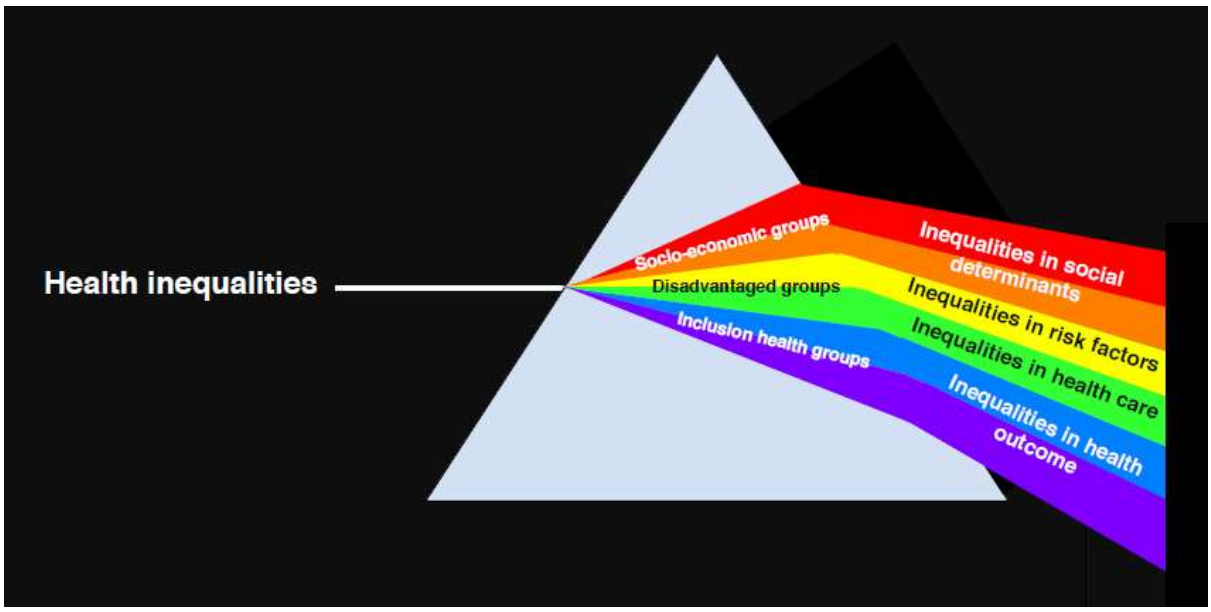
# Cambridgeshire and Peterborough Health Inequalities Strategy

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Version 2.1

## Executive summary

1. In Cambridgeshire and Peterborough stark inequalities exist in the social determinants of health, risk factors, health care provision and clinical outcomes across socio-economic, disadvantaged and inclusion health groups. A 10 year life expectancy gap exists between men living in the poorest areas of Peterborough compared to the richest areas of Cambridge. The gap in life expectancy is driven by early deaths in cardiovascular disease, cancer and respiratory conditions.

2. COVID-19 has increased the pre-existing inequalities with an extra 1,000 people dying across England in the most deprived decile compared to the least deprived between March and May 2020, and an extra 2,500 from all causes.

3. This strategy focuses on what the NHS can do and has three objectives.
   3.1. Develop Guiding Principles to support the NHS in tackling health inequalities
   3.2. Agree health inequality indicators
   3.3. Identify specific areas for priority action

4. Drawing on national and international recommendations we have developed seven Guiding Principles. These are:
   *4.1. Explore the impact of decisions on health inequalities early in the decision-making process*
   *4.2. Value staff through parity of recruitment, promotion and employment*
   *4.3. Offer simple, hassle-free services*
   *4.4. Partner with other organisations to take a place-based approach to address social determinants of health*
   *4.5. Allocate health care resources proportionate to need*
   *4.6. Consider actions at different stages of life*
   *4.7. Harness the community benefits of the Social Value Act*

5. We identified twenty health inequalities indicators, all of which had a socio-economic gradient, across five themes: risk factors; access to and use of services; diagnostics; treatment; and outcomes. Key examples of the inequality gap between most and least deprived quintile include:
   - 18.8% fewer mothers breast feeding
   - 6.5% fewer people with diabetes achieve all three targets
   - An extra 247 A+E attendances in 0-4 year olds per 100,000 per year
   - An extra 50 deaths from cardiovascular disease per 100,000 per year

6. We recommend the following three priority areas for the STP and CCG:
   ***6.1. Working across the system to reduce health inequalities***
   - Establish a Health Care System Inequalities Group to monitor and drive action on health inequalities
   - Promote awareness of the Guiding Principles and embed them in commissioning and delivering of services across all STP partners
   - Increase the use of Health Inequality Impact Assessment (HIIA)
   - Address inequalities in workforce distribution

   ***6.2. Addressing inequalities through Needs-Based Commissioning for Outcomes***
   - Allocate discretionary funding proportionate to need
   - Allocate elective care based on need

### 6.3. Addressing inequalities in cardiovascular mortality through targeted action on hypertension and diabetes

- Reduce inequalities in hypertension management in primary care
- Reduce inequalities in diabetes care in primary care

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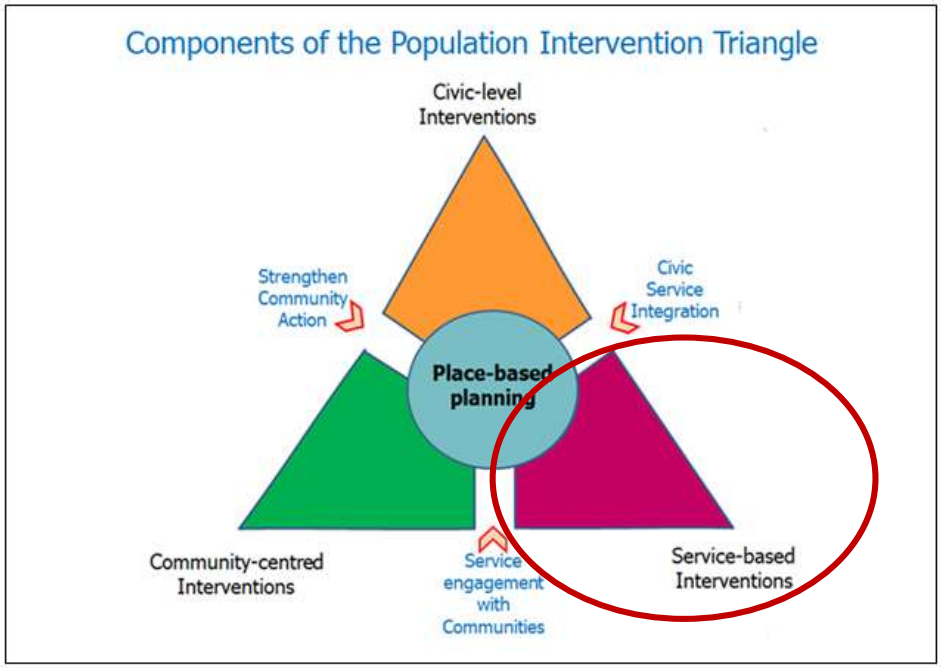
# Scope of the strategy

This strategy originated from Cambridgeshire and Peterborough Clinical Commissioning Group and was jointly produced with the Clinical Communities Forum of the Cambridgeshire & Peterborough STP in response to the clear differences in health outcomes across our healthcare system. The strategy largely addresses inequalities in outcomes from a health perspective and is intended to be congruent with local Joint Strategic Needs Assessments, and Health and Wellbeing strategies within Public Health and local authorities

Health inequalities exist across a spectrum from prevention to illness and are driven by a complex interaction of factors. Public Health England have developed the Population Intervention Triangle to help local areas to address health inequalities[1]. Our strategy focuses largely on the "service-based interventions" part of this Population Intervention Triangle and in particular NHS services, with community-centred and civic-level aspects covered in the Health and Wellbeing Board Strategy.




