

SYSTEM WIDE REVIEW OF HEALTH OUTCOMES IN CAMBRIDGESHIRE

To: **Health Committee**

Date: **12 January 2017**

From: **Director of Public Health**

Electoral division(s): **All**

Forward Plan ref: **Not applicable** *Key decision:* **No**

Purpose: **System wide review of health outcomes in Cambridgeshire**

Recommendation: **It is recommended that the Health Committee:**

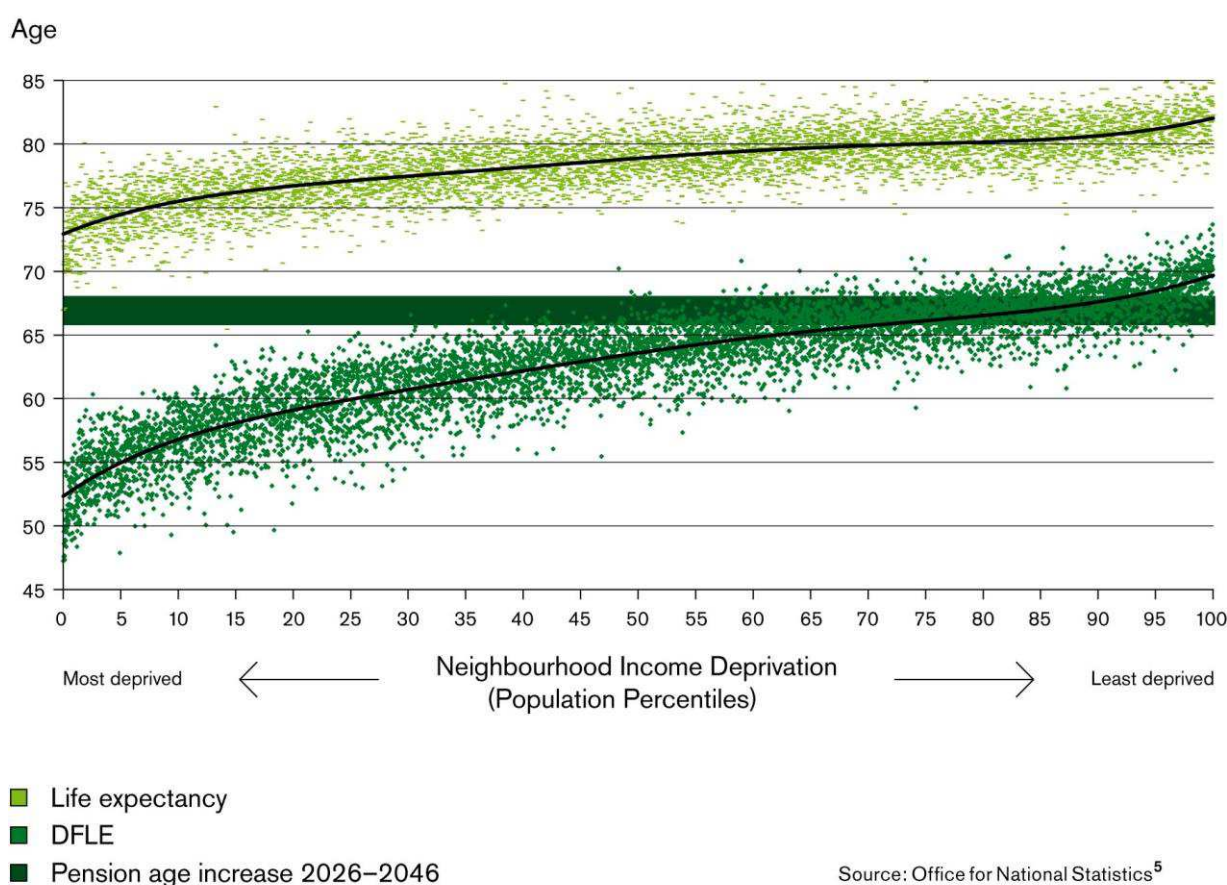
- (a) Note and comment on the system wide review of health outcomes in Cambridgeshire**

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1. BACKGROUND

- 1.1 In July 2016, the Health Committee agreed to add a System Wide Review of Health Outcomes across Cambridgeshire to the forward agenda, focussing on health inequalities and life expectancy across the county. This reflected in particular, concerns about health outcomes in Fenland in comparison to the rest of the county.
- 1.2 Health is determined by a complex mix of factors including income, housing and employment, lifestyles, and access to health care and other services. There are significant inequalities in health between individuals and different groups in society
- 1.3 The most comprehensive research on health inequalities in England has been carried out by the Institute of Health Equity, based at University College, London, and led by Professor Michael Marmot. The findings of the Marmot strategic review of health inequalities in England 'Fair Society, Healthy Lives (2010)' were based on a widespread review of research literature and nationally collected data, and remain relevant today.
- 1.4 The Marmot review demonstrated clearly that both life expectancy and 'disability free life expectancy' in a 'neighbourhood' are closely correlated with income levels of the people who live in that neighbourhood. This isn't just relevant to people living in the most deprived areas, as the gradient continues throughout the income spectrum.

