

## Key indicators for Health Inequalities in Cambridgeshire

To: Adults and Health Committee

Meeting Date: 22 September 2021

From: Jyoti Atri, Director of Public Health

Electoral division(s): All

Key decision: No

Forward Plan ref: N/A

Outcome: Information on methods of measuring health inequalities in Cambridgeshire and their advantages/disadvantages

Recommendation: The Adults and Health Committee is recommended:

- a) to consider ways of measuring health inequalities in Cambridgeshire and timeliness of the measures available and agree:
  - i. An ambition to improve the time that people live in good health in Cambridgeshire and to reduce inequalities in health outcomes.
  - ii. To monitor under 75 mortality from causes considered preventable as a lead indicator for inequalities, acknowledging the lag in timeliness of data.
  - iii. To continue to use the more detailed and timely data in the Joint Strategic Needs Assessments/Covid impact assessments to inform the Health and Wellbeing Strategy and key areas of focus for action.

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### Member contacts:

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Post: Chair/Vice-Chair

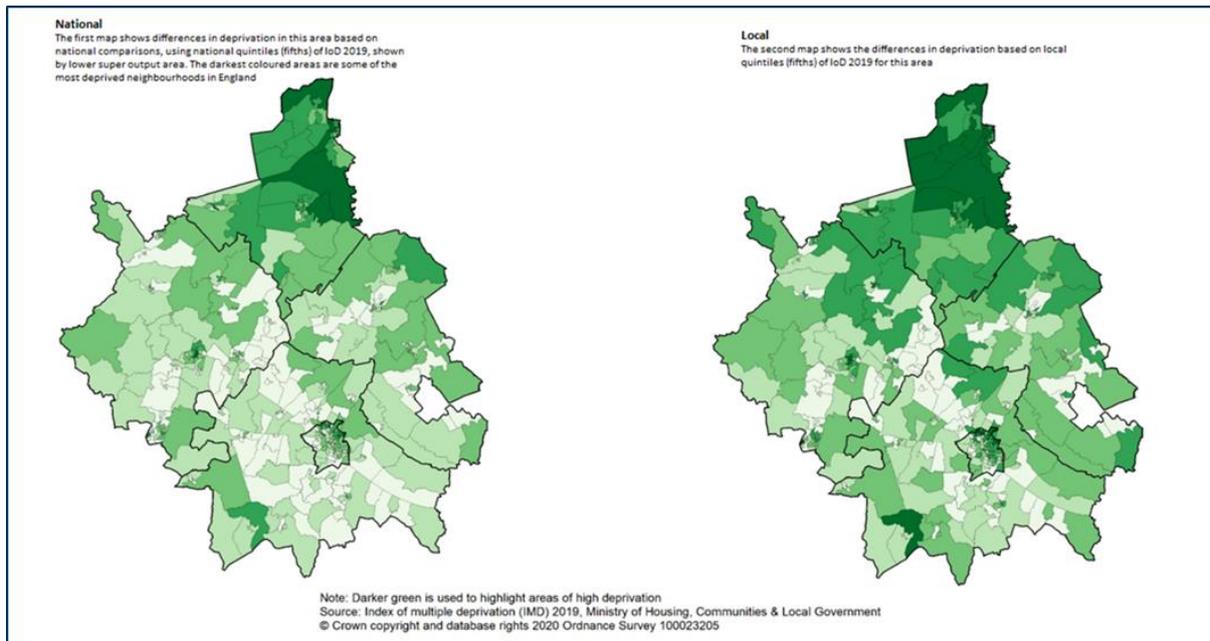
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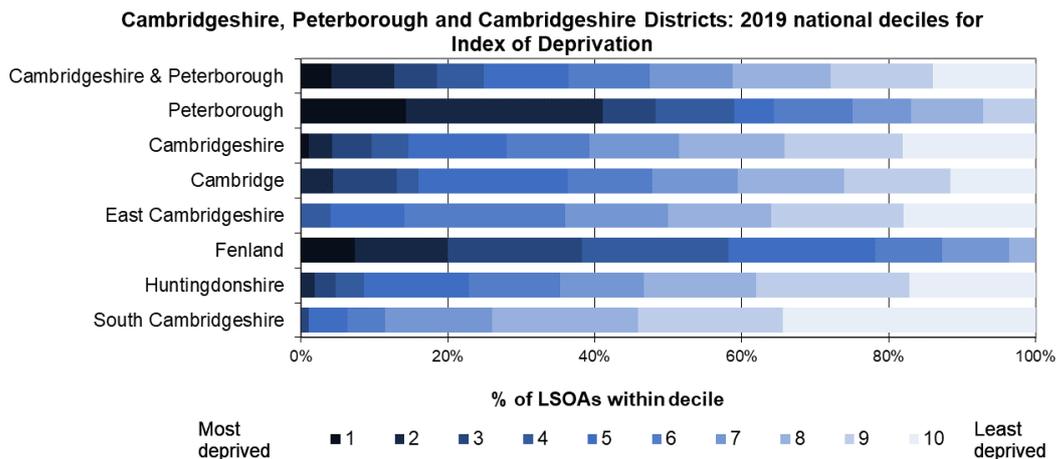
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# 1. Background

