '1 x 30 minute' participation in sport measure has increased from 38.5% to 41.8% and the '3 x 30 minute' participation in sport and active recreation has increased from 22.5% to 28.3%³³. There are clear differences in uptake of sport across the socioeconomic gradient³⁴.

Both nationally and locally, there are achievable population health gains and reductions in health inequalities through an increase in physical activity and healthier diets throughout the lifecycle.

Key actions

- All planning and development which seeks to reduce obesity and increase physical activity levels in Milton Keynes should invest the available resources in a way which seeks to achieve similar outcomes across all communities.
- Work with key employers in Milton Keynes to develop exemplars of healthy working environments.
- Continue to promote and provide brief intervention advice for healthy living throughout the patient journey such as Making Every Contact Count (MECC).
- Continue joint working between the planning and transport departments and the Public Health Team to ensure that opportunities for active travel are included in all future planning requests and that that opportunities for increasing physical activity are maximised through leisure facilities and the built environment.

³³ Active People Survey, 2012/13

³⁴ Public Health England (2013) Social and economic inequalities in diet and physical activity

- Continue to develop a life course approach to obesity, with increasing focus in those areas highlighted as being at greater risk of obesity.
- Ensure that the newly commissioned community weight management services are fully accessible within communities and that they provide a range of solutions to support individuals and groups to make changes which are relevant within the context of their lives.
- Promote a wide range of population-based activities delivered at a community level including cooking on a budget, basic cooking skills and physical activity and sport programmes.

4.3 Alcohol

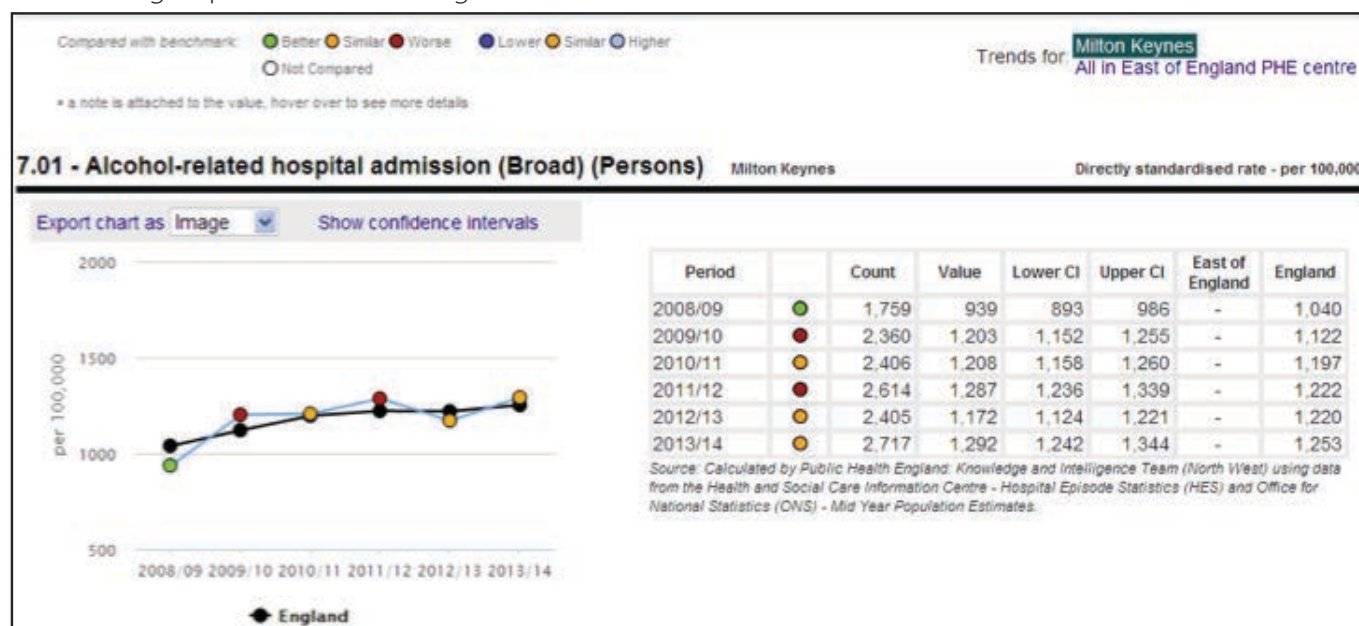
Alcohol has been a part of our culture for centuries and many people use it without risk to themselves or others. However, it is clear that drinking alcohol above the recommended guidelines can lead to significant health and social harms. The effects of alcohol are different for each person and the level, the frequency and the length of time an individual has been drinking alcohol all make a difference to their level of risk for individual diseases such as liver disease, cancer, stroke, mental ill-health and heart disease. In addition, alcohol is involved in a wide range of other social and health issues; risky behaviours leading to sexually transmitted infections and unwanted pregnancies; accidents, domestic violence; suicide and deliberate self-harm; child abuse and child neglect; mental health problems and homelessness.

Alcohol consumption, together with obesity is now recognised to be a major driver of liver disease in England. Recent data indicates that liver disease is now affecting younger members of the population. The average age of death from liver disease is 59 years and falling. The Public Health Outcomes Framework (PHOF) indicator (4.6ii) is defined as “Under 75 mortality rate from liver disease that is considered preventable”. For the period 2011-13, a total of 76 people (56 males and 20 females) died of preventable liver disease in Milton Keynes. When adjustments are made for the age structure of population, the rate of deaths that is considered preventable from liver disease in persons less than 75 years of age was 13.4 per 100,000 population for Milton Keynes, compared to the East of England (13) and England (15.7).

A continued rise in the rate of alcohol-related hospital admissions represents a significant challenge to public health, both nationally and locally. The reported rate of alcohol-related hospital admissions in Milton Keynes in 2013/14 is 1292 per 100,000, compared to East of England (1134), South East (1069) and England (1253). Figure 18 shows that there is an increasing trend both locally and nationally. This trend is equal for males and females although rates for males are still almost twice those for females.

Figure 18: Trend in alcohol-related hospital admissions 2008-2014 in Milton Keynes and England

Source: Fingertips Public Health England



Local mortality data show that those living in the most deprived quintile of Milton Keynes suffer a higher burden of deaths from alcoholic liver disease (34%) and national data shows that there is a correlation between deaths from this disease and deprivation score.

Because of the clear social harms relating to alcohol misuse, there is a general perception that individuals with alcohol problems are either alcohol dependent or are regular binge drinkers. Whilst these are challenging and complex areas to achieve behaviour change, the biggest challenge for public health continues to be effective communication about the serious health impacts of regularly drinking above the recommended guidelines, a level of drinking which is usually socially acceptable.



Key actions

- Continue to work on the wider alcohol issues through the implementation of the multi-agency drug and alcohol strategy, utilising Public Health England's Alcohol Stocktake Toolkit to further identify and enhance development and planning.
- Further develop the alcohol Identification and Brief Advice (IBA) programme in primary care and other settings, maintaining and developing clear pathways into alcohol treatment and support services.
- Embed and develop the Milton Keynes hospital alcohol liaison service, which champions the identification and follow up of alcohol related attendances to A&E and supporting those who have been admitted to hospital as a result of alcohol related conditions.
- Ensure that opportunities to highlight the risks of alcohol misuse are taken through the existing 'Making Every Contact Count' (MECC) and the 'Health Check' programmes.
- Work with partners to review and strengthen the delivery of alcohol education in schools to support young people to understand the risks of alcohol misuse and to develop resilience.
- Support and develop the children's workforce to enhance identification and early intervention services for young people, particularly those who have offended; Looked after Children; those who are not in education, employment or training (NEET); children of substance misusing parents; and those in contact with Social Care Services. Improve support services for family members affected by substance misuse issues.
- Improve our understanding of the alcohol problems amongst specific groups including older people and those from BME communities, and develop services to meet their needs.
- Ensure that multi-agency information sharing is providing a full picture of the impact of local alcohol consumption.