Source: Public Health England Place-based approaches for reducing health inequalities: main report. 2019

The strategy has three objectives:

1) Develop a set of broad Guiding Principles which describe practical actions for the health care system to reduce health inequalities
2) Agree health inequality indicators to allow regular monitoring of health inequalities within the NHS.
3) Identify specific areas for priority action.

The strategy has been developed by a Task and Finish Group with representation from Cambridgeshire and Peterborough CCG, Cambridgeshire County Council, HealthWatch Cambridgeshire and Peterborough, Clinical Communities Forum, North and South Alliances and Primary Care Network Clinical Directors. The Public Health

Intelligence Team within Cambridgeshire County Council and Peterborough City Council analysed the data to develop the health inequalities indicators.

The strategy has been updated in June 2020 in light of the COVID-19 pandemic.

A supplementary action plan will outline the implementation of the strategy.

# Setting the scene

## *What do we mean by health inequalities?*

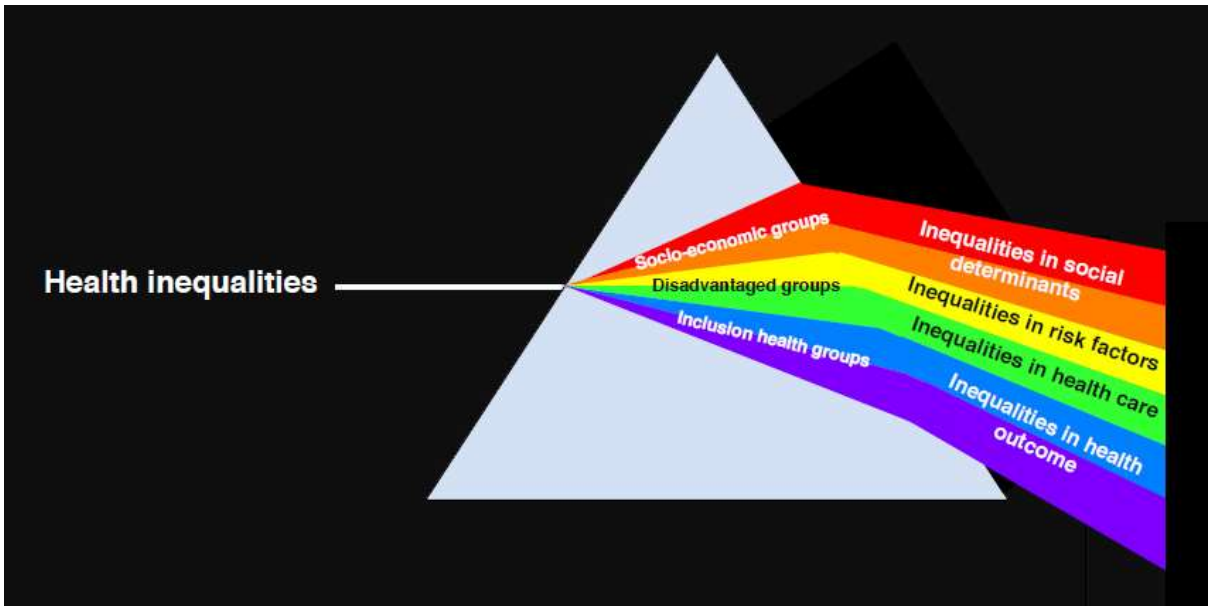
Health inequalities are systematic, avoidable and unfair differences in health outcomes between populations, between social groups within the same population or as a gradient across a population ranked by social position[2]. Inequalities in health outcomes arise from inequalities in social determinants of health, risk factors and health care access and provision.

We can think about the populations, social groups or gradients in which inequalities occur in three main categories:

1) The socio-economic gradient which describes increasing health inequalities according to socio-economic disadvantage, such as wealth, income, education and employment.
2) Disadvantaged groups who are not necessarily vulnerable but are at risk, such as minority ethnic communities, older people or those living in rural areas. Inequalities tend to arise in this group when multiple aspects of disadvantage coalesce, such as an older people, living alone in a rural area without transport.
3) Inclusion health groups who are by nature vulnerable, such as people who are homeless, have learning disabilities or asylum seekers.

Within each of these groups there are inequalities in the social determinants of health (e.g. income and employment), risk factors (e.g. smoking and obesity), health care (e.g. hypertension and diabetes treatment) and health outcomes (e.g. early death due to heart disease). Figure 1 below shows how we can think about the different aspects of health inequalities.

*Figure 1: Conceptualising health inequalities*



## *Health inequalities policy context*

COVID-19 has significantly changed the health inequalities context. Health inequalities have already increased through twice as high COVID and non-COVID deaths in poorer areas. However, this is just the tip of the iceberg with health inequalities likely to worsen even more due to the impact on health care services, mental wellbeing and economic impact on employment, debt, housing, benefit payments and education. These social influences are key determinants of what makes people healthy or unwell and have been significant factors in peoples' exposure to and outcomes from COVID-19.

COVID-19 has also disproportionately minority ethnic groups. A Public Health England analysis found that people of Bangladeshi ethnicity were at twice the risk of death from COVID-19 and people of Chinese, Indian, Pakistani, Other Asian, Caribbean and Other Black ethnicity between 10 to 50% higher risk of death. A subsequent report which explores some of the reasons for this difference made a number of recommendations including better ethnicity data collection, regular equity audits, use of health impact assessments, integration of equality into quality systems, good representation of black and minority ethnic communities among staff at all levels, sustained workforce development and employment practices, trust-building dialogue with service users and development of culturally competent occupational risk assessment tools.

The Long Term Plan (LTP), published in January 2019, set out bold ambitions around health inequalities. Among several health inequality actions, it set an ambition for a "more concerted and systematic approach to reducing health inequalities" and to "set out specific, measurable goals for narrowing inequalities". The LTP also outlines additional services for several vulnerable groups, such as health checks for those with severe mental health problems, improved services for those with autism or a learning difficulty, outreach services for rough sleepers, improved primary care for carers, clinics for those with gambling problems and support for those in the justice system. As part of the Long Term Plan, Primary Care Networks (PCN) will be expected to develop plans to reduce health inequalities, although the exact details have not yet been published.

Health inequalities is a core component of the Cambridgeshire and Peterborough Health and Wellbeing Strategy 2019-24. The strategy sets out clear objectives to address the wider determinants of health and healthy lifestyles inequalities including:

- Preventing homelessness and improving pathways into housing for vulnerable people.
- Reducing inequalities in skills and economic outcomes across our area.
- Reducing inequalities in heart disease and smoking
- Acting as a system to reduce health inequalities

In 2019, NHS England published a Menu of Evidence Based Interventions and Approaches for Addressing and Reducing Health Inequalities[3]. The Menu provides a catalogue of interventions that local health care systems and commissioners, working with partners across the system, can draw on to act at the neighbourhood and system-level to reduce health inequalities.

Also in 2019, Public Health England published Place-Based Approaches for Reducing Health Inequalities (PBA) which aims to support local systems to take strategic and evidence-based action on health inequalities[1]. Key to the resource is focusing on place through civic-interventions, community-interventions and service-interventions. This holistic approach supports local areas to work together through evidence-based interventions. The main report is supported by four tools and a guide to using national and local data. The actions and tools included in the report build on a wealth of experience and information from the National Health Inequalities Support Team and consultation with stakeholders. The purpose of the resource is not to set out a one-size-fits-all approach to tackling health inequalities, but rather facilitate local systems to meaningfully engage with their own inequalities in a considered and evidence-based manner.