- 1.1 Cambridgeshire has a growing resident (and GP registered population) population due to a mixture of natural change and migration.
- 1.2 There is a mixture socioeconomic deprivation across Cambridgeshire, with some of the areas in Cambridge and in the north of Cambridgeshire having higher levels of deprivation both when compared nationally and locally.

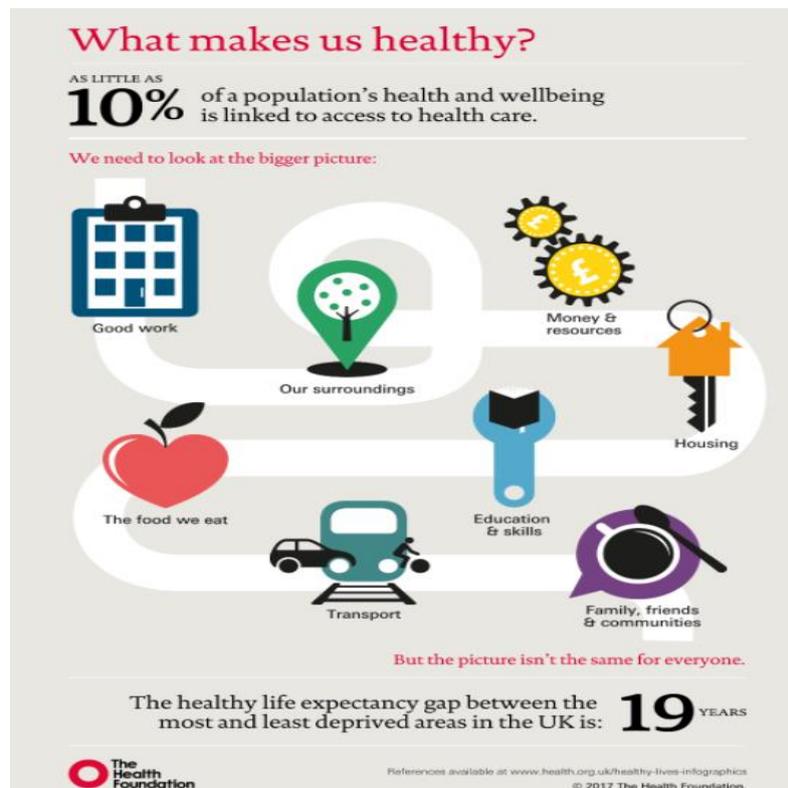


- 1.3 Nearly all districts in Cambridgeshire have areas of more deprivation as seen in the map, though Fenland and Cambridge have a higher proportion of areas in the most deprived deciles



- 1.4 Inequalities in health outcomes are associated with deprivation, ethnicity, gender, disability and sexual orientation. There are multiple causes of this including variations in genetic, and behavioural risk factors as well as inequalities in access to healthcare. However, there is a large body of evidence that demonstrates that, education, good work, housing and our

surroundings have the biggest impact on health outcomes and health inequalities. This paper will focus on inequalities in health outcomes related to deprivation.