5 Health inequalities affecting babies, children and young people

5.1 Healthy Pregnancy

Smoking

Stopping smoking in pregnancy is one of the most effective steps a woman can take to improve her health and the health of her baby. Many of the 4,000 chemicals in tobacco smoke can cross the placental barrier and have a direct toxic effect on the foetus. Maternal smoking can cause damage to the developing foetus and new born baby, including 32% increased risk of miscarriage; 26% increased risk of perinatal death; a 1.5 to 2.5 fold increased risk of low birth weight babies; and a 27% increased risk of a preterm birth (before the 37th week of pregnancy). Preterm birth is a major cause of infant death and can affect physical and mental development during childhood.³⁵ Babies may also suffer harm caused by second-hand smoke and if the smoker is also a parent, this will be in addition to the harm caused during pregnancy.



Smoking at time of delivery is an indicator in the Public Health Outcomes Framework (2.03). In 2013/14, 394 (11.1%) mothers were smoking at the time of delivery in Milton Keynes, compared to England (12%); South East 10.8% and East Midlands 15.1%³⁶. Smoking is the single biggest cause of health inequalities in the UK and accounts for over half of the difference in risk of premature death between the least and most deprived. Reducing smoking in pregnancy will support a reduction in health inequalities.

Obesity in pregnancy

Maternal obesity (obesity in pregnancy) has become one of the most commonly occurring risk factors in obstetric practice. Maternal obesity increases health risks for both the mother and child during and after pregnancy. Obesity in pregnancy is widely defined as a maternal BMI (body mass index) of 30 or more at the first antenatal consultation. Obese women are at increased risk of miscarriage, gestational diabetes, pre-eclampsia and they are less likely to initiate or maintain breastfeeding. The babies of mothers with obesity are also at increased risk, including stillbirth, congenital anomalies, prematurity and neonatal death³⁷.

Statistics on the prevalence of obesity in pregnancy are not routinely collected in the UK, but trend data from the Health Survey for England show the prevalence of obesity among women of childbearing age increased during the period 1993-2010. Women who are obese in pregnancy are significantly more likely to be older, to have a higher parity (number of pregnancies), compared to women who are not obese³⁸. They are also significantly more likely to be living in areas of high deprivation.

A study of obesity in the UK during pregnancy undertaken by the Centre for Maternal and Child Enquiries

³⁵ A report by the Tobacco Advisory Group of the Royal College of Physicians 2010 Passive Smoking and Children (accessed 14th April 2015)

³⁶ PHOF 2.03

³⁷ CMACE/RCOG Joint Guideline: Management of Women with obesity in pregnancy (2010)

³⁸ The National Obesity Observatory (2014)

(CMACE) showed that out of a total of 128,290 women reported to have given birth (≥ 24 weeks' gestation), 6413 (5%) were identified as having a BMI ≥ 35 at any time during pregnancy³⁹ (BMI ≥ 35 is higher than the standard threshold for obesity which is ≥ 30).

Low birth weight

Low birth weight is defined as a weight of less than 2500g and very low birth weight as less than 1500g. At the population level, the proportion of babies with a low birth weight is an indicator of a multi-faceted public health problem including smoking (as above), long-term maternal malnutrition, premature birth, ill health, hard work and poor health care in pregnancy⁴⁰.

On an individual basis, low birth weight indicates that growth in the uterus has been restricted. The damage caused impacts on the individual's lifecourse, increasing risk of infant mortality, poor infant and child health and poor adult health. It is well accepted that low birth weight correlates with coronary heart disease, stroke, cancer and diabetes in later life and reduced life expectancy. 'Low birthweight of term babies' is included in the Public Health Outcomes Framework and this percentage births in Milton Keynes is similar to the national average of 2.8%.

Even though there is very little calorie malnutrition in England, many babies have received poor nourishment during pregnancy because their mothers eat poor diets which are deficient in micronutrients. Socio-economic deprivation is known to be associated with low birthweight⁴¹ and there is some evidence of this in Milton Keynes with the proportion of low birth weight babies born to mothers in the most deprived quintile accounting for 24% of the total number of low birth-weight babies.



³⁹ The National Obesity Observatory (2014)

⁴⁰ WHO; Indicators for assessing infant and young child feeding practices (2008)

⁴¹ WOakley L et al. (2013). Factors associated with breastfeeding in England: an analysis by primary care trust. *BMJ Open* 2013; 3:e002765.

Key Actions

- Increasingly intensive antenatal visits by a health visitor or midwife for women proportionate to the level of deprivation. Continue with the provision of specialist care through family nurse partnerships in defined groups.
- Continuing to provide Level 2 stop smoking training to midwives.
- Design and implement a maternal obesity service for pregnant women.
- Cascade the good practice identified through the 'Starting Well' pilots which support parents with antenatal and postnatal depression, prepare parents for parenthood and raise awareness of first aid for new parents.
- Continue to commission services such as the HENRY programme and promote the Healthy Early Years Award.
- Provide support for healthy cooking and physical activity, enabling Children's Centres and organisations to develop awareness, support and training on healthy lifestyles.
- Invest services resources in a way which seeks to achieve similar outcomes across all communities.

5.2 Breastfeeding

Breastfeeding helps secure the best start in life for new-born infants. It promotes health and prevents disease in both the short and long term for both the infant and the mother. There is strong evidence⁴² that infants who are not breastfed are more likely to suffer with conditions such as gastroenteritis and respiratory disease which require hospitalisation. The evidence also shows that breastfed babies have a reduced risk of high blood pressure, raised blood cholesterol in adulthood, type 2 diabetes and obesity and is also associated with a reduction in the risk of breast and ovarian cancers in mothers.