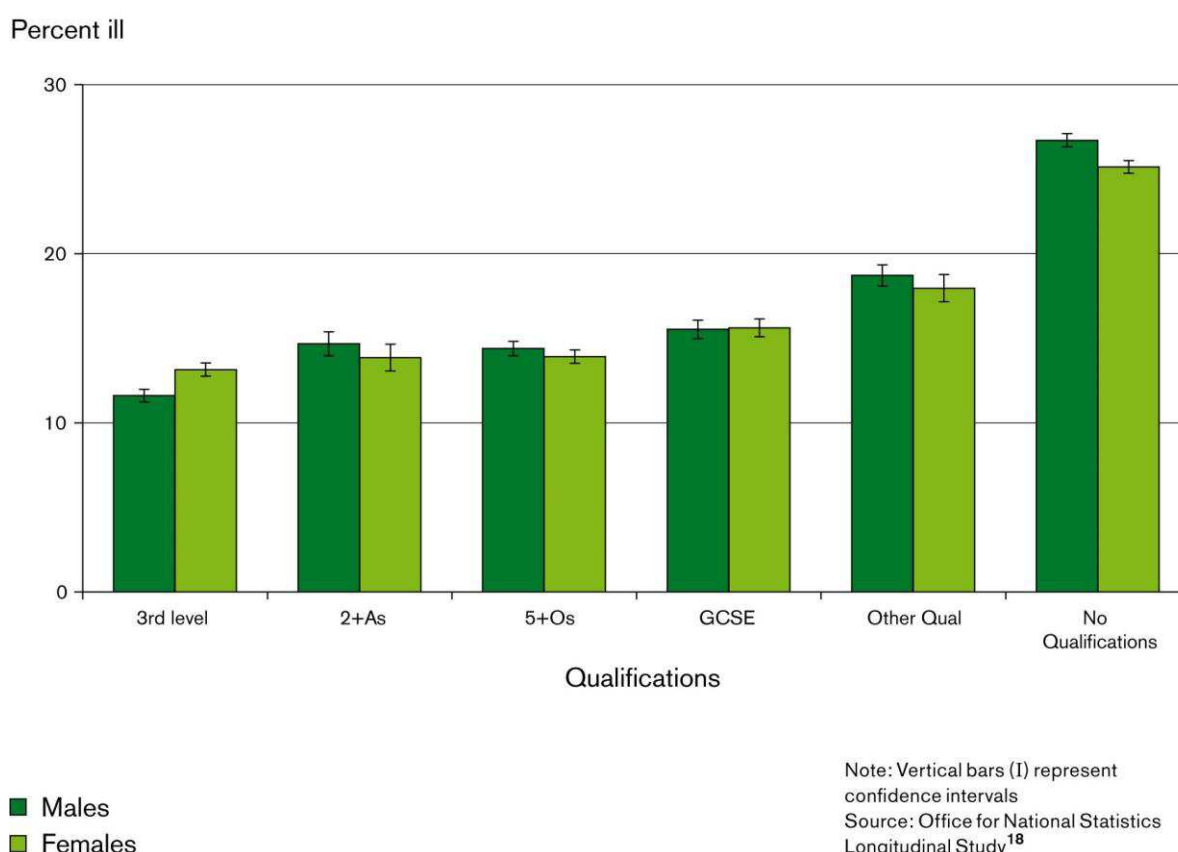
Figure 1 Life expectancy and disability-free life expectancy (DFLE) at birth, persons by neighbourhood income level, England, 1999–2003



This has a significant economic impact - It is estimated that nationally, inequality in illness accounts for productivity losses of £31-33 billion per year, lost taxes and higher welfare payments in the range of £20-32 billion per year⁹, and additional NHS healthcare costs associated with inequality are well in excess of £5.5 billion per year.

- 1.5 There is also a strong correlation between educational attainment and health as shown in the graph below which assesses the rate of 'limiting illness' (illness which has an effect on people's daily activities) among people in England with different levels of educational attainment. Educational attainment is closely related with income, and in addition there is evidence that people with higher levels of educational attainment are more likely to make healthy lifestyle choices.

Figure 7 Standardised limiting illness rates in 2001 at ages 16–74, by education level recorded in 2001