1.5 The pre-pandemic position regarding health, health inequalities and the social, economic and environmental factors that impact health have been summarised in the [Cambridgeshire and Peterborough Joint Strategic Needs Assessment Core Dataset](#) which was updated in July 2020. In addition there have been specific [Primary Care Network profiles](#) created for each Primary Care Network in Cambridgeshire. These PCN profiles provide in-depth population health analytics regarding demography, population characteristics, selected lifestyle behaviours, prevalence and mortality from principal diseases as well as use of social care and secondary care services.

## 2. Main Issues

2.1 Individual measures of socio-economic status, such as occupation or educational status, are not routinely collected by the health service. Instead proxy measures based on post code and Indices of Deprivation (IoD) are used. IoD measures are slow to change and not updated frequently, with the last update in 2019.

2.2 Many health measures are associated with deprivation inequalities and there are some overarching measures of health and health outcomes. Key examples are given below and the most recent data for these are given in **Appendix A**. The Slope Index of Inequality (SII) is a measure of inequality in itself. Some of the other measures can be plotted against deprivation at smaller geographies, such middle super output areas (areas with an average of 7200 individuals), wards or districts, to examine inequalities.

## Examples of overarching health outcomes

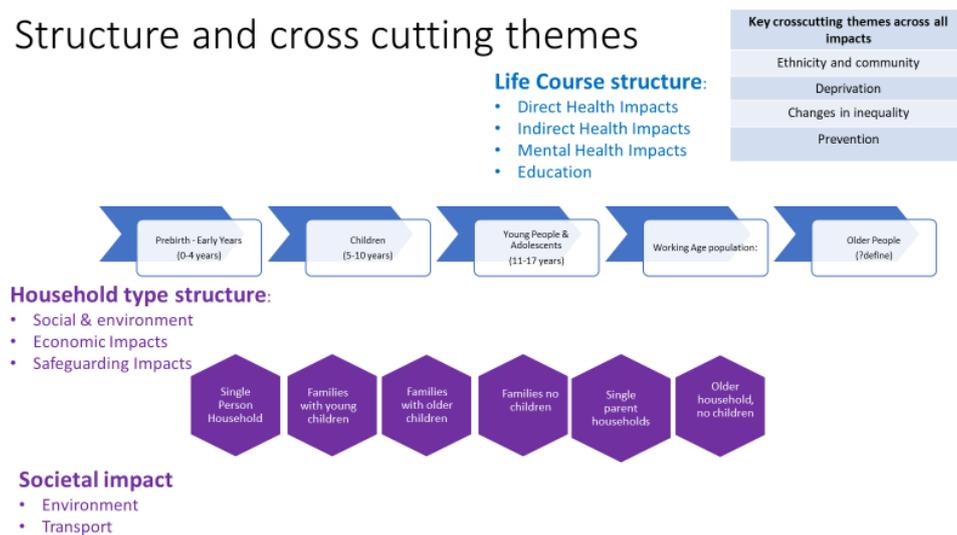
- **Life Expectancy (at birth)** is the average number of years a person living in a particular area would expect to live based on modern mortality rates in that area.
- **Life Expectancy gap** is the difference in the life expectancy figures comparing gender (difference between male or female) and different areas (difference between wards or local authorities).
- **The Slope Index of Inequality (SII)** is a measure of the social gradient in life expectancy, i.e. how much life expectancy varies with deprivation. It takes account of health inequalities across the whole range of deprivation within an area and summarises this in a single number. This number represents the range in years of life expectancy across the social gradient from most to least deprived.
- **Healthy Life Expectancy (at birth)** is the average number of years a person would expect to live in good health in a particular area based on modern mortality rates in that area and prevalence of self-reported good health.
- **Premature mortality rates** are mortality rates for deaths under age 75 for all causes combined and leading causes of death including preventable causes of death

2.3 The specific advantages and disadvantages of these overall measures are provided in **Appendix B**. In the main, although these can act as a lead indicator of health status and health inequalities they are slow to change and timeliness of reporting is relatively lagged with current data availability being for the period 2017-2019. This leads to the need of combining any lead indicator of health and health inequalities with more detailed and timely information.