## *Why do we need a strategy?*

Health inequality can be a nebulous topic, meaning different things to different people. For some, health inequalities are about the differences in mortality between the richest and poorest in society. For others, health inequality is about communities that face disadvantage, such as minority ethnic groups, or inclusion health groups, such as those who are homeless. Strategic leadership and local consensus is needed on how we think about health inequalities, how we measure them and what we can do about them. We need to build the local health inequalities infrastructure, in terms of resources, expertise and data monitoring, to make the most of current and future opportunities in a systematic and coherent manner.

### *Economic case*

The cost to the NHS of health inequalities was estimated in 2011/12 to be at least £12.5 billion/year[4]. This was calculated by estimating the difference in NHS spend between the most and least disadvantaged fifth of the population. In Cambridgeshire and Peterborough CCG this would be equivalent to approximately £106 million/year, at 2011/12 costs. Whilst we do not know how much of this additional spend could be reduced through NHS actions, local data suggests that there are opportunities to save money through addressing inequalities. For example, RightCare data suggests avoidable admissions are about twice as high in the most deprived areas of the CCG compared to the least deprived[5].

### *Moral case*

The place where children are born and grow up has a direct impact on their life chances and health in later life. Currently, a boy growing up in the poorest part of Peterborough has a life expectancy of 75.8 years, however a boy growing up in the richest part of Cambridge has a life expectancy of 85.2 years; a difference of 10 years. The gap has increased by 0.9 years between 2011-13 and 2015-17. This gap is likely to increase after COVID-19 deaths have been included. The NHS can reduce the gap through more equitable prevention, diagnosis and treatment since it has been estimated that health care contributes 15-43% to health outcomes[6].

### *Legislative case*

The Health and Social Care Act 2012 sets out statutory responsibilities for Clinical Commissioning Groups to “have regard to the need to reduce inequalities between patients in access to health services and the outcomes achieved” (s.14T). Additional legal advice from NHS England states that this means “health inequalities must be properly and seriously taken into account when making decisions or exercising functions, including balancing that need against any countervailing factors”[7].

## *Current Health Inequalities in Cambridgeshire and Peterborough*

People living in different parts of Cambridgeshire and Peterborough experience stark differences in health. There is a 10 year life expectancy gap between men living in the poorest areas of Peterborough compared to the richest areas of Cambridge. The gap in life expectancy is driven by early deaths due to cardiovascular disease, cancer and respiratory conditions. For example, 50 more people die early from cardiovascular disease per 100,000 population per year in the poorest areas compared to the richest.

An analysis by Lewer and colleagues estimates the excess mortality attributable to socio-economic inequalities based on IMD for both the conditions with the strongest link to socio-economic status and the conditions with the largest overall impact (see Appendix)[8]. Based on this data for Cambridgeshire and Peterborough, the five conditions which contribute most to excess deaths due to socio-economic inequalities are ischaemic heart disease, COPD, respiratory cancer, drugs, alcohol and accidental deaths and other cardiovascular.

COVID-19 has disproportionally affected poor areas with more 1,000 extra people died in the most deprived decile in England due to COVID-19 during March to May 2020 compared with the least deprived areas and 2,500 extra people from any cause of death during this period. There is a clear socio-economic trend in COVID deaths

*Figure 2: Age-standardised death rate from COVID in England from March to May 2020*

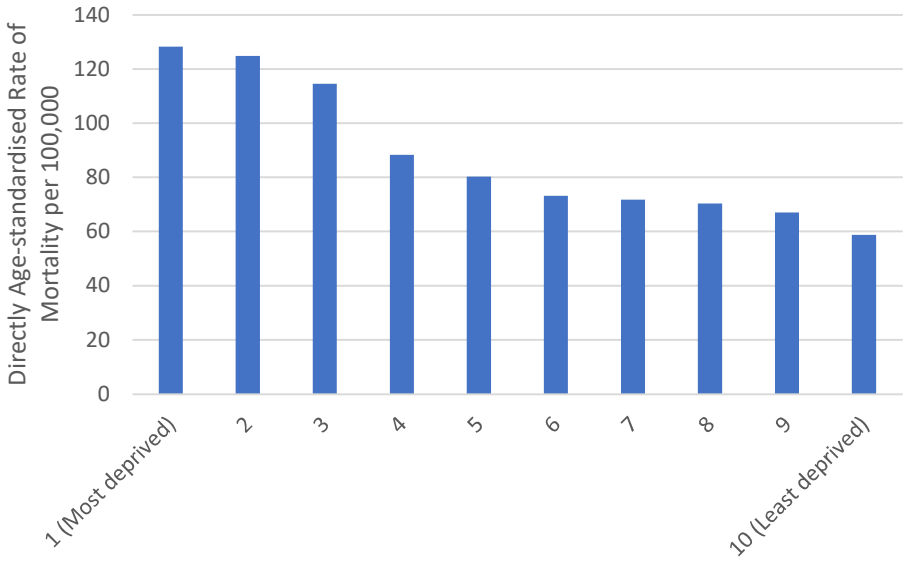
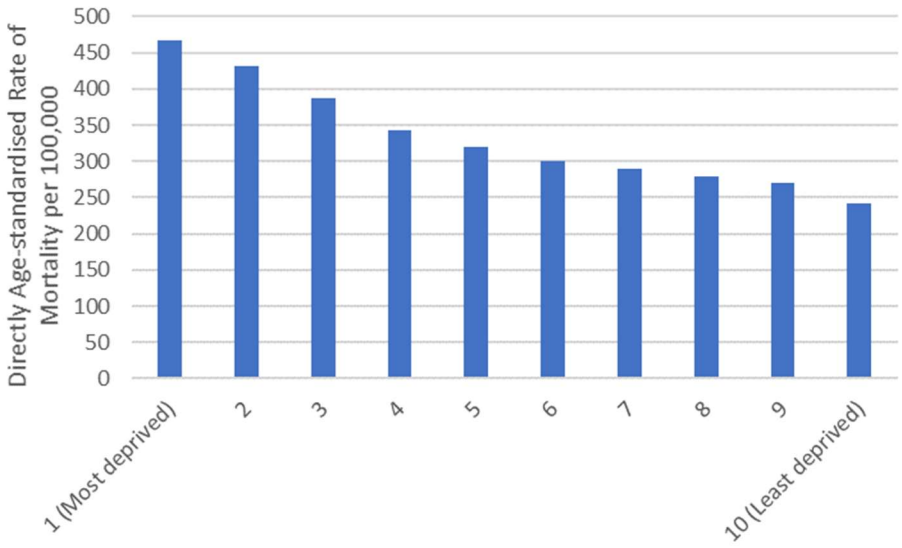


*Figure 3: Age-standardised death rate in England from COVID and non-COVID deaths from March to May 2020*




Inequalities in early deaths are caused by inequalities in social determinants of health, risk factors and health care that accumulate throughout a person's life.