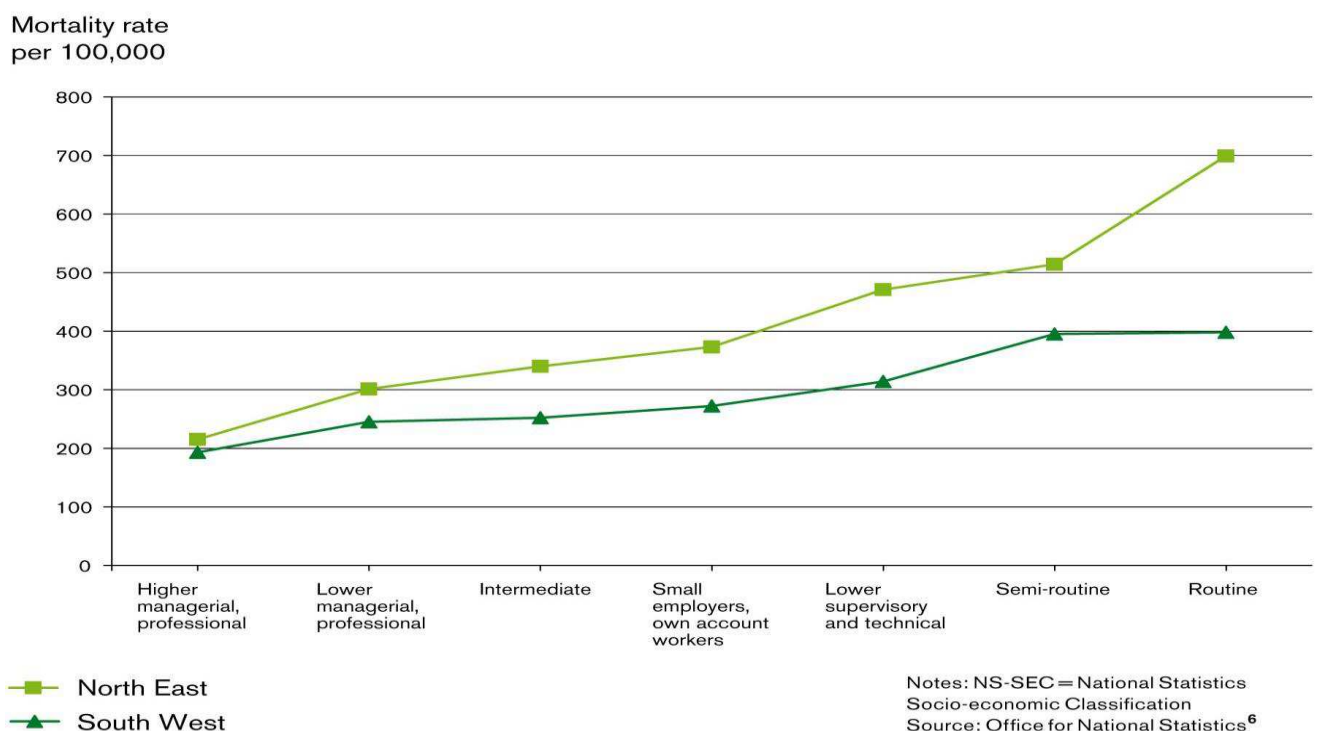


- 1.6 As well as describing current data and information, the Marmot review looked at the evidence for interventions to reduce health inequalities and as a result made six overarching policy recommendations:
- A. Give every child the best start in life (highest priority recommendation)
 - B. Enable all children, young people and adults to maximise their capabilities and have control over their lives
 - C. Create fair employment and good work for all
 - D. Ensure a healthy standard of living for all
 - E. Create and develop healthy and sustainable places and communities
 - F. Strengthen the role and impact of ill health prevention

Further detail of the interventions to support these recommendations can be found in the 'Fair Society Healthy Lives' available on weblink www.instituteofhealthequity.org/projects/fair-society-healthy-lives-the-marmot-review

- 1.7 Despite the strong relationship between income level, life expectancy and healthy life expectancy demonstrated by the graph in para 1.4 there is also evidence that the relationship between income deprivation and life expectancy is not 'absolute' and can be shifted. One piece of evidence is that there is strong regional variation in the relationship between type of employment and mortality rates (see graph below) with the impact of employment type on health being greater in the North East than the South West of England.

Figure 2 Age standardised mortality rates by socioeconomic classification (NS-SEC) in the North East and South West regions, men aged 25–64, 2001–2003