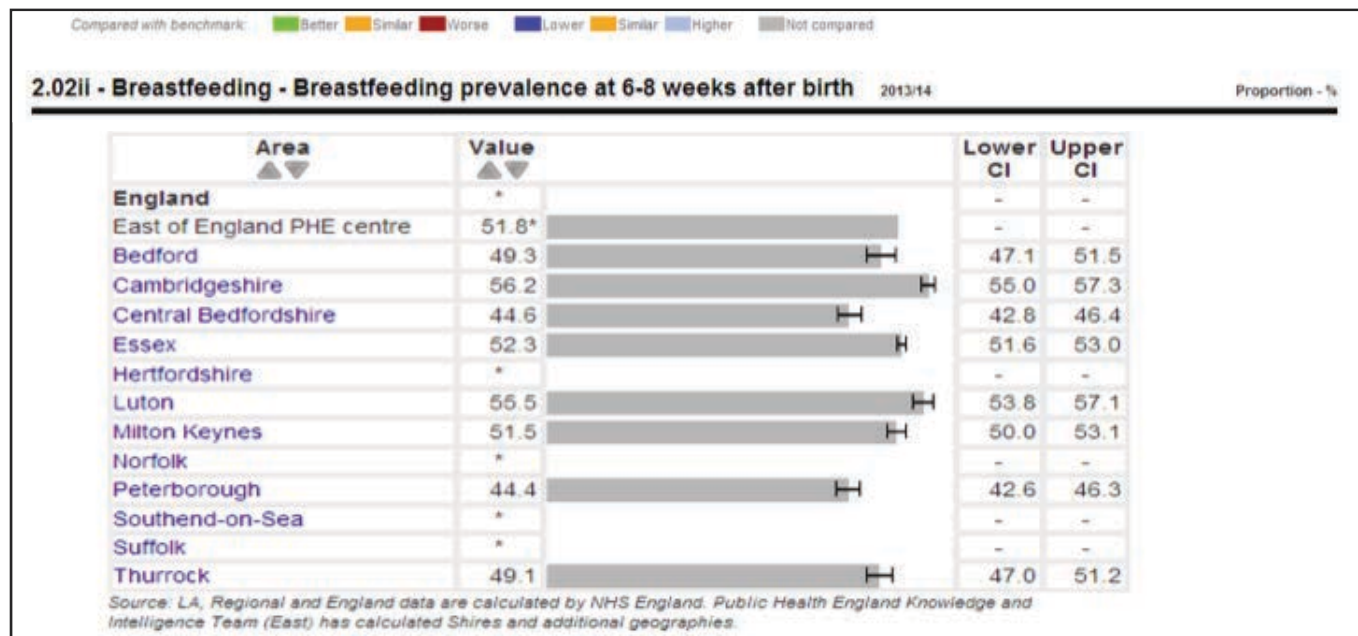
Breastfeeding initiation and prevalence at 6-8 weeks are indicators in the Public Health Outcomes Framework (2.02i and 2.02ii). In 2012/13, breastfeeding initiation in Milton Keynes was 72.3%, compared to 71.9% in East Midlands and 73.9% in England. There is a reducing trend in the proportion of infants who were being totally or partially breastfed at 6-8 weeks; 51.5% 2013/14 compared to 55.9% in 2010/11. Figure 19 shows that this is similar to the overall figure for other local authorities in the East of England (51.8%).



⁴² UNICEF 2013 The Evidence and the rational for the UNICEF UK Baby Friendly Initiative standards(accessed 14th March 2015)

Figure 19: Breastfeeding prevalence in Milton Keynes at 6-8 weeks (after birth) compared to neighbouring local authorities and East of England

Source: Fingertips Public Health England



Successive five yearly infant feeding surveys have shown that young mothers, women of lower socioeconomic status and mothers who left full-time education at an early age are least likely, either to start breastfeeding or to continue breastfeeding, for as long as other women.

Data from the 2010 Infant Feeding Survey⁴³ show that breastfeeding initiation rates in the UK increased from 76% in 2005 to 81% in 2010, and breastfeeding at six weeks increased from 48% in 2005 to 55% in 2010. The greatest increase in breastfeeding initiation rates occurred in mothers in routine and manual occupations (65% in 2005, 74% in 2010) compared with a modest increase in mothers in managerial and professional occupations (88% in 2005, 90% in 2010). Whilst this is excellent news for reducing health inequalities, it is clear that there is much work to be done in reducing the impact of breastfeeding and health inequalities.

Milton Keynes Hospital Foundation Trust is working towards achieving the UNICEF UK Baby Friendly Initiative accreditation for the maternity services.

⁴³ Infant Feeding Survey (2010)

Key actions

- Develop the role of the Children's Centres to identify and support mothers to breastfeed.
- Cascade the good practice learnt through the 'Starting Well' initiatives currently based at two Children's Centres, offering a preparation for parenthood programme which includes practical information about pregnancy, birth, breastfeeding and healthy eating.
- To positively promote breastfeeding in the public domain and across public services in order to foster a culture that supports breastfeeding.
- Support action to work towards achieving the accreditation of UNICEF's baby friendly initiative in Children Centres, the hospital and community settings to support women to initiate and continue breastfeeding.

5.3 Childhood obesity

The emotional and psychological effects of being overweight are often seen as the most immediate and serious problems by children themselves. They include teasing and discrimination by peers; low self-esteem; anxiety and depression. In one study, severely obese children rated their quality of life as low as did children with cancer on chemotherapy⁴⁴.

Obese children may also suffer disturbed sleep and fatigue and some obesity-related conditions can develop during childhood. Type-2 diabetes, previously considered an adult disease, has recently been seen in obese children as young as five. Some musculoskeletal disorders are also more common including slipped capital femoral epiphysis (SCFE) and tibia vara (Blount disease).

Overweight and obese children are more likely to become obese adults, and have a higher risk of morbidity, disability and premature mortality in adulthood. Above average BMI at age five and older is a risk factor for development of type-2 diabetes later in life. Below average BMI at age five combined with above average BMI at age 11 leads to an increased likelihood of coronary heart disease as an adult⁴⁵.

Children's heights and weights are monitored through the National Child Measurement Programme (NCMP). Figures 20 and 21 show the eight year trend in the prevalence of childhood obesity in Milton Keynes at Reception Year (ages 4-5) and at year six (ages 10-11). These figures show that in 2013/14 the prevalence of obesity in Reception Year was 9.6% and in Year 6 18.6%, similar to national levels.



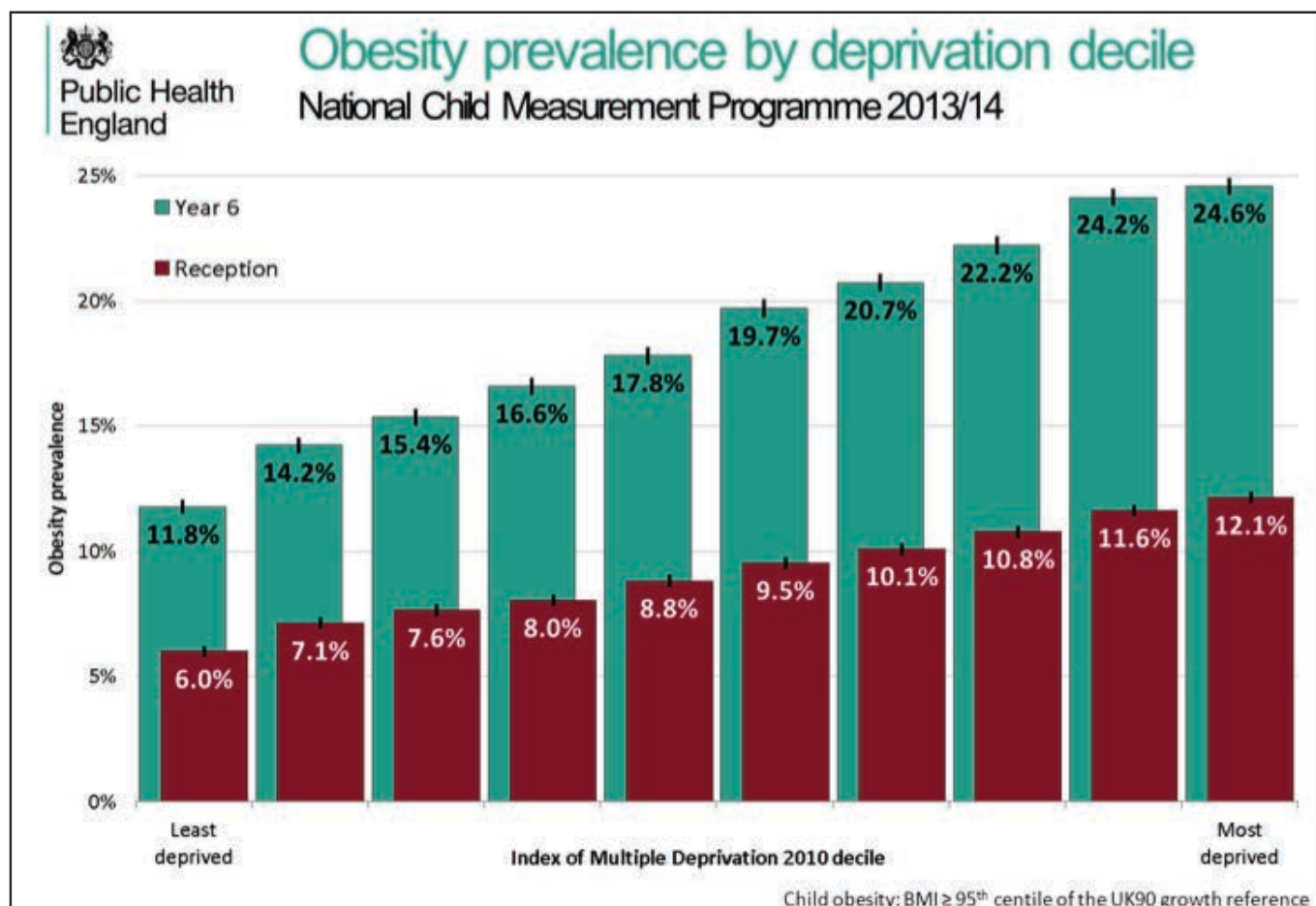
⁴⁴ Schwimmer, J.B., Burwinkle, T.M and Varni, J.W. (2003) Health-Related Quality of Life of Severely Obese Children and Adolescents. JAMA 289: 1813-1819