2.5 Improving Healthy Life Expectancy in Cambridgeshire is a core ambition as this is the years that a person would expect to live in good health. However, it is not a good measure for understanding inequalities across the county as it is not available at smaller geographies. Two measures do allow this: life expectancy which doesn't include an individual's health status and premature mortality (deaths under 75). Deaths under the age of 75 from causes considered preventable is one of the overarching measures most associated with deprivation (see graph in Appendix A) with the advantage being able to rapidly understand the health conditions contributing to this premature mortality. It is also available at smaller geographies such as ward and MSOA (geographies of approximately 7200 individuals).

- 2.6 The impact of Covid-19 on broader health conditions, wellbeing and inequalities is likely to be large but is still unclear. Understanding this will be made more complex by the fact that individuals will have used services such as primary care and secondary care services differently during the Covid-19 pandemic partly due to changes in the services (supply) as well as changes in ability/willingness to attend services (demand). The pandemic is also likely to have increased need and health inequalities.
- 2.7 There is ongoing collaborative intelligence work between the council Public Health Intelligence, Business Intelligence teams and Clinical Commissioning Group intelligence teams to gather the evidence of impacts of Covid-19 and the emerging needs in Cambridgeshire.
- 2.8 This will include the direct health impacts, the indirect health impacts and the wider impacts of Covid-19 and changes in inequalities.

### Structure and cross cutting themes



- 2.8 This collaborative programme of intelligence work will generate a live suite of evidence over Summer- Autumn 2021. Some nationally released data sets, such as key health data sets have release dates in autumn and this live suite of evidence approach allows the release of findings as they become available. It will be key to have system input into the findings to assess if changes are due to differences in need, demand, supply and the impact on health inequalities.
- 2.9 This Covid-19 Impact Assessment/JSNA will inform the development of the Health and Wellbeing Strategy and also inform the selection of more detailed health and wider determinant indicators to monitor the impact of this strategy on health and wellbeing outcomes in Cambridgeshire.

## 3. Alignment with corporate priorities

- 3.1 Communities at the heart of everything we do

The report above sets out the implications for this priority in paragraph 2.1

- 3.2 A good quality of life for everyone  
The report above sets out the implications for this priority in paragraph 2.1
- 3.3 Helping our children learn, develop and live life to the full  
The report above sets out the implications for this priority in paragraph 2.1
- 3.4 Cambridgeshire: a well-connected, safe, clean, green environment  
The report above sets out the implications for this priority in paragraph 2.1
- 3.5 Protecting and caring for those who need us  
The report above sets out the implications for this priority in paragraph 2.1

## 4. Significant Implications

- 4.1 Resource Implications  
There are no significant implications within this category.
- 4.2 Procurement/Contractual/Council Contract Procedure Rules Implications  
Not applicable
- 4.3 Statutory, Legal and Risk Implications  
There are no significant implications within this category.
- 4.4 Equality and Diversity Implications  
This report is to assess the measures for inequalities in health outcomes.
- 4.5 Engagement and Communications Implications  
There are no significant implications within this category.
- 4.6 Localism and Local Member Involvement  
There are no significant implications within this category.
- 4.7 Public Health Implications  
See report
- 4.8 Environment and Climate Change Implications on Priority Areas (See further guidance in Appendix B):
  - 4.8.1 Implication 1: Energy efficient, low carbon buildings.  
Positive/neutral/negative Status: Neutral  
Explanation:
  - 4.8.2 Implication 2: Low carbon transport.  
Positive/neutral/negative Status: Neutral  
Explanation:
  - 4.8.3 Implication 3: Green spaces, peatland, afforestation, habitats and land management.  
Positive/neutral/negative Status: Neutral

Explanation:

4.8.4 Implication 4: Waste Management and Tackling Plastic Pollution.

Positive/neutral/negative Status: Neutral

Explanation:

4.8.5 Implication 5: Water use, availability and management:

Positive/neutral/negative Status: Neutral

Explanation:

4.8.6 Implication 6: Air Pollution.

Positive/neutral/negative Status: Neutral

Explanation:

4.8.7 Implication 7: Resilience of our services and infrastructure and supporting vulnerable people to cope with climate change.