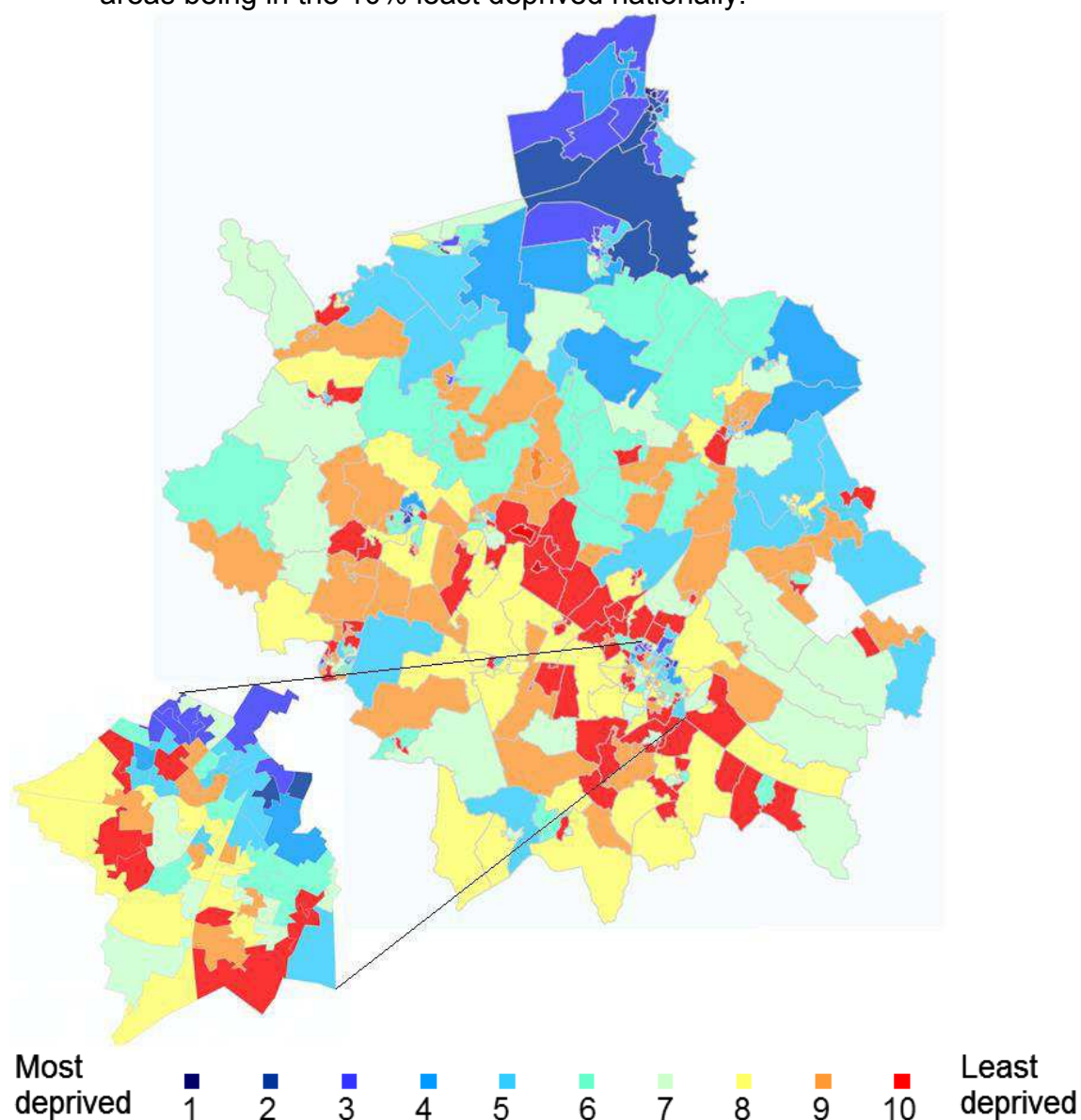
- 1.8 Further evidence that the relationship between life expectancy and income deprivation can be shifted came from work on health inequalities by the Kings Fund (Buck 2015), which used more recent data at small area level to look at 'neighbourhood' inequalities in life expectancy. The key findings of this review were that:
- The Marmot curve for life expectancy got flatter between 1999–2003 and 2006–10, which implies that the relationship between income deprivation and life expectancy got weaker over that period.
 - Other factors, in particular employment, housing deprivation, and income deprivation among older people and some lifestyle factors such as binge drinking and fruit and vegetable consumption were the most important in explaining differences in life expectancy between areas in 2006-10.
 - Low employment, housing deprivation and smoking are among the factors that distinguish areas with persistently low life expectancy over time. 'Place' remains important over and above these general findings and relationships.

2. HEALTH INEQUALITIES IN CAMBRIDGESHIRE

2.1 As is clear from the national research outlined in section 1, health inequalities in Cambridgeshire should be looked at in the context of wider socio-demographic factors such as educational attainment, employment, income, housing and quality of living environments. A generally accepted way of summarising these factors is the Index of Multiple Deprivation (IMD) (2015), which is measured at 'lower super output area' level (neighbourhoods of about 1500 people) and has seven domains:

- Income
- Employment
- Education, Skills and Training
- Health deprivation and Disability
- Crime
- Barriers to Housing and Services
- Living Environment

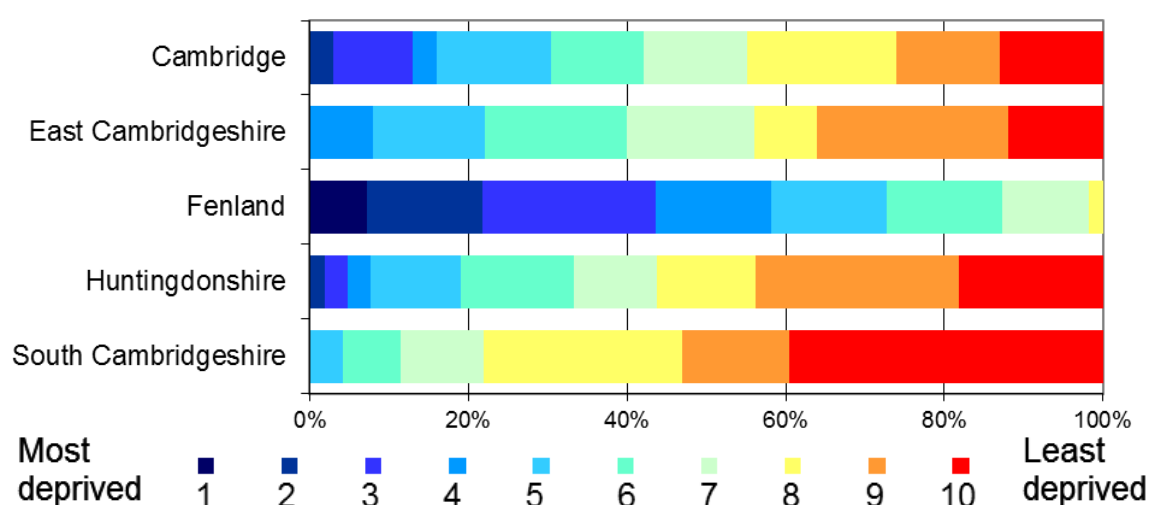
2.2 The map below shows the IMD ranking of 'lower super output areas' in Cambridgeshire. It is colour coded by the IMD rank of each area, with the darkest blue areas being in the 10% most deprived nationally, and the red areas being in the 10% least deprived nationally.