- Social determinants
    - About half of the residents of Peterborough live in the bottom 30% most deprived areas in England, primarily reflecting low income and unemployment.
    - There is a 19% difference in breast feeding between those living in the poorest areas and the richest.
    - While local data does not exist on adverse childhood experiences (ACE), national data suggests that half of the population have experience of at least one ACE and 8% four or more.
- Risk factors
    - More children and adults are obese in the most deprived areas of Cambridgeshire and Peterborough, with 14% more children in Year 6 overweight or obese in Peterborough, compared to South Cambridgeshire, and 25% more adults overweight or obese in Fenland compared to Cambridge.
    - The inequality gap in smoking is 9% between South Cambridgeshire (10.4%) and Peterborough (19.5%).
- Health care
    - There is a relationship between satisfaction with general practice and deprivation, with satisfaction lower in the most deprived areas.
    - Achievement of diabetes targets is lower in Cambridgeshire and Peterborough compared to the rest of the country; achievement is even worse in the most deprived areas (6.5% inequality gap in meeting all three diabetes targets between richest and poorest areas)

Inequalities have a knock-on effect on the health service with the rate of avoidable admissions in the poorest areas double that of the richest areas. For children aged

0-4, there are an additional 247 A+E attendances per 1000 population per year for those living in the poorest quintile compared to the richest and an additional 85 emergency admissions.

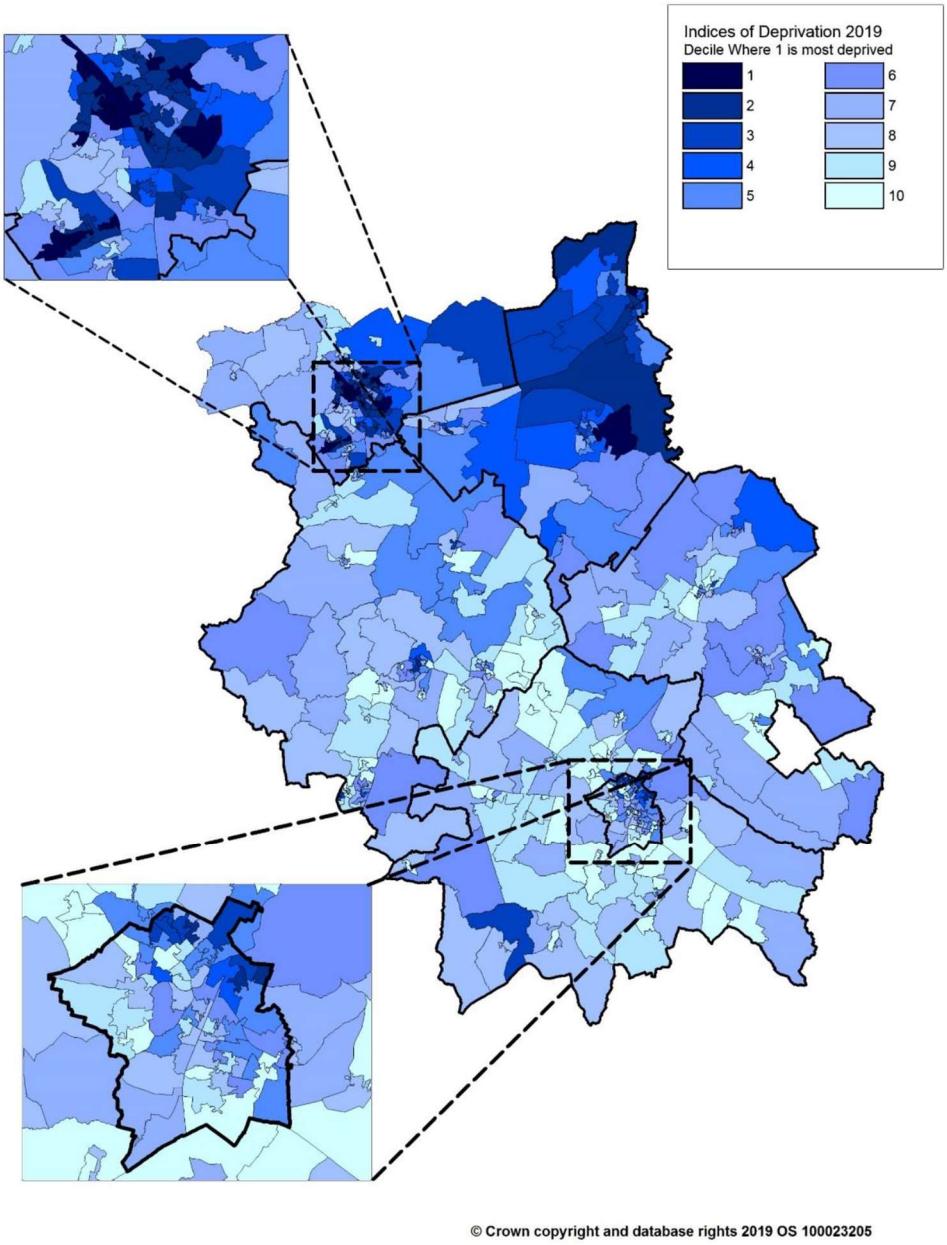
Inequalities do not just cross rich and poor areas, but also in disadvantaged communities (e.g. minority ethnic communities) and ‘inclusion health’ groups (e.g. street-based sex workers). Local health data for these groups is limited, but it is likely that people who are part of an inclusion health group or experience multiple disadvantages suffer the worst health outcomes in the area.

## *Examining the facts: 12 headline statistics on socio-economic and geographic Inequalities*

### *FACT 1: Peterborough and Fenland are the most deprived areas across the CCG*

Drawing on the latest Index of Multiple Deprivation data (2019), Peterborough and Fenland remain the most deprived areas in Cambridgeshire and Peterborough.

*Figure 4:Indices of Multiple Deprivation 2019: National Decile for Overall Deprivation by Lower Super Output Area (LSOA)*