Positive/neutral/negative Status: Neutral

Explanation:

Have the resource implications been cleared by Finance? **Yes**

Name of Financial Officer: **Justine Hartley** (8/9/21)

Have the procurement/contractual/ Council Contract Procedure Rules implications been cleared by the Head of Procurement? **Yes**

Name of Officer: **Henry Swan** (8/9/21)

Has the impact on statutory, legal and risk implications been cleared by the Council's Monitoring Officer or LGSS Law? **Yes**

Name of Legal Officer: **Amy Brown** (10/9/21)

Head of Legal and Governance & Deputy Monitoring Officer

Have the equality and diversity implications been cleared by your Service Contact?

**Yes**

Name of Officer: **Jyoti Atri** (10/9/21)

Have any engagement and communication implications been cleared by Communications?

**Yes**

Name of Officer: **Matthew Hall** (9/9/21)

Have any localism and Local Member involvement issues been cleared by your Service Contact? **Yes**

Name of Officer: **Jyoti Atri** (10/9/21)

Have any Public Health implications been cleared by Public Health?

**Yes**

Name of Officer: **Jyoti Atri** (10/9/21)

If a Key decision, have any Environment and Climate Change implications been cleared by the Climate Change Officer?

**Not applicable**

Name of Officer:

## 5. Source documents guidance

### 5.1 Source documents

- Local Joint Strategic Needs Assessments and Core datasets can be found here [Cambridgeshire Insight – Joint Strategic Needs Assessment \(JSNA\)](#)
- Primary care network profiles can be found here [Cambridgeshire Insight – Health and Wellbeing – Healthcare Public Health](#)
- Health Foundation What makes us Healthy infographic [Infographic: What makes us healthy? | The Health Foundation](#)

Appendix A: Table of Key Health Outcome Measures

Area	Life expectancy at birth (Male), 2017-19 (1)	Life expectancy at birth (Female), 2017-19 (1)	Inequality in life expectancy at birth (Male), 2017-19 (2)	Inequality in life expectancy at birth (Female), 2017-19 (2)	Healthy life expectancy at birth (Male), 2017-19 (3)	Healthy life expectancy at birth (Female), 2017-19 (3)	Under 75 mortality rate from causes considered preventable, 2017-19 (4)	Under 75 mortality rate from all cardiovascular diseases, 2017-19 (4)	Under 75 mortality rate from cancer, 2017-19 (4)	Under 75 mortality rate from liver disease, 2017-19 (4)	Under 75 mortality rate from respiratory disease, 2017-19 (5)
Cambridge	80.9	84.3	10.9	11.4	-	-	128.3	62.0	103.2	16.8	28.0
East Cambridge shire	81.1	85.1	7.6	4.2	-	-	113.3	61.3	111.5	14.3	22.4
Fenland	78.7	82.1	7.6	2.4	-	-	157.1	84.0	138.1	14.9	39.8
Huntingdon shire	81.4	84.4	8.8	7.0	-	-	108.3	48.8	111.7	12.7	28.2
South Cambridge shire	82.9	85.8	1.9	3.5	-	-	90.1	44.7	107.5	7.0	18.6
Cambridge shire	81.2	84.4	8.1	7.2	64.3	66.2	115.00	57.6	114.1	12.4	27.0
East of England	80.5	83.9	7.9	6.2	64.4	64.2	124.3	62.9	122.6	15.2	29.1
England	79.8	83.4	9.4	7.6	63.2	63.5	142.2	70.4	129.2	18.5	34.2

Key		
Statistically significantly better than England	Statistically similar to England	Statistically significantly worse than England