The map demonstrates that, in general, areas of higher deprivation cluster in the north of the county and areas of lower deprivation in the rural areas around Cambridge City. Cambridge itself mirrors this pattern with some areas of higher deprivation in the north and east of the City

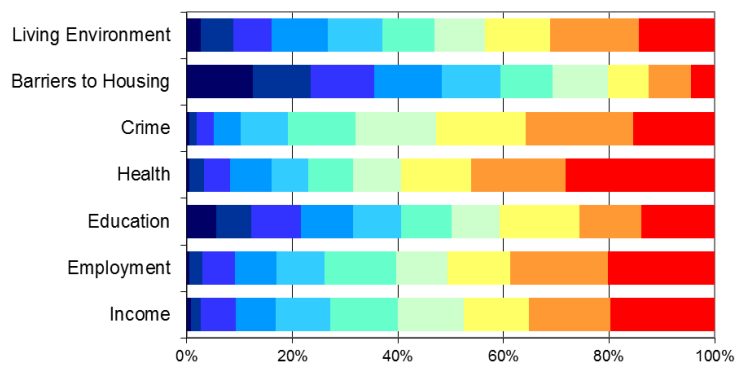
- 2.3 Cambridgeshire County Council Research Group has plotted the number of 'lower super output areas' (LSOAs) in each of the national deciles of deprivation (IMD 2015) for each district in the County. The chart below gives an indication of the range of deprivation in LSOAs within each district, rather than just giving an average deprivation score. It shows that in Fenland over 70% of LSOAs have a higher deprivation score than the national average (median) while in South Cambridgeshire this is less than 10%. Fenland is the only district with LSOAs in the most deprived 10% nationally, while Cambridge and Huntingdonshire have a small percentage in the most deprived 20%.

Decile from IMD 2015



- 2.4 The charts overleaf provide more detail for each district about each of the domains of Index of Multiple Deprivation (2015) which make up the overall deprivation score. It can be seen that the 'Barriers to Housing and Services' domain is generally the worst scoring domain throughout the county with around 60% of LSOAs in the county scoring worse than the national average (median) - reflecting the relatively high costs of housing in relation to incomes, and the rural population. All other IMD (2015) domains score better than the national average (median) when the county as a whole is considered and the overall ranking for 'health deprivation and disability is good, with over a quarter of LSOAs ranking in the top ten percent nationally.
- 2.6 In contrast, Fenland scores poorly for 'Education, Skills and Training' with over 90% of LSOAs ranked below the national average (median). 'Health Deprivation and Disability' in Fenland has over 80% of LSOAs ranked as below average, although fewer are in the worst 20% nationally than for 'Education'. For both 'Income' and 'Employment' deprivation, Fenland has over 70% of LSOAs ranked as below average. Relating this back to the 'Marmot' research described in Section 1, it is clear that a number of the factors associated with health inequalities are present in Fenland – and health outcomes cannot be considered in isolation.