⁴⁵ Obesity and early life, D. J. P. Barker, obesity reviews (2007) 8 (Suppl. 1), 45-49

In 2013/14 the prevalence of excess weight in children at Reception Year was 22.2% and in Year 6 was 33.8%, again similar to national levels.

Figure 20: Childhood Obesity data for England 2008 – 2012, by deprivation decile

Source: Health and Social Care Information Centre



Locally there are insufficient data to comment on inequalities due to ethnicity. However, nationally the NCMP shows that in Reception Year, Black African boys and girls have the highest prevalence of obesity. In Year 6, Bangladeshi boys have the highest prevalence, whereas among girls, those from African and Other Black groups have the highest prevalence⁴⁶.

There are profound inequalities in levels of childhood obesity. Figure 20 shows a clear relationship between deprivation and childhood obesity across England which has significant implication for future health inequalities. The prevalence of obesity in the most deprived decile is approximately twice that of the prevalence in the least deprived. Analysis at ward level data does show that there are likely to be similar inequalities across MK, although this can not be clearly shown due to low numbers.

⁴⁶ PHE Childhood Obesity Slide Set (2015)

Key actions

In addition to improving the health of pregnant women and infants (as described above), the following actions should be taken:

- Ensure that resources used to reduce obesity and increase physical activity levels in Milton Keynes area are invested in a way which seeks to achieve similar outcomes across all communities.
- Improve access to high quality and affordable food where access is poor.
- Work through the planning application processes to restrict the numbers of fast food restaurants near schools and Children's Centres.
- Ensure newly commissioned weight management services are fully accessible within communities and that they provide a range of solutions to support individuals and groups to make changes which are relevant within the context of their lives.
- Develop a maternity obesity weight management programme.
- Develop and promote population based initiatives to encourage and support increased physical activity, e.g. active travel to school.
- Educate parents and professionals to recognise childhood obesity and have the confidence and knowledge to act appropriately.
- Maintain and develop the Healthy Early Years Award programme to include Children Centres, voluntary and independent early years sector.
- Ensure the learning and insight gained from the HENRY training is implemented into the community and parenting courses are delivered across the social gradient.
- Promote a wide range of activities across communities, including cooking on a budget, basic cooking skills and physical activity courses. Linkages into other service areas should be pursued to ensure that obesity is combated through a wide range of partners to achieve the greatest impact.

5.4 Accidental injuries in children

There are three key Public Health Outcome Indicators relating to accidental injuries: mortality from causes considered preventable (4.03); killed and seriously injured casualties on England's roads (1.10) and hospital admissions caused by unintentional and deliberate injuries in children and young people aged 0-14 and 15-24 years (2.07i and 2.07ii).

We know that, whilst accidental injuries are not the leading cause of deaths in our population, they are one of the leading causes of reduced years of life, calculated as years of life lost (YLL) before the age of 75 years.

Accidents are the main cause of death for children post-infancy, the principal cause of death up to the age of 39 and the main cause of early, preventable death as measured by years of life lost (YLL), for all ages up to 60 years of age. Accidents in the under-fives are most likely to happen in the home, with this age group having a higher incidence of these accidents compared to other age groups, including older people over the age of 80. Unintentional injury is a leading cause of death and illness among children and young people under 14 years, and causes more children to be admitted to hospital each year than any other reason.

Young adults are most likely to be unintentionally injured while undertaking leisure activities and speed is a major risk factor that influences the number of road casualties. Most injuries and their precipitating events are predictable and preventable.