- 1 Life Expectancy = The average number of years a person would expect to live based on contemporary mortality rates.
  - 2 Inequality in life expectancy at birth = The calculated difference in life expectancy at birth between the most and least deprived deciles of the population, expressed as the 'Slope Index of Inequality' (SII). This measure reflects the social gradient in life expectancy, i.e. how much life expectancy varies with deprivation. It takes account of health inequalities across the whole range of deprivation within an area and summarises this in a single number. This number represents the range in years of life expectancy across the social gradient from most to least deprived.
  - 3 Healthy Life Expectancy = The average number of years a person would expect to live in good health based on contemporary mortality rates and prevalence of self-reported good health (derived from responses to survey questions on general health).
  - 4 Directly Age-Standardised Rates of Under 75 Mortality per 100,000 = Direct Age-Standardisation controls for the potentially confounding effect of differing age proportions between populations (i.e. that fewer deaths would be expected in areas with younger populations). Age-specific mortality rates are calculated which are then multiplied by the European Standard Population for each age group and aggregated across all age groups to give age-adjusted rates of deaths between areas.
- Appendix B: Advantages and disadvantages of measures

Appendix B: Advantages and disadvantages of key overarching health measures

Overarching Health outcome	Latest data available	Geographical specificity	Advantages	Disadvantages
<b>Life expectancy</b>	2017-2019. Updated December 2020	District, Ward, MSOA	<ul style="list-style-type: none"> <li>• Easy to understand, widely used and reported and consistent, allowing for comparison over time and between areas/countries.</li> <li>• Calculation methods are well defined and non-controversial.</li> </ul>	<ul style="list-style-type: none"> <li>• Does not include health status during life. Life expectancy has increased more than healthy life expectancy in the last decade showing the number of years in poor health has increased</li> <li>• Therefore measure could theoretically improve going forward through increasing number of years lived in poor health</li> </ul>
<b>Slope index of Inequality</b>	2017-2019	District	<ul style="list-style-type: none"> <li>• Widely researched, with a substantial body of literature to underpin validity.</li> <li>• Easy to understand and can illustrate substantial inequalities/inequities between populations with a District.</li> </ul>	<ul style="list-style-type: none"> <li>• Sensitive to local population characteristics (i.e. location of care homes, accuracy of local population data for small areas). In some cases, this can lead to inconclusive results.</li> <li>• Summary data relate to differences within Districts, therefore Districts with relatively consistent levels of low life expectancy will score 'lower' in terms of observed inequality than areas with high levels of inequality.</li> </ul>
<b>Healthy Life expectancy</b>	2017-2019	Cambridgeshire	<ul style="list-style-type: none"> <li>• Healthy life expectancy provides a measure of the years a person would expect to live in good health</li> </ul>	<ul style="list-style-type: none"> <li>• Only available at Upper Tier Local Authority level.</li> <li>• Measure of years spent in 'good' or 'poor' health is self-reported and doesn't adjusted for the severity of ill health or the types of conditions that may be present.</li> <li>• Methodology has changed so difficult to track historically</li> </ul>

<p><b>Premature mortality</b></p>	<p>2017-2019</p>	<p>District, Ward, MSOA</p>	<ul style="list-style-type: none"> <li>• Premature mortality relates to mortality rates for deaths under 75; this can be reviewed for all-cause mortality, preventable mortality and for leading causes of death such as cardiovascular disease, cancer, liver disease and respiratory disease.</li> <li>• Highly reflective of inequalities, with premature mortality much more prevalent in more socio-economically deprived areas.</li> <li>• Data are directly-age standardised and therefore not susceptible to bias/confounding as a result of differences between populations.</li> </ul>	<ul style="list-style-type: none"> <li>• At smaller geographies, smaller numbers for some indicators may lead to a degree of random variation between years (this is partially mitigated this by using pooled 2017-19 periods within this analysis).</li> </ul>
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Appendix C: Correlation between directly age-standardised rates for mortality under75 for causes considered preventable and Indices of Deprivation 2019 scores by Middle Super Output Area, 2017-19

C&P CCG Patients Resident in Cambridgeshire Mortality under 75 DASR per 100,000, 2017 - 2019, Causes considered preventable correlated with IoD Score 2019 by MSOA