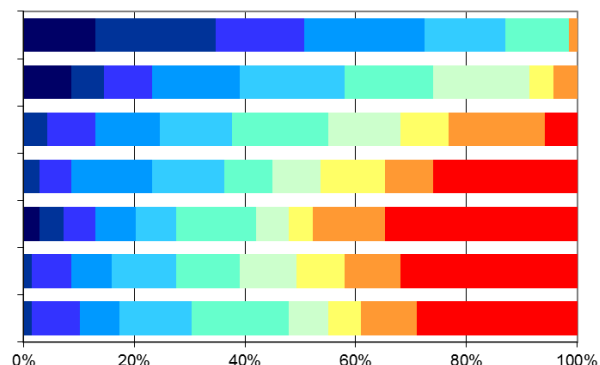
Cambridgeshire County



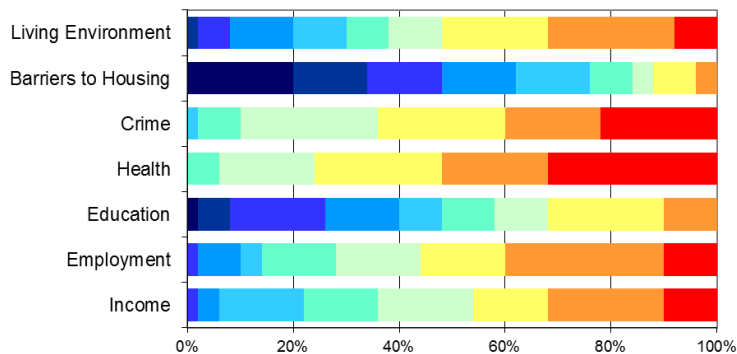
% of LSOAs within decile

Most deprived 1 2 3 4 5 6 7 8 9 10 Least deprived

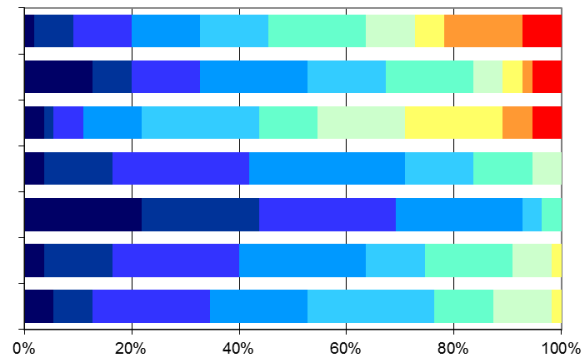
Cambridge City



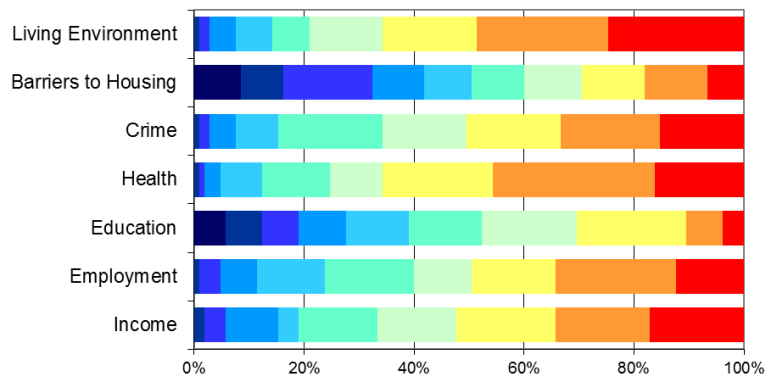
East Cambridgeshire



Fenland



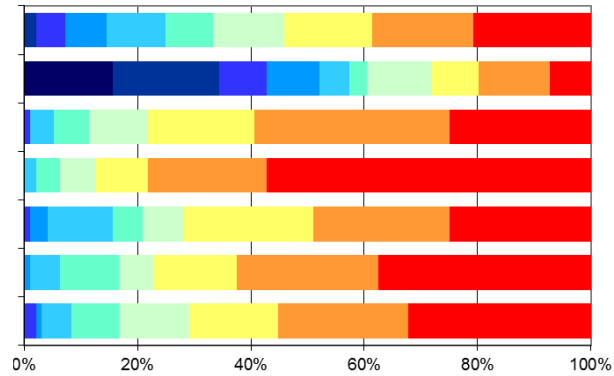
Huntingdonshire



% of LSOAs within decile

Most deprived 1 2 3 4 5 6 7 8 9 10 Least deprived

South Cambridgeshire



3. HEALTH INEQUALITIES – A FOCUS ON FENLAND

- 3.1 Given the high 'Health Deprivation and Disability' IMD (2015) ranking for Fenland, compared with the rest of Cambridgeshire, this section focusses in more detail on health inequalities in Fenland, including geographical variation within the Fenland area itself.
- 3.2 The table overleaf provides key statistics from Public Health England's Local Health Profiles (attached at Annex A) for
- England: providing the national benchmark
 - Cambridgeshire: providing the county-wide benchmark
 - Fenland District
 - Wisbech: the town in Fenland with the highest level of deprivation

For some statistics, the Local Health Profile provides information on whether differences between the local area and the England average are statistically significant (5% level). For these, the figures in the table are colour coded green (better than average), amber (similar to average) and red (worse than average).

- 3.3 The first page of the table describes the 'determinants' of health – relating back to the emphasis the Marmot's report on the relationship between early years development, educational attainment, income and employment, and health. Key points working down from the top of the table include:
- Fenland district has a higher percentage of people aged 65 and over than both the England and the Cambridgeshire average. Because ageing is associated with increasing risk of illness and disability, this means that a higher percentage of the Fenland population are likely to be in poor health, independent of any effect of deprivation. Wisbech also has a higher proportion of older people than England.
 - Fenland district has a lower than average percentage of people whose ethnicity is 'not white British' (2011 census data), whereas Wisbech is similar to the England average. However a higher than average proportion of residents in Wisbech cannot speak English well or at all – indicating a population of 'non white British' with additional needs for targeted communication and translation.
 - Income deprivation and childhood deprivation are significantly worse than the England average in Fenland, whereas deprivation amongst older people is similar to average.
 - Two key statistics relating to educational achievement – stage of development at age 5 which reflects a child's readiness for school; and the standard measure of GCSE achievement, are significantly worse than the national and Cambridgeshire average in Fenland District, and this is more marked in Wisbech.
 - Unemployment and long term unemployment rates as measured by 'job seekers allowance' are significantly better in Fenland than the England average, although below the Cambridgeshire average. However rates of people claiming Employment Support Allowance

and incapacity benefits are above the England average in Fenland. In Wisbech unemployment rates (JSA) are similar to the England average.

- Overall – the relatively positive statistics for unemployment indicate that issues in Fenland relate more to low incomes and to illness/disability leading to people being unable to work, than to the overall quantity of employment.

3.4 In summary, key inequalities in **determinants of health** in Fenland include:

- Above average levels of child poverty and income deprivation among working age adults
- Below average school readiness amongst young children in the area, and below average educational achievement at GCSE, in turn associated with a lower level of skills in the local workforce.
- Relatively good levels of employment, but with below average income levels, and potentially other job quality issues outlined in the Marmot research on health inequalities, which are more common for unskilled and low-wage employment.
- Higher levels of 'non white British' residents with poor English language skills in Wisbech.
- A higher proportion of older people in the Fenland population – which will lead to greater needs for health care, independent of deprivation levels.