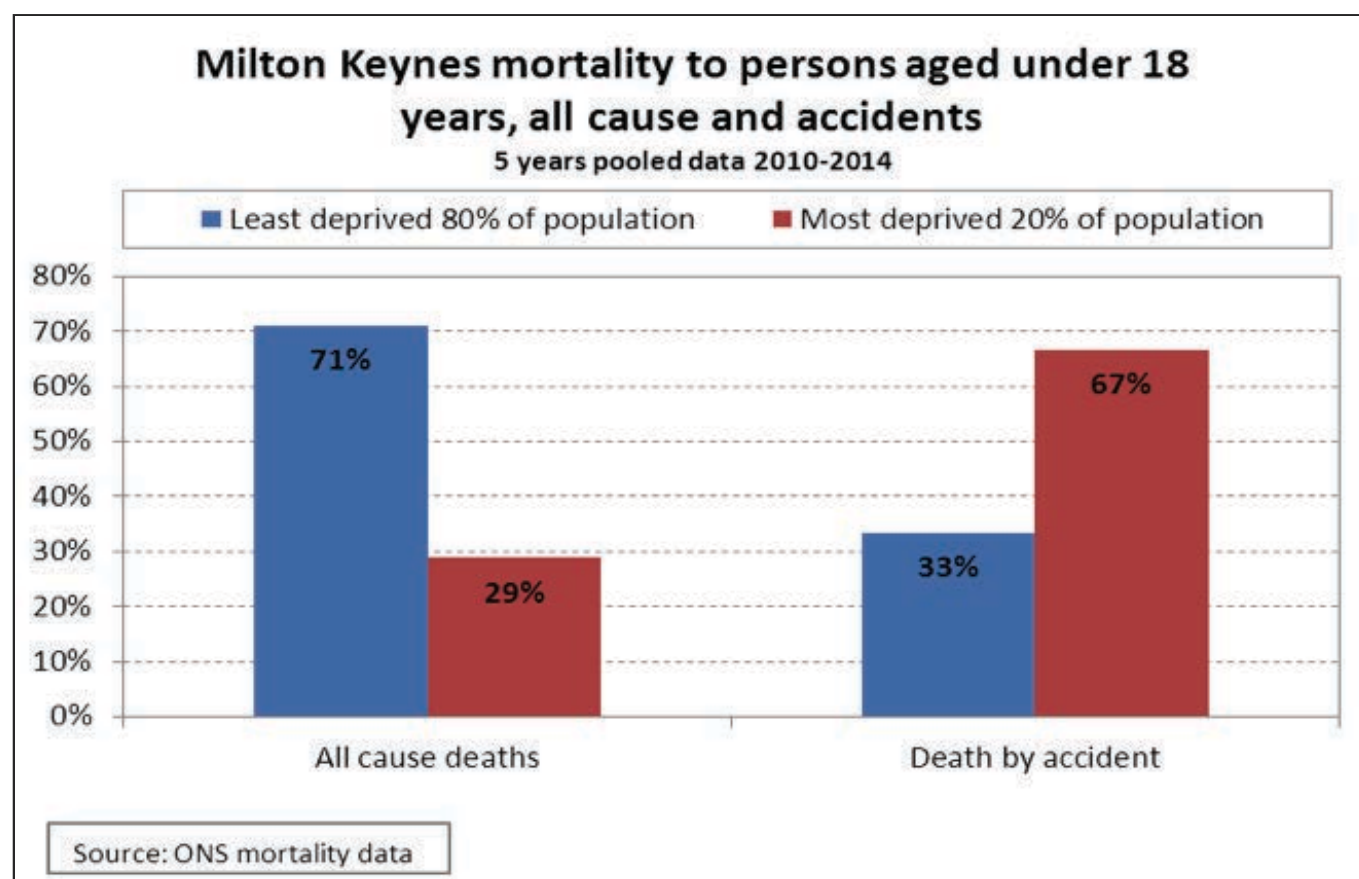


Inequalities are clearly evident in accidents, with children of parents who are long term unemployed or have never worked being 13 times more likely to die as a result of exposure to smoke, fire or flames and 20 times more likely to die as a pedestrian when compared to children from parents who are in the higher managerial or professional groups⁴⁷.

Figure 21 clearly demonstrates that there is a very high level of inequality in deaths under the age of 18 years due to accidents. The comparisons show that the most deprived 20% of our population experience 29% of the overall deaths in children under the age of 18 and 67% of deaths from accidents.

Figure 21: Deaths in children under 18 years of age 2010-14

Source: ONS Mortality Data



Accident prevention is relatively easy and inexpensive to deliver, to a largely receptive audience, unlike the slow behavioural change associated with disease prevention. It should therefore be considered to be 'low hanging fruit' of public health as well as 'the biggest apple on the tree'⁴⁸.

⁴⁷ The Royal Society for the prevention of accidents 2012 The Big Book of Accident Prevention (accessed 15th April 2014)

⁴⁸ The Royal Society for the prevention of accidents 2012 The Big Book of Accident Prevention (accessed 15th April 2014)

Key actions

- The key actions required are detailed within the National Institute for Health and Clinical Excellence (NICE) guidance documents (PH29, PH 30 and PH31)^{49, 50, 51} on preventing unintentional injuries among children and young people under 15. They are based on the best available evidence of what works and gives the best value for money. Recommendations cover the planning and co-ordination of programmes, as well as specific interventions to improve safety in the road, home and outdoor play and leisure. Accident prevention should be included in the 0-5 years services which transfer to the local authority in in October 2015.

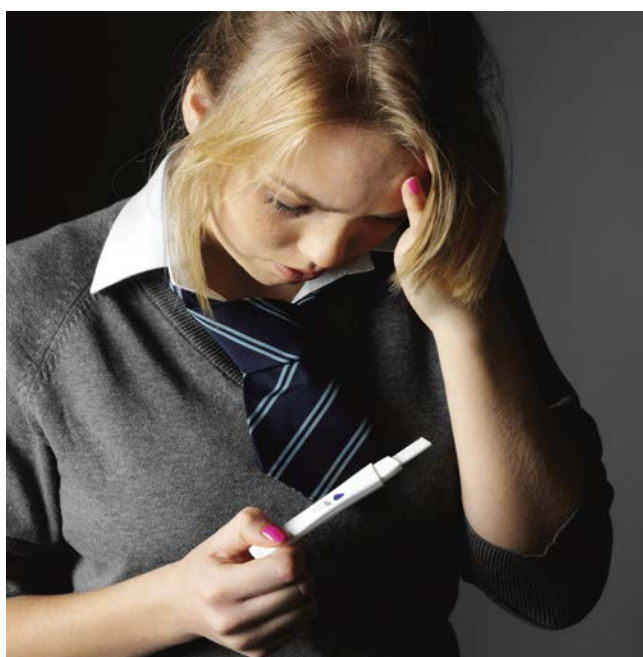
5.5 Teenage pregnancy

Teenage pregnancy is an important Public Health issue because it often leads to poor health and social outcomes for both teenage mothers and their children. The following risk factors associated with teenage pregnancy include: living in a deprived area; limited knowledge of where to access contraception and sexual health services and advice; living in care; alcohol and substance misuse; early onset of sexual activity; low educational attainment; disengagement from school and leaving school at 16 with no qualifications.

Teenage conceptions are measured as a rate per 1,000 females aged 15-17 years. Each year, around 40,000 young women under 18 become pregnant in England. The rate of conceptions amongst under 18 year olds resident in Milton Keynes has fallen from 51.2 per 1,000 in 1998 to 22.2 (n=102) per 1,000 in 2014⁵² compared to England which has fallen from 46.6 per 1000 in 1998 to 22.2 per 1000 in 2013.

It is likely that this is a result of a combination of excellent sexual health services for young people and the increase in the use of long acting reversible contraceptives (LARC) which are the most effective forms of contraception. In 2013 in Milton Keynes the GP prescribed rate of LARC was 61.9 per 1000 compared to 52.7 per 1000 in England.

There are significant inequalities in the rate of teenage pregnancies. Table 3 shows the number and rate of teenage pregnancies (aged 15-17 years) during the years 2010-2012. The rate was 43 per 1000 in the 20% most deprived areas compared to a rate of 19.9 per 1000 in the other areas of Milton Keynes. The table also shows that 42.7% of all teenage pregnancies occurred in the 20% most deprived population.



⁴⁹ NICE PH29 (2010). Strategies to prevent unintentional injuries among under-15s.

⁵⁰ TCE PH30 (2010). Preventing unintentional injuries among under-15s in the home.

⁵¹ NICE PH31 (2010). Preventing unintentional road injuries among under-15s: road design..

⁵² Office for National Statistics Conception Statistics, England and Wales, 2013

Table 3: Number and rate of teenage pregnancy in the 20% most deprived wards in Milton Keynes compared to the remaining 80% of wards 2010 – 12

Wards	Number	Population females 15-17 years	Rate per 1,000
20% most deprived	146	3,399	43.0
Other 80% wards	196	9,873	19.9
Grand total	342	13,272	25.8

Key actions

- Increase the proportion of people using contraceptive and sexual health services from groups at greatest risk of sexual health inequalities (specific estates, men who have sex with men (MSM), black and minority ethnic (BME) communities and sex workers).
- Increase the number of young people receiving targeted one-to-one support who engage in risk taking behaviours.
- Use the findings from the sexual health focus groups with young people at Milton Keynes College to inform commissioned services.
- Review and re-launch the free (pharmacy) emergency hormonal contraceptive (EHC) scheme for under 25's, ensuring capacity and coverage in line with need.
- Increase the proportion of Long Acting Reversible Contraception (LARC) prescribed to 25% of all contraceptives.
- Target specific estates with the C card (free condoms) scheme.
- Ensure that there is high quality sex and relationships education (SRE) provided in schools, especially those serving the more deprived areas of Milton Keynes.
- Continue to provide on-site sexual health services within upper schools serving deprived areas.
- Develop a competent and able workforce within children and young people's services at a level appropriate to staff type. At a minimum, staff should be able to signpost and support young people to access services and where appropriate, staff should be able to work with young people to provide detailed information and advice.
- Ensure targeted early intervention services are in place in schools and alternative education settings (considering the links between sexual health, alcohol and domestic violence).