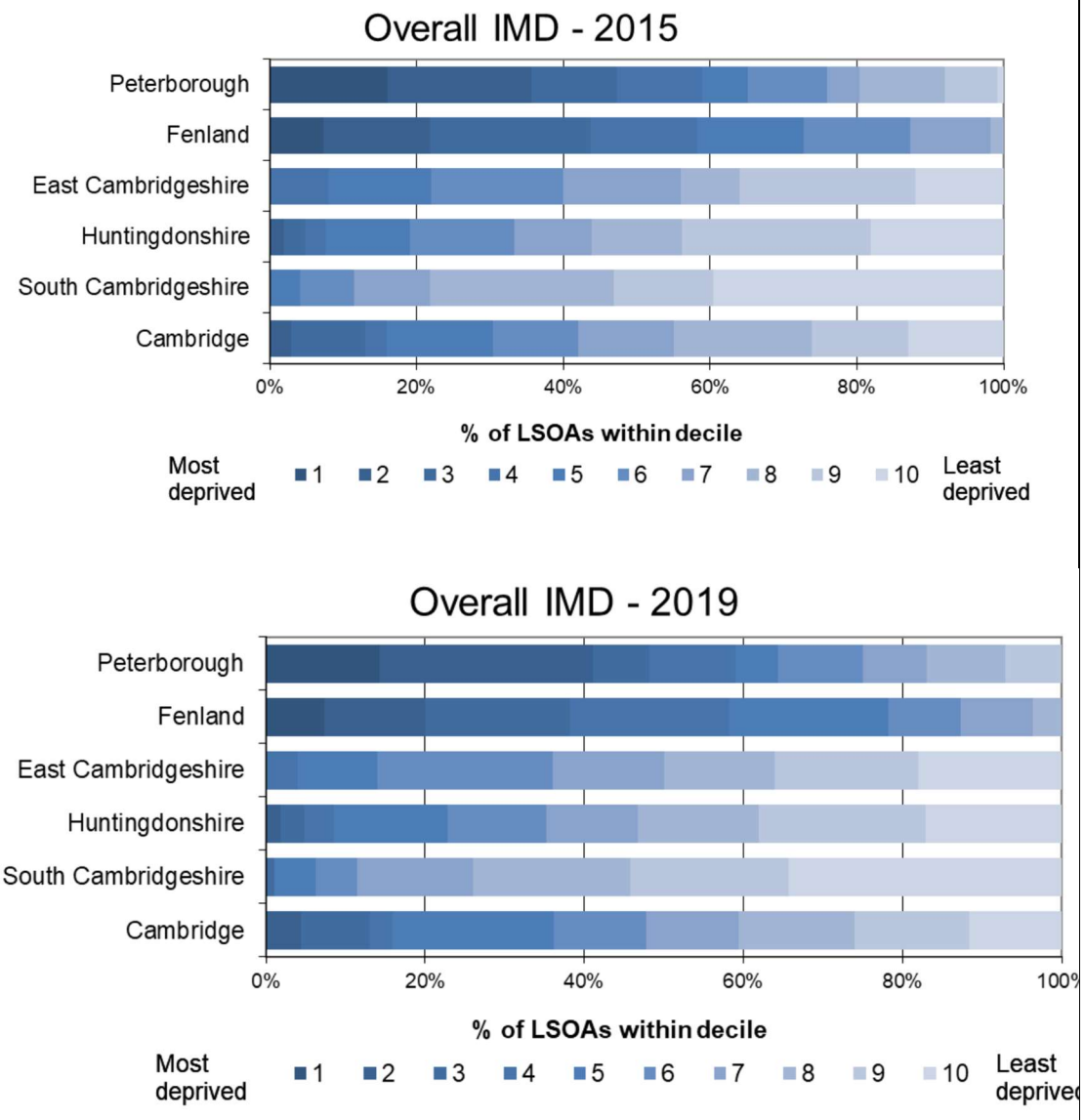



Source: Cambridge Insight 2019

**FACT 2: Cambridge, South Cambridgeshire, Huntingdonshire and Peterborough are more relatively deprived now than 2015**

Based on a comparison of 2015 and 2019 data Cambridge, South Cambridgeshire, Huntingdonshire and Peterborough rank as more relatively deprived. East Cambridgeshire ranks as less relatively deprived. Fenland has not changed rank.

*Figure 5: A DNA chart showing the percentage of LSOAs per district within each of the 10 national deciles between 2015 and 2019*




Source: Cambridgeshire Research Group

**FACT 3: Fenland has 25% more people classified as overweight or obese compared to Cambridge (absolute difference)**

*Figure 6: Percentage of adults (aged 18+) classified as overweight or obese 2017/18*

| Area | Recent Trend | Count | Value | 95% Lower CI | 95% Upper CI |
|---|---|---|---|---|---|
| England | – | - | 62.0 | 61.7 | 62 |
| CA-Cambs and Peterborough | – | - | 61.1 | 59.4 | 62 |
| Fenland | – | - | 68.5 | 64.1 | 72 |
| Peterborough | – | - | 68.3 | 63.7 | 72 |
| Huntingdonshire | – | - | 65.1 | 60.7 | 69 |
| East Cambridgeshire | – | - | 60.0 | 55.4 | 64 |
| South Cambridgeshire | – | - | 58.1 | 53.2 | 62 |
| Cambridge | – | - | 43.4 | 39.7 | 47 |

Source: Public Health Outcomes Framework

**FACT 4: There is an additional 1 in 10 people who smoke in Peterborough compared to South Cambridgeshire**

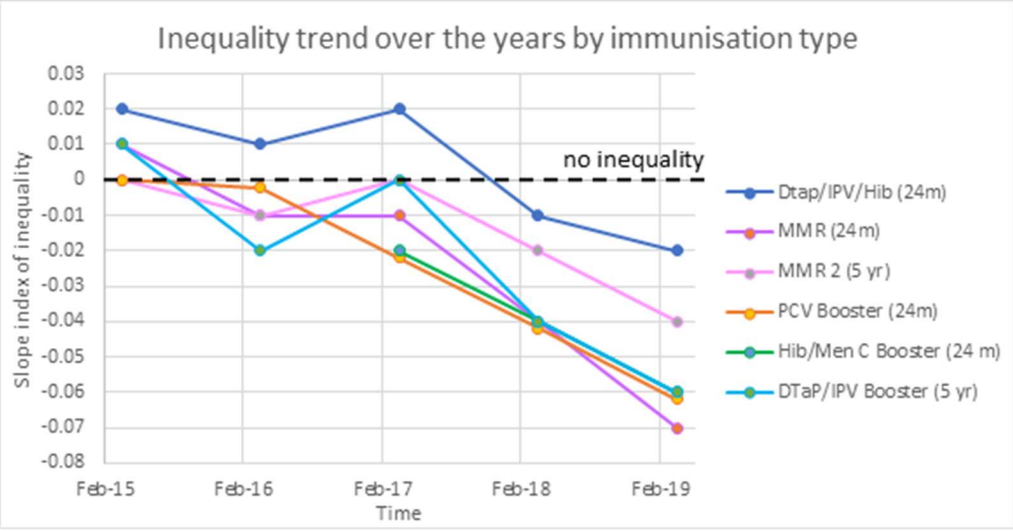
*Figure 7: Smoking Prevalence in adults (18+) - current smokers (APS) 2018 Percentage*

| Area | Recent Trend | Count | Value | 95% Lower CI | 95% Upper CI |
|---|---|---|---|---|---|
| England | – | 6,360,957 | 14.4 | 14.2 | 14 |
| CA-Cambs and Peterborough | – | 178,234 | 15.1 | 12.9 | 17 |
| Peterborough | – | 29,207 | 19.5 | 16.2 | 22 |
| Fenland | – | 15,728 | 19.4 | 11.3 | 27 |
| Huntingdonshire | – | 20,323 | 14.4 | 8.9 | 20 |
| Cambridge | – | 14,399 | 14.1 | 7.1 | 21 |
| East Cambridgeshire | – | 7,525 | 10.8 | 5.3 | 16 |
| South Cambridgeshire | – | 12,668 | 10.4 | 6.0 | 14 |

Source: Public Health Outcomes Framework

**FACT 5: Inequalities in immunisations have been widening over time**

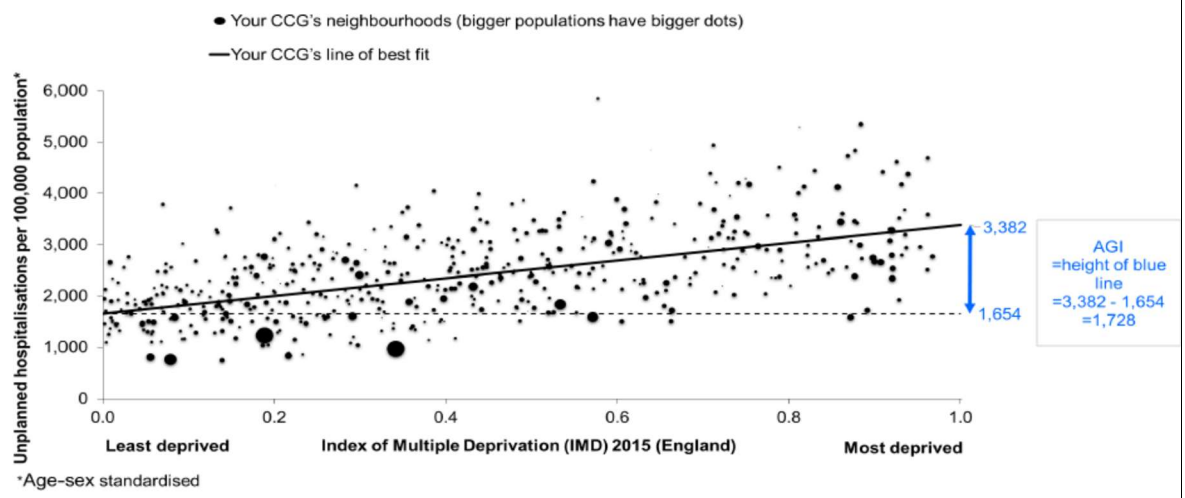
*Figure 8: Inequalities in immunisations over time*