3.5 The second page of the table describes some **overarching health outcomes** in Fenland and Wisbech, compared with England and Cambridgeshire averages. Key points include:

- The percentage of the population who described themselves as having bad general health, very bad general health, and/or limiting long term illness or disability in the 2011 Census was higher than the England average in Fenland and Wisbech. It is difficult to disentangle the effect of the higher proportion of older people in Fenland and Wisbech from other factors influencing people's general health. However it does mean that needs for easily accessible NHS services will be higher.
- Emergency admission rates to hospital are higher than the England average in Fenland, and increase further in Wisbech. This increase in emergency admissions associated with deprivation is particularly marked for coronary heart disease and chronic obstructive pulmonary disease (which is closely linked with smoking rates). In contrast, emergency hospital admission rates for Cambridgeshire as a whole are well below average. These admission rates are adjusted statistically, to remove any effects from the age of the population.

Determinant of Health	England average	Cambridgeshire average	Fenland average	Wisbech average
Population aged 65+ (%) 2014	17.5%	17.7%	21.8%	18.9%
Population whose ethnicity is not white UK (%) 2011	20.2%	15.5%	9.6%	19.8%
Population who cannot speak English well or at all (%) 2011	1.7%	1.1%	2.1%	6.1%
IMD (2015) score – all domains	21.8	13.4	25.4	N/A
IMD (2015) Income deprivation	14.6	9.1	15.7	N/A
IMD (2015) children in poverty (%)	19.9%	12.7%	22.4%	N/A
IMD (2015) Older people in deprivation (%)	16.2%	11.3%	16.4%	N/A
Children with a good level of development at age 5 (%) 2013/14	60.4%	61.3%	53.5%	47.9%
Achieving 5A*-C (incl. Eng & Maths) GCSE, 2013/14	56.6%	56.4%	48.7%	39.8%
Unemployment (JSA claimants %) 2015/16	1.8%	0.7%	1.2%	1.8%
Long term unemployment (JSA) rate per 1000 2015/16	4.3	1.1	1.9	3.3
Employment support allowance and incapacity benefits % 2015/16*	6.2% (GB)	4.1%	7.0%	

Health outcome	England average	Cambridgeshire average	Fenland average	Wisbech average
General health very bad (%) 2011	1.2%	0.9%	1.4%	1.6%
General health bad or very bad (%) 2011	5.5%	4.1%	6.2%	6.8%
Limiting long term illness or disability (%) 2011	17.6%	15.3%	21%	21.5%
Emergency hospital admissions – all causes: standardised admission ratios (SAR) 2010/11-2014/15	100	84.1	101.4	114.7
Emergency hospital admissions for coronary heart disease: SAR 2010/11-2014/15	100	93.7	125.9	146.6
Emergency hospital admissions for chronic obstructive pulmonary disease: SAR 2010/11-2014/15	100	79.5	103.0	150.6
Premature deaths under age 65: standardised mortality ratio 2010-2014	100	78.8	107.3	132.4
Premature deaths under age 75: standardised mortality ratio 2010-2014	100	82.5	104.2	123.2
Life expectancy at birth: males 2009-13	79.1	80.8	78.8	N/A
Life expectancy at birth: females 2009-13	83	84.4	82.8	N/A
Disability free life expectancy at birth males 2009-13	64.1	66.9	63	N/A
Disability free life expectancy at birth females 2009-13	65	67.4	64	N/A

Source <http://www.localhealth.org.uk/> * source <https://www.nomisweb.co.uk/reports/lmp/la/contents.aspx>

3.5 (cont)

- Premature death rates under the age of 65 and under the age of 75 also increase markedly with deprivation – starting from the Cambridgeshire figure which is well below the national average, through Fenland which is similar to the national average, to Wisbech which is above the national average. However a note of caution is required here – a total of 213 of the 3530 deaths under the age of 65 which occurred in Cambridgeshire between 2010 and 2014 were in Wisbech. So while risks are higher in areas of deprivation, measures to address premature deaths should not be limited only to these areas.
- Life expectancy in Fenland is similar to the national average, but disability free life expectancy is significantly worse than average. This would be expected from the graph in para 1.3, which shows a marked relationship between income deprivation and disability free life expectancy.

3.6 In summary, key inequalities in **health outcomes** in Fenland include

- A higher than average percentage of people with poor self-perceived general health and limiting illness or disability – which may be related to the higher proportion of older people in Fenland as well as to deprivation.
- Disability free life expectancy which is worse than the England average (although life expectancy is not significantly worse).
- Emergency hospital admission rates for Fenland (adjusted for age) which are significantly above the England and Cambridgeshire averages, and which show a further increase in Wisbech.
- Premature death rates which are similar to the national average in Fenland, but significantly above the national average in Wisbech.