6 Other wider determinants of health

6.1 Educational attainment

Education is a key social determinant of health. Not only can a better level of education help to equip individuals to access greater career opportunities and income, but it can also provide the necessary knowledge, personal and social skills to access and use information and services, which in turn can maintain and improve their own and their family's health⁵³.

Inequalities in educational outcomes affect physical and mental health, as well as income, employment and quality of life. Improving educational outcomes amongst the more disadvantaged groups has the potential to make a positive impact on health inequalities.

The national curriculum is divided into four key stages; Key stage 1 relates to ages 5-7; Key stage 2, ages 7-11; Key Stage 3, ages 11-14; and Key Stage 4, ages 14-16. The following describes the Early Years, Key Stage 2 and Key Stage 4 results in Milton Keynes and provides some analysis of the potential impact of deprivation on school attainment.

Early years

Children's potential achievements in life are significantly influenced by their early years environment. Their development at age five is measured as they enter the school system and is reported in the Early Years Foundation Stage Profile⁵⁴. In 2014, 61.9% of children in Milton Keynes achieved a good level of development at age five in the Early Years Foundation Stage Profile, slightly higher than the England average of 60.4%.

Analysis of achievement across the South East (Table 4) shows a clear correlation between deprivation and the achievement of Early Years Foundations Stage with 53% achievement in the most deprived decile compared to 72% in the lowest deprivation decile⁵⁵.

Table 4: Achievements in Early Years Foundation Stage profile 2013/14

Source: Department for Education

IDACI decile	Number of eligible pupils	Percentage achieving		
		At least the expected standard in all ELGs	A good level of development	Average point score
South East				
0 - 10 % most deprived	4058	51	53	32.3
10 - 20 %	6961	54	56	33
20 - 30 %	9390	54	56	33.2
30 - 40 %	12150	57	59	33.6
40 - 50 %	11389	61	63	34.3
50 - 60 %	11225	64	65	34.9
60 - 70 %	11326	66	67	35.4
70 - 80 %	11034	68	69	35.6
80 - 90 %	11385	68	69	35.8
90 - 100 % least deprived	13578	70	72	36.3

⁵³ Health Impacts of Education: a review, IPH, 2008

⁵⁴ Early Years Foundation: Stage Profile

⁵⁵ <https://www.gov.uk/government/statistics/eyfsp-attainment-by-pupil-characteristics-2013-to-2014>

Using a proxy marker for deprivation (eligible for free school meals), an analysis of the difference in early years attainment in Milton Keynes shows that 48% of children eligible for free school meals attained the expected standard compared to 64% in children who are not eligible for free school meals.

In September 2012 a new progress check between the ages of 24 to 26 months was introduced to the EYFS program to identify the child's strengths and any areas where the child's progress is less than expected, which is distinct from the two year old check carried out by Health Visitors for groups of children. Up to fifteen hours of funded childcare per week to the most vulnerable 40% of children aged 2 years has also been introduced in Milton Keynes since Jan 2014. By identifying the most vulnerable and those requiring additional support at an earlier stage, we can intervene earlier to increase the chance of the child performing well at the five year old progress check and going on to succeed in the longer term.



Education to age 16

At the age of 11 (Key Stage 2), 79% of school children in Milton Keynes achieved level 4 in reading, writing and maths, compared to 78% in England (2014). However, the inequality between pupils who are eligible for free school meals and those who are not eligible can be seen in Table 5.

Table 5: Inequality in educational attainment at Key Stage 2 (aged 7-11) by sex, between pupils who are and are not eligible to receive free school meals: Milton Keynes and England (2014)

Source: Department for Education

Attainment at Key Stage 2 - reading, writing and maths			
	Males	Females	All
Eligible for free school meals England average	59%	68%	64%
Eligible for free school meals MK average	56%	70%	63%
Not eligible for free school meals England average	79%	85%	82%
Not eligible for free school meals MK average	78%	85%	82%

At the age of 16 (Key Stage 4), 49.2% of school children in Milton Keynes achieved five or more A*-C grade GCSEs including English and Mathematics, lower than the England (maintained sector) average of 56.6% (2014). Table 6 shows that there is significant inequality in educational attainment in Milton Keynes between pupils who are eligible for free school meals and those who are not.

Table 6: Inequality in educational attainment (5 GCSE Grade C and above) by sex, between pupils who are and are not eligible to receive free school meals: Milton Keynes and England (2014)

Source: Department for Education

	Percentage achieving 5+ A*-C grades inc. English & mathematics GCSEs								
	Pupils known to be eligible for free school meals			All other Pupils			All pupils		
	Boys	Girls	All	Boys	Girls	All	Boys	Girls	All
England	29.3	38.2	33.7	55.7	66	60.7	51.9	62	56.8
South East	23.8	33.7	28.6	57.4	67	62.1	54.3	63.9	59
Milton Keynes	22.8	30.4	26.6	45.7	58.4	51.9	43.3	55.4	49.2
MK vs Eng	-6.5	-7.8	-7.1	-10	-7.6	-8.8	-8.6	-6.6	-7.6

Key Actions

- Improve the quality and quantity of early years education and childcare.
- Work in partnership with schools to work towards achieving our shared goal that every school is a good school.
- Secure better outcomes for all children and young people, with a sustained focus on personalisation and progression.
- Close the gap between vulnerable groups and the rest, ensuring that the Pupil Premium is used effectively.
- Support full participation in education and training for young people aged 16 to 18.

6.2 Improving employment

Access to employment, which offers a decent living wage and allows for a healthy work/life balance, enables better access to services and a greater opportunity to make healthy life choices. It increases social networks and gives a greater sense of purpose which is linked to improved mental health outcomes. The latest data show that there are significant inequalities in employment according to where an individual lives, with the percentage rate of those claiming job seekers allowance (JSA) for those living in the most deprived MSOAs being almost double the rate in other areas of Milton Keynes (Table 7).

Table 7: Trends in Job Seekers Allowance (April 2004 – April 2013)

Source: NOMIS - JSA claimants by electoral ward

Area	Apr-04	Apr-05	Apr-06	Apr-07	Apr-08	Apr-09	Apr-10	Apr-11	Apr-12	Apr-13	Apr-14	Apr-15
Most deprived areas	1,911	1,855	2,308	2,162	2,326	4,502	4,748	4,291	4,368	3,872	2,883	1,942
Other areas	978	885	1,068	998	1,042	2,786	2,558	2,201	2,275	1,972	1,392	1,037
Milton Keynes	2,889	2,740	3,376	3,160	3,368	7,288	7,306	6,492	6,643	5,844	4,275	2,979
Area	Apr-04	Apr-05	Apr-06	Apr-07	Apr-08	Apr-09	Apr-10	Apr-11	Apr-12	Apr-13	Apr-14	Apr-15
Most deprived areas	66.1%	67.7%	68.4%	68.4%	69.1%	61.8%	65.0%	66.1%	65.8%	66.3%	67.4%	65.2%
Other areas	33.9%	32.3%	31.6%	31.6%	30.9%	38.2%	35.0%	33.9%	34.2%	33.7%	32.6%	34.8%

© Crown copyright 2013. reproduced with the permission of the controller of HMSO

The proportion of young people (16-19 year olds) in Milton Keynes who are not in Education, Employment or Training (NEET) in 2014 was 3.9% compared to 4.2% in the South East and 4.7% in England. Services which aim to encourage, enable and assist young people up to the age of 19 and young adults up to the age of 25 (assessed as having a learning difficulties and disabilities) to participate in learning or work are provided through the Information Advice and Guidance Service at Community Learning MK, who work alongside a number of other partners to ensure that appropriate support is co-ordinated and targeted at those young people who are most vulnerable.