**FACT 6: Avoidable admissions are twice as high in the most deprived areas compared to the least deprived areas**

The rate of unplanned hospitalisations per 100,000 is 1,654 in the most affluent areas compared to 3,382 in the most deprived areas of Cambridgeshire and Peterborough CCG

*Figure 9: Absolute Gradient of Inequalities for avoidable unplanned admissions*

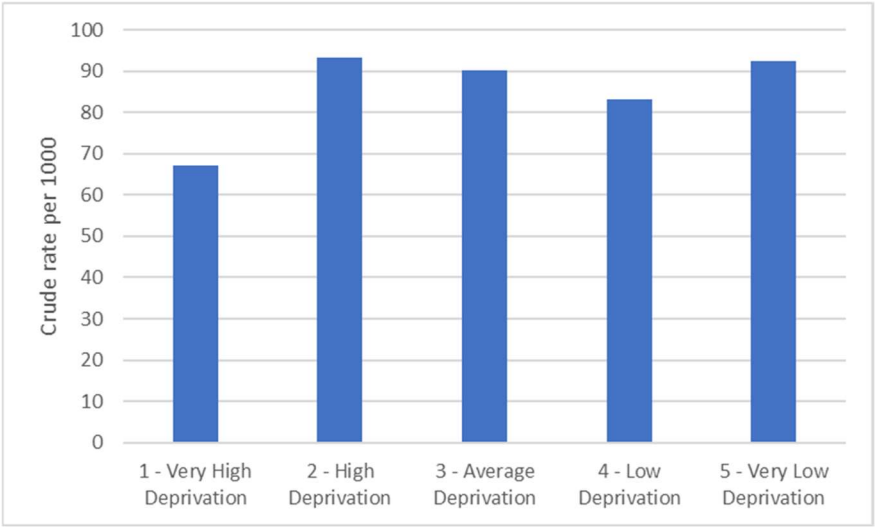



Sources: Unplanned hospitalisations: 2016-17 Secondary User Service (SUS), NHS Digital. Population data: CCG registered population for October 2016, NHS Digital.
Note: Numbers less than 6 have been suppressed when plotting neighbourhoods but have been included in overall calculations.

*Source: NHS England Health Inequalities RightCare pack for Cambridgeshire and Peterborough*

**FACT 7: People living in the least deprived areas have 37% more elective procedures than the most deprived.**

*Figure 10: All elective admissions (inc day cases) across Cambridgeshire and Peterborough CCG for all specialities April 2019 to Dec 2019*




Source: HES inpatient data

**FACT 8: Practices in the most deprived areas have few doctors, but more nurses than the least deprived areas and there are more secondary care staff in the south of the area than the north.**

*Figure 11: Primary care GP and nurse inequalities in Cambridgeshire and Peterborough December 2019*

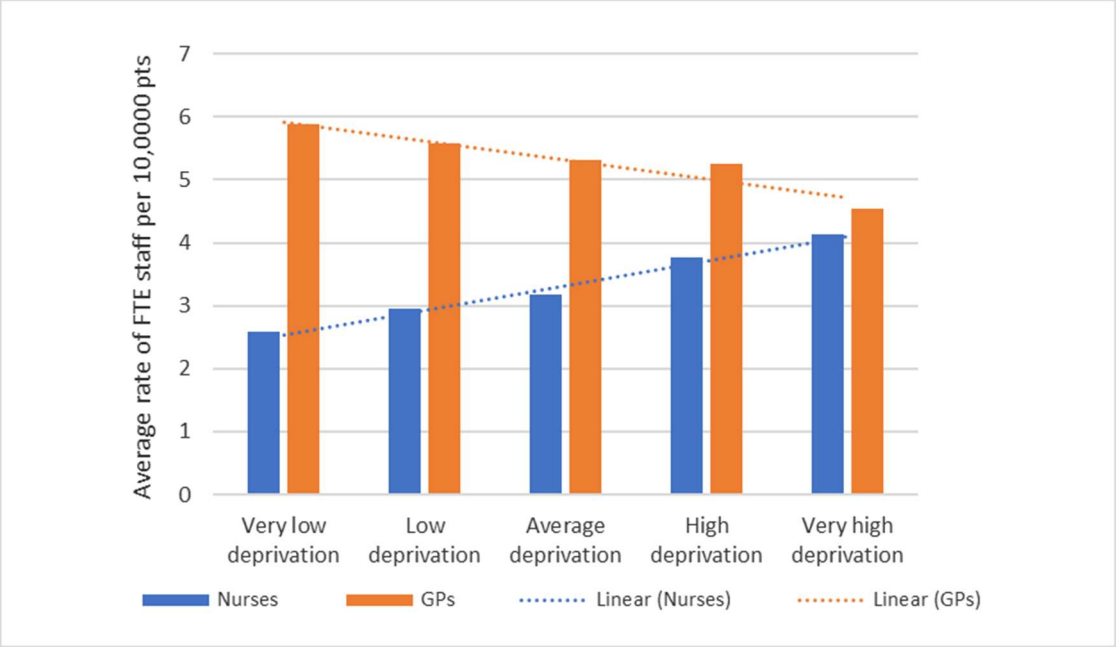
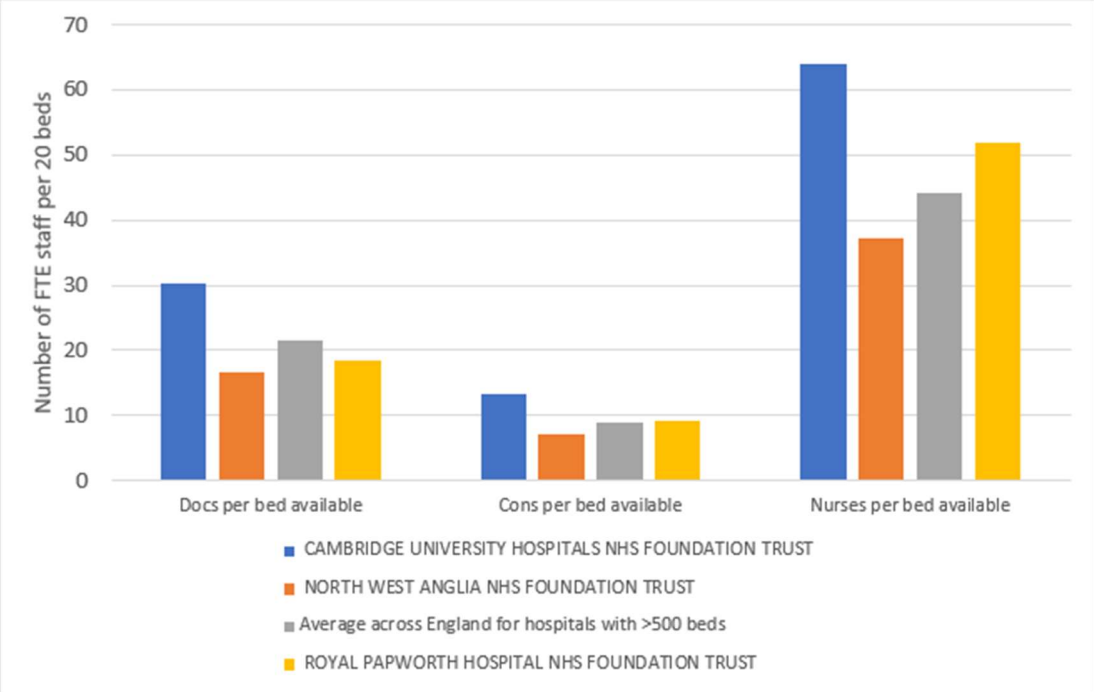