3.7 The Local Health Profiles lack up to date information on **lifestyle behaviours**, which affect health and the development of long term conditions. This is because these lifestyle behaviours are measured through sample surveys which are only valid at district level. This information is instead reported on the Public Health Outcomes Framework website. The table overleaf shows those lifestyle behaviours for which the most recent measurement for Fenland is significantly worse than the national average. Key points include:

- Breast feeding has benefits for infant health and may be associated with reduced obesity in later life. Rates of starting breast feeding (measured in hospital) are lower than the England average in Fenland.
- Excess weight in adults, and rates of physical inactivity are worse than average in Fenland. Some of this effect may be due to the higher proportion of older people in the district – but this is insufficient to explain the full difference.
- The percentage of adults who smoke is well above the national average as is the percentage of routine and manual workers who smoke. This will have a significant impact on residents' future risk of heart disease, cancer and chronic obstructive pulmonary disease.
- Alcohol use leading to hospital admission is higher than the England average.
- Cancer screening uptake is poorer than the England average, with the exception of breast cancer screening, which is at the national average.

Lifestyle behaviour	England	Cambridgeshire	Fenland
Breastfeeding initiation 2014/15	74.3%	Not published for data quality reasons	68.8%
Excess weight in adults 2013-15	64.8%	63.2%	72.9%
Physically active adults 2015	57%	58.6%	47.9%
Physically inactive adults 2015	28.7%	25.3%	38.4%
Smoking prevalence adults 2015	16.9%	16.4%	26.4%
Smoking prevalence – routine and manual workers 2015	26.5%	27.2%	39.8%
Admission episodes for alcohol related conditions (narrow definition) 2014/15	641	611	706
Cancer screening coverage – cervical cancer 2015	73.5%	72.7%	72.5%
Cancer screening coverage – bowel cancer 2015	57.1%	58.1%	51.6%

Source: <http://www.phoutcomes.info/>

- 3.8 In summary, the table above shows that there are a number of adverse lifestyle behaviours which are more common than average in Fenland – notably smoking, physical inactivity and unhealthy weight, and some alcohol problems. Services to support people in changing these behaviours and adopt a healthier lifestyle are commissioned by the County Council through the public health grant, and should be appropriately targeted in line with Marmot report recommendations. It is encouraging that there are some lifestyle behaviours in Fenland which are not worse than average, including childhood obesity rates, teenage pregnancy, and fruit and vegetable consumption, shown in the Fenland Public Health Outcomes Framework 'Health Improvement' profile in Annex B.

4.0 CONCLUSIONS

- 4.1 This paper provides a brief review of health outcomes across the system in Cambridgeshire, with a particular focus on Fenland. Going back to the evidence base from the Marmot Report on health inequalities, the following points are likely to be relevant for any future work to develop key strategies and actions:

Proportionate universalism: Marmot argued strongly that health inequalities occurred throughout society, and could not be addressed only by targeting the most disadvantaged populations. The data presented in this paper generally supports this view, with gradations in health inequalities between areas, rather than a sharp 'cut off'.

The importance of the wider determinants of health: The links between childhood development, educational attainment, income deprivation, employment and health described in the Marmot Report, are also apparent in the data for Cambridgeshire. Commitment is needed from a range of agencies including early years providers, schools, employers, the Local Enterprise Partnership, and the NHS – in order to address the wider range of factors leading to local inequalities in health outcomes.

Addressing lifestyle behaviours One of Marmot's recommendations was to 'strengthen the role and impact of ill health prevention' and it is important that the behaviour change services commissioned through the public health grant are appropriately targeted in relation to need and are locally sensitive. But services to address lifestyle behaviours will not work on their own to tackle health inequalities, given the impact of wider aspects of disadvantage and deprivation..

An ageing population From a local perspective it is important to recognise that health issues and needs in Fenland are not just a result of socio-economic and 'health inequalities' issues, but also a direct result of the higher proportion of older people in the area. This leads to a higher demand for NHS services, which given Fenland's rurality, need to be easily accessible.

5.0 ALIGNMENT WITH PRIORITIES AND WAYS OF WORKING

5.1 Developing the local economy for the benefit of all

The links between income, employment and health inequalities have been outlined in the main body of the paper.

5.2 Helping people live healthy and independent lives in their communities

The main body of the paper addresses factors which affect people's health and independence in their communities.

5.3 Supporting and protecting vulnerable people when they need it most

A number of factors which affect vulnerability to poor health outcomes are described in the main body of the paper.

6. SIGNIFICANT IMPLICATIONS

6.1 Resource and Performance Implications

This paper is provided for information but may lead to further policy and/or actions which have resource and performance implications.

6.2 Statutory, Risk and Legal Implications

This paper is provided for information but may lead to further policy and/or actions which have resource and performance implications.

6.3 Equality and Diversity Implications

This paper reviews some aspects of equality and diversity – in particular inequalities associated with socio-economic deprivation.

6.4 Engagement and Consultation

This paper is provided for information but may lead to further policy and/or actions which have resource and performance implications.

6.5 Localism and Local Member involvement

This paper is provided for information but may lead to further policy and/or actions which have resource and performance implications at a local level.

6.6 Public Health

This paper is provided for information, but may have future impact on policy or actions delivered through the public health functions of the Council.

Source Documents	Location
'Fair Society Healthy Lives' the Marmot Review	http://www.instituteofhealthequity.org/projects/fair-society-healthy-lives-the-marmot-review
Local Health website	http://www.localhealth.org.uk/
Public Health Outcomes Framework	http://www.phoutcomes.info/