Raising qualifications is critical to individual employment prospects as there is a strong correlation between the highest qualification attained and the employment rate, with those with no qualifications being far less likely to be in employment. Table 8 below shows that Milton Keynes population has a slightly lower proportion with 'degree or equivalent and above' qualifications than England and the South East, higher levels at 'GCSE grades A-C or equivalent' and 'with no qualifications'.

Table 8: Level of educational qualification in Milton Keynes compared to the South East and England

Source: ONS, Annual population Survey - Extracted from Nomis

Highest level of qualification - April 2014-March 2015 Persons aged 16-64				
Highest level of qualification	Milton Keynes Number	Milton Keynes %	South East %	England %
% with degree or equivalent and above - aged 16-64	44,400	26.5	30.4	27.8
% with higher education below degree level - aged 16-64	14,700	8.8	9.0	8.2
% with GCE A level or equivalent - aged 16-64	33,400	20.0	24.3	23.1
% with GCSE grades A-C or equivalent - aged 16-64	39,600	23.7	21.9	22.4
% with other qualifications (GCSE) - aged 16-64	19,200	11.5	8.7	9.7
% with no qualifications (GCSE) - aged 16-64	16,000	9.6	5.7	8.7

Key actions

National policy has a significant impact on employment, but actions taken locally can reflect the level and nature of need, as follows:

- Mentor, encourage and motivate those attending the Neighbourhood Employment Programme (NEP) into employment.
- Provide high quality one to one targeted support via the NEP to ensure continuity of support and guidance to those who are unemployed and who present to the council in housing need and to welfare benefit claiming council tenants that are classified as work seekers.
- Offer education, training and employability support via the NEP to clients across Children Centres in Milton Keynes.
- Offer training and employability support via the NEP to unemployed 50+ year olds.
- Provide targeted education, training, cognitive development and employability support via the NEP to Employment Support Allowance claimants with complex needs and health difficulties.
- Provide the employment arm of the Government's Troubled Families Initiative (rebranded locally as 'Strengthening Families Programme').

6.3 Housing

Housing conditions have an important impact on the health and wellbeing of individuals and communities. People's physical living environment, such as the quality of their housing and their access to green spaces impact on their risk of physical and mental ill-health. Poor quality housing contributes to many preventable diseases including respiratory, cardiovascular diseases, cancer and poor mental health.

The Milton Keynes Strategic Housing Market Assessment Update (SHMA) 2013⁵⁶ showed that the level of overcrowding has increased by 1.9% between the 2001 and 2011 Census. This is a particular issue for families with an increase of 7.5% compared to 5.8% in the South East.

The number and rate of family homelessness in Milton Keynes has increased in each of the last three years from 236 in 2010/11 to 364 in 2013/4⁵⁷ and the rate has been significantly higher than the national average over this period.

As described in section two of this report, there are two of the seven domains of the index of multiple deprivation (IMD) which do not follow the same geographical pattern of deprivation as the other five domains. These are relevant to housing: 'Barriers to Housing and Services' deprivation and 'Living Environment' deprivation.

'Barriers to Housing and Services' include the following measures: household overcrowding; the proportion of all households in an LSOA which are judged to have insufficient space to meet the household's needs; homelessness; and housing affordability.

⁵⁶ Milton Keynes Council (2013) Milton Keynes Draft Strategic Housing Market Assessment Update (SHMA)

⁵⁷ Child Health Profiles 2015



There is one LSOA in MK within the most deprived 10% in England and eight LSOAs within the most deprived 30%. Households who were interviewed about the level of difficulty accessing ten specific services, including childcare facilities, general practitioners (GPs), public transport and places of work had the lowest measure for level of concern about access to parks and open spaces.

The domain 'Living Environment Deprivation' includes social and private housing in poor condition; houses without central heating; air quality; and road traffic accidents causing injury to pedestrians and cyclists. There are no LSOA in Milton Keynes which fall into the 30% most deprived areas with England.

However, there are persistent inequalities within Milton Keynes which include housing and neighbourhood conditions. Nearly half of all social housing is now located in the most deprived fifth of neighbourhoods. Tenants of social housing have higher rates of unemployment, poverty, ill health and disability than the average for the rest of the population. It is clear from the Marmot Review (2010) that tackling housing supply and neighbourhood conditions will help to resolve the social inequalities in health.

The Regeneration Strategy for Milton Keynes: 2015 – 2030⁵⁸ has key priorities built around People, Place and Prosperity. Its aims include the support and delivery of ambitious schemes of mixed tenure development which will provide high quality living environments for new and existing residents and provide a legacy of affordable and sustainable homes. Further information about housing can be found within the Joint Strategic Needs Assessment for Milton Keynes⁵⁹.

⁵⁸ Regeneration MK 2030 (2015) not yet published

⁵⁹ Joint Strategic Needs Assessment for Milton Keynes

6.4 Fuel Poverty

Until 2013, households were considered to be in fuel poverty if more than 10% of their net household income was required to provide adequate warmth and hot water. This definition has now changed and a household is now said to be in fuel poverty if fuel costs are above average (the national median level) and if, in spending that amount on fuel, they would be left with a residual income below the official poverty line⁶⁰.

Fuel poverty is a combination of energy costs, household income and household energy consumption (which depends on the energy efficiency of the property). In 2013, 6.3% of Milton Keynes population were living in fuel poverty, which is the seventh lowest level in England⁶¹. Table 9 shows the comparison between the number and proportion of houses that are in the fuel poverty category between the most deprived quintile and the rest of the population. Those living in the most deprived quintile of Milton Keynes experience disproportionately higher levels of fuel poverty (9%) compared to the rest of the population (5.6%).

Table 9: Comparison between the proportion of households in fuel poverty in the most deprived quintile compared to the remaining quintiles (2013)

Source: Department of Energy and Climate Change

Fuel poverty by quintile (LSOA)			
	Estimated number of households	Estimated number of fuel poor households	Overall % in fuel poverty
Most deprived quintile	21,079.00	1,893.00	9.0%
Remaining Quintiles combined	80,478.00	4,515.00	5.6%
Total	101,557.00	6,408.00	6.3%

One of the aims of the Regeneration Strategy for Milton Keynes: 2015 – 2030⁶² is to support the provision of high quality sustainable living environments for new and existing residents.

Further information on fuel poverty can be found within the Joint Strategic Needs Assessment for Milton Keynes⁶³.

⁶⁰ Department of Energy and Climate Change 2013 Fuel Poverty: a framework for future action (accessed 23rd April 2014)

⁶¹ Dept. of Energy and Climate Change (2015) 2013 sub-regional fuel poverty data: low income high costs indicator

⁶² Regeneration MK 2030 (2015) not yet published

⁶³ Milton Keynes Joint Strategic Needs Assessment 14/15

Key actions

- Continue to install double-glazing and loft/cavity wall insulation to those homes that have not yet received it across Milton Keynes to improve thermal comfort.
- Tackle the root caused of poverty and improve access to employment and good income levels.
- Continue to develop the RegenerationMK programme that will eventually bring multiple measures to bear across Milton Keynes to mitigate the scourge of fuel poverty.

6.5 Sustainable development

The Marmot Review Fair Society Health Lives recognises that, globally, those at greatest risk from climate change are the poorest and most vulnerable. The need for mitigation of and adaptation to climate change means that we must do things differently. Creating a sustainable future is entirely compatible with action to reduce health inequalities. Sustainable local communities, active transport, sustainable food production and zero-carbon houses will have health benefits across society. Measures that will aid mitigation of climate change can also reduce health inequalities⁶⁴.