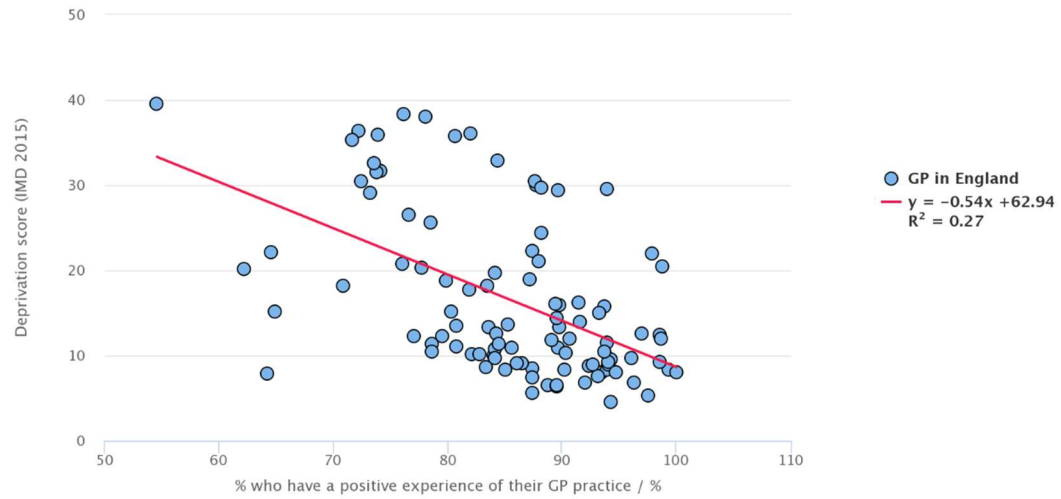

*Figure 12:Workforce inequalities across CUH, NWAFT and Papworth compared to national average*




Source: NHS digital workforce data (Jan 2020) and NHS Digital bed availability data (Q3 2019/20)

**FACT 9: Generally, the more deprived the area that a practice is in, the higher the proportion of patients who report having a negative experience**

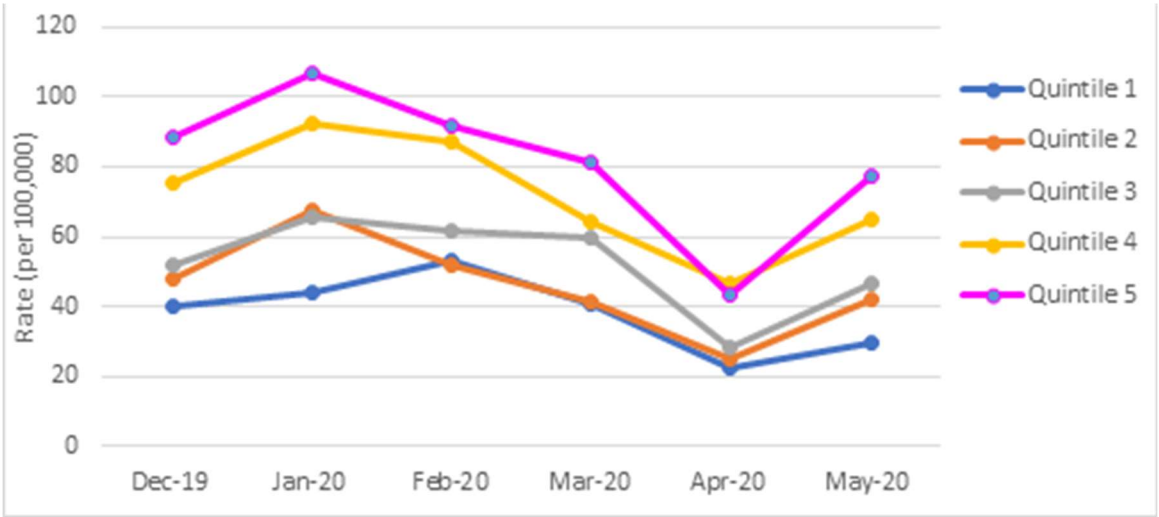
*Figure 13: Positive experience of GP practice compared with deprivation score of practice*




Source: PHE Fingertips

**FACT 10: People living in the most deprived areas are 2.6 times more likely to attend A&E with a mental health problem than people living in the least deprived areas**

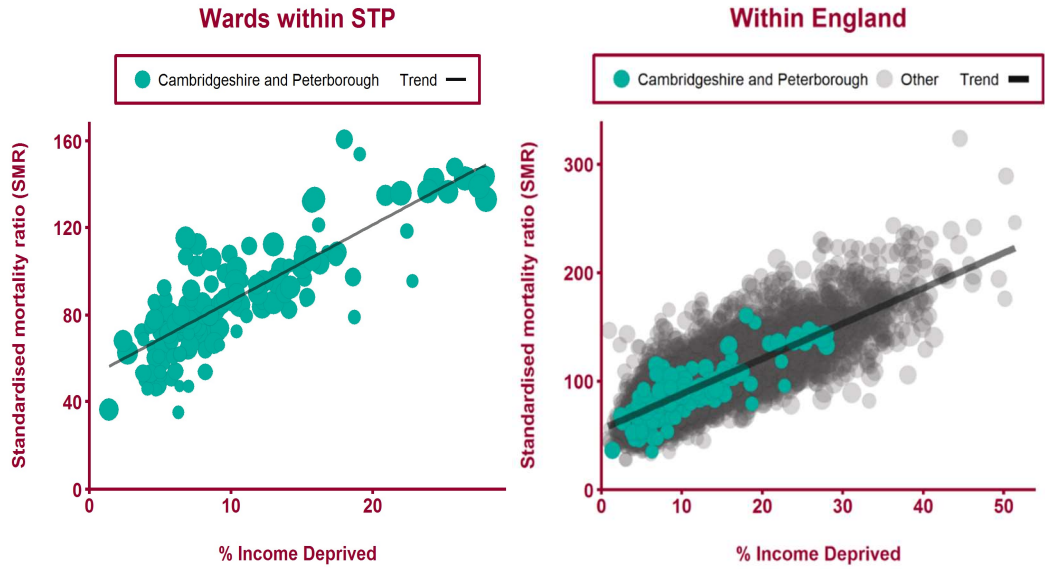
*Figure 14:Rate of mental health presentations in A&E in Cambridgeshire and Peterborough by deprivation*



**FACT 11: Life expectancy of a man living in the poorest part of Peterborough is just 75.8 years compared to 85.2 years for a man living in the richest part of Cambridge**

There is a clear socio-economic gradient between mortality and income deprivation in Cambridgeshire and Peterborough reflecting a national trend

*Figure 15: Premature mortality from all causes, under 75 years for Cambridgeshire and Peterborough wards by % income deprived (2011-2015)*