There are national, regional and local authority level estimates of CO₂ emissions, measured as metric tonnes per capita. Table 10 shows that Milton Keynes has an estimated CO₂ emission rate per capita of 6.8 metric tonnes which is higher than England and the South East but lower than East Midlands.

Table 10: Estimated CO₂ emission (2005-2013)

Source: Department of Energy and Climate Change (DECC)

Local estimates of CO₂ emissions (2005-2013): Regions & Districts									
Measure: Metric tonnes per capita									
Year	2005	2006	2007	2008	2009	2010	2011	2012	2013
England	8.5	8.4	8.2	7.9	7.1	7.3	6.6	6.9	6.7
South East region	8.2	8.1	7.9	7.6	6.9	7.0	6.4	6.6	6.3
East Midlands	9.6	9.5	9.1	8.8	8.0	8.3	7.6	7.8	7.7
Milton Keynes	8.7	8.7	8.4	8.1	7.3	7.3	6.5	7.0	6.8

The Marmot Review makes recommendations to address the need for a sustainable economy, food system, transport systems and use of green spaces. Many measures which address climate change also bring health benefits such as active travel (walking and cycling), which reduces carbon emissions, air pollution and physical inactivity levels in the population.

To encourage sustainable development, we should prioritise policies and interventions that both reduce health inequalities, improve health and mitigate against climate change through improving active travel and energy efficient housing across the social gradient.

⁶⁴ MThe Marmot Review 2010, Fair Society, Healthy Lives

7 Conclusions

Health inequalities in Milton Keynes are driven by several different factors, many of which are interrelated: including accidents; homelessness; low education attainment; unemployment; poor housing; smoking; physical inactivity, poor diet, alcohol misuse and teenage pregnancy. Chronic diseases such as circulatory diseases, cancers and respiratory diseases are significant contributors to the life expectancy gap.

Children in Milton Keynes experience profound health inequalities through levels of childhood obesity, educational attainment, childhood deaths due to accidents and teenage pregnancy. Children are further impacted on through the increasing levels of family homelessness in Milton Keynes.

The findings of this report demonstrate significant health inequalities in Milton Keynes and actions have been identified throughout the report within each of the factors contributing to these health inequalities.

This report provides the basis for a call to action for all agencies who can play a part in the reduction of health inequalities: MK Clinical Commissioning Group (CCG), the Local Authority (LA), Milton Keynes University Hospital NHS Foundation Trust, MK Community Services, Primary Care (GP practices, community pharmacies and dentists), voluntary organisations and businesses.

Staff who work for organisations who exist to serve the people of MK may need to rethink the issue of health inequalities. It's clear that there will always be health inequalities but all staff should be aware that the level of health inequality which exists is not inevitable and the social commitment to reducing inequalities is a matter of social justice and fairness.

There are some key actions for all organisations to take:

- Ensure that all services are commissioned or provided in a way which seeks to achieve similar outcomes for all our communities.
- Invest in the key effective interventions that reduce risk, prevalence and deaths from cardiovascular disease, cancer and respiratory diseases.
- Ensure that all partnership actions taken against Health and Wellbeing Board priorities are applied in a way which seeks to achieve similar outcomes across the communities in MK.
- Provide 'Making Every Contact Count' (MECC) or similar training for all frontline staff to ensure that all staff are equipped to raise lifestyle issues and refer into lifestyle services.
- Work effectively in partnership with other organisations, the voluntary sector and businesses.
- Ensure that workplace health is a priority, seeking to achieve an equal level of health and wellbeing for all staff.

All agencies must invest resources in a way which seeks to achieve similar outcomes for all communities in Milton Keynes as recommended in the Marmot report. This is the strategic approach which will have the biggest impact, and the greatest benefit to the whole of Milton Keynes.



8 Glossary of Terms

Term	Definition
All Deaths (All Age All Cause Mortality)	Deaths from all causes and all ages.
Body Mass Index (BMI)	BMI is defined as the individual's body mass divided by the square of their height – with the value universally being given in units of kg/m ² .
Cancer	Cancer is a group of diseases where cells divide and grow uncontrollably forming tumours and invading nearby parts of the body.
Circulatory disease	Diseases of the heart and circulatory system (blood vessels) e.g. heart attack, stroke.
CIPFA	Chartered Institute of Public Finance and Accountancy.
Conception	The process of becoming pregnant. Teenage conceptions are those that occur under the age 18 years and usually between the ages of 15 and 17.
Confidence Intervals	These provide a measure of assurance that a particular value lies within a defined range. This allows us to take account of chance variation. In general 95% confidence limits/intervals are used and indicate the range in which we are 95% sure that the true value lies. Small values will have a larger confidence interval range.
Decile	Any of the groups that result when a frequency distribution is divided into ten groups of equal size.
Deprivation	Deprivation is a composite measure of many different areas including income, education, employment, health, housing and access to services. We use the Index of Multiple Deprivation (IMD) that is produced by the Department of Communities and Local Government. We are currently using the index that was calculated in 2010 (IMD2010).

Directly Age Standardised Rates	This allows the comparison of rates between populations of differing age and gender structure. In most cases the European Standard Population is the standard. Rates are usually calculated per 100,000 population. Such rates are directly comparable relative to each other.
Electoral ward	An electoral ward is a division of an administrative area used to elect councillors to serve on the councils of the administrative area.
Excess winter deaths (EWD)	Excess winter deaths indicates where there are higher than expected levels of mortality in the winter compared with the other months of the year. Winter is defined as December to March.
Index of Multiple Deprivation (IMD)	See Deprivation.
Inequalities	The quality of being unequal or uneven. In Public Health we talk about Health Inequalities which can be defined as differences in health status or in the distribution of health determinants between different population groups.
Life Expectancy	The number of years that a person is expected to live. It is determined by the mortality rate of a geographical area and gender.
Low birth weight	A low birth weight is when a baby is born weighing less than 2,500 grams (less than 2.5kg) and a very low birth weight is where a baby is born weighing less than 1,500 grams (less than 1.5kg).
Lower Super Output Area (LSOA)	A Lower Super Output Area is a statistical area established by ONS to support statistical analysis and to enable stronger analysis of information over time. It is a sub area of a Middle Super Output Area. They are approximately 2,500 people.

Middles Super Output Area (MSOA)	A Middle Super Output Area is a statistical area established by ONS to support statistical analysis and to enable stronger analysis of information over time. They are approximately 7,500 people. Each MSOA will be made up of usually 3 Lower Super Output Areas.
Mortality	The incidence of death in a population.
NEET	A young person who is no longer in the education system and who is not working or being trained for work.
Obesity	A term used to describe someone who is overweight and has a high degree of body fat. It is often measured using Body Mass Index (BMI). BMI is a person's weight in kilograms (kg) divided by his/ her height in meters squared.
Office for National Statistics (ONS)	The Office for National Statistics is the government agency responsible for the assimilation of data about the UK.
Premature Mortality	Those deaths that occur before the individual is 75 years of age.
Quintile	Any of the groups that result when a frequency distribution is divided into five groups of equal size.
Respiratory disease	Diseases of the respiratory system (lungs) e.g. Asthma.
SRE	Sex and relationship education.
Statistical significance	Statistical significance is the probability that an effect is not due to just chance alone. The likelihood that a finding or a result is caused by something other than just chance.
Suicide and Undetermined	Deaths from suicide or where the cause is undetermined by the coroner.
UNICEF	United Nations Children's Fund.
Years of Life Lost (YLL)	This figure allows for the future years of life lost as a result of a death, thus giving greater weight to the death of a younger person.



www.milton-keynes.gov.uk/social-care-and-health/public-health