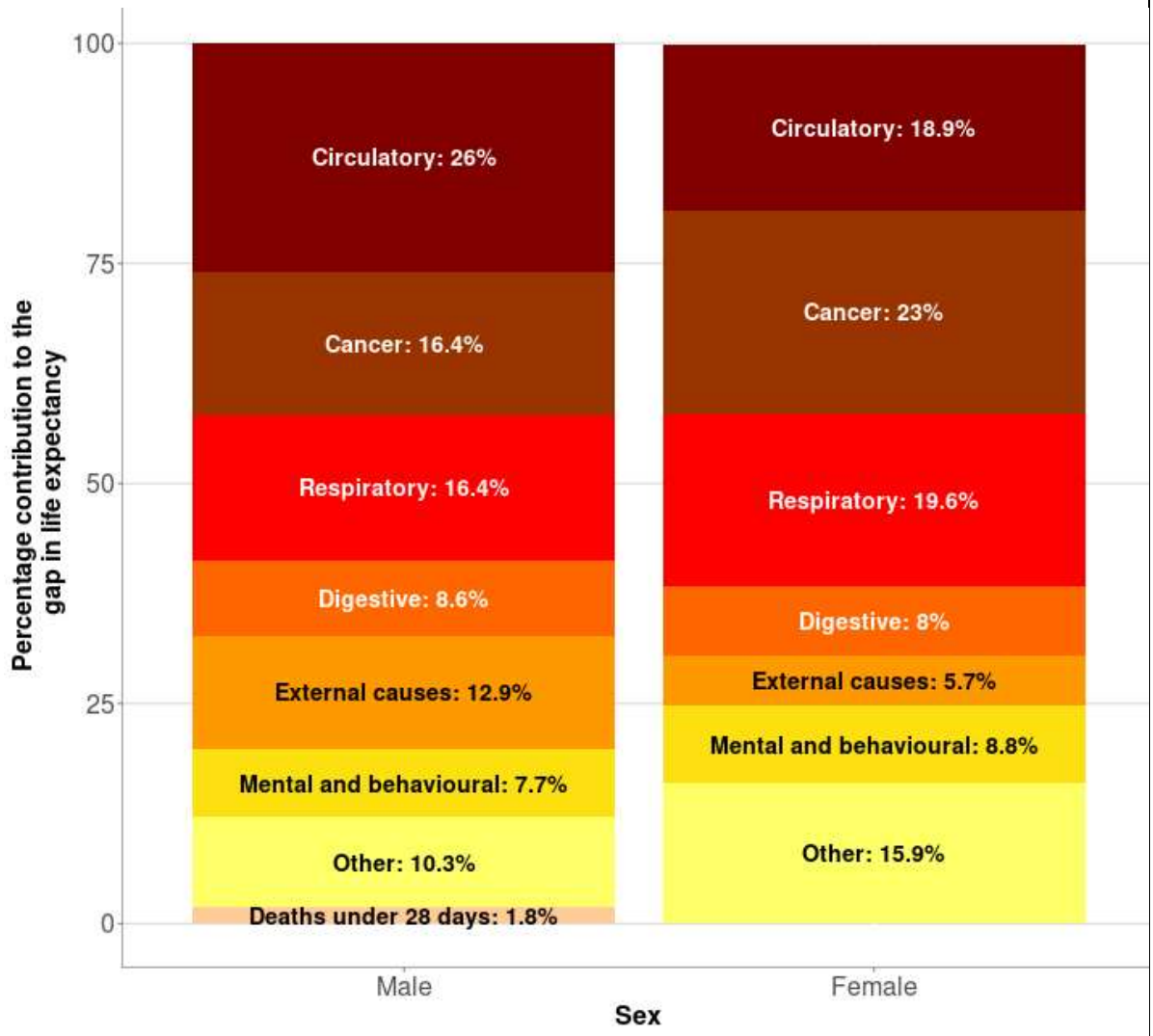



*Source: Public health England STP Health Inequalities data pack*

**FACT 12: About 60% of the gap in life expectancy between the most deprived and least deprived quintile is due to circulatory conditions, cancer and respiratory conditions**

In Peterborough, 42% of the gap in life expectancy in men is due to circulatory conditions. 40-54% of the gap in life expectancy is driven by the 60-79 year age group.

*Figure 16: Scarf chart showing the breakdown of the gap in life expectancy between most and least deprived quintile of, 2015-17 for Cambridgeshire and Peterborough CCG*




Source: Public Health England: Segment Tool

## *Disadvantaged groups*

People with certain shared experiences or characteristics can face disadvantages leading to poor health. Whilst these experiences or characteristics of disadvantage may not lead to poor health for everyone, they lead to illness and early death in many and need specific consideration. Health data for these groups is significantly limited.

Six key disadvantaged groups in Cambridgeshire and Peterborough are:

1. People who suffer Adverse Childhood Experiences (ACEs)
    - Adverse childhood experiences are linked with risky health behaviours, chronic health conditions and poorer health later in their life. Children with four ACEs, compared to children with no ACEs, are 66% more likely to use heroin/crack cocaine, 35% more likely to be a high-risk drinker and 24% more likely to smoke[9]. Peterborough ranks 13th out of 14 similar local authorities for 'best start in life' outcomes[10].
2. People who belong to minority ethnic groups
    - In Cambridgeshire and Peterborough there are about 150,000 people who belong to a minority ethnic group[11]. While people who belong to a minority ethnic group are at risk of poorer health, there is considerable variation. For example, prostate cancer makes up over 40% of Black men's cancer compared with around 15% among Chinese men and 25% among all men[12]. There are large differences in infant mortality by ethnicity with rates highest among Pakistani, Black Caribbean and Black African groups
3. Those who are Lesbian, Gay, Bisexual and Transgender plus (LGBT+)
    - Research has shown that LGBT+ people are often less healthy than the wider population and tend to receive poorer quality of care than non-LGBT+ people. A Select Committee report found that too often health care professionals focus on sexual health rather than broader health needs a when supporting LGBT+ people[13].
4. Older adults, particularly those living in rural areas who rely on public transport
    - Socio-economic, ethnic and sexual minority inequalities persist into later life. These inequalities are compounded for those who experience other aspects of disadvantaged, such as those living in rural isolated areas without access to a car and on a low income[14].
5. Those with current or prior justice system involvement
    - In 2016 there were 7659 unique offenders known to Cambridgeshire Constabulary and 3775 managed by a probation service. There is a high health care need in this populations with national estimates that up to 70% of individuals in touch with the criminal justice system suffer with mental health issues[15].
6. Those who spent time in care as a child
    - A third of young people leaving care report problems with drugs or alcohol a year later. Young women leaving care are particularly susceptible to problematic substance use and a quarter of young women leaving care are pregnant, and nearly half become pregnant within 18 to 24 months[16].

## *Inclusion health groups*

People who belong to inclusion health groups face marginalisation or social exclusion, and subsequently poor health, directly because of a certain characteristic or experience. People who belong to these groups tend to be vulnerable because of their current position.

There is no agreed categorisation of inclusion health groups, however the main groups are:

1. Those sleeping rough or housing insecure
    - In Peterborough, the count of family homelessness has increased from 180 families in 2011/12 (rate of 2.5 per 1000) to 632 families in 2017/18 (rate of 7.9 per 1000)[17].
2. Those belonging to the Gypsy Roma and Traveller community
    - In 2006 a study estimated that there was a Gypsy/Traveller population (including those in housing) of about 6500-7000 in the Cambridgeshire area. A survey of 40 individuals belong to a Gypsy or traveller community found high levels of racism from neighbours, feelings of isolation and loss of identity, feeling 'closed in' and drug abuse[18].
3. People who are transgender
    - Almost 14% of adult trans people have attempted to commit suicide more than twice, and 34.4% having attempted suicide at least once as an adult[19].
4. Asylum seekers, refugees and undocumented migrants
    - According to a recent Cambridgeshire and Peterborough Health Needs Assessment there has been an increase of 55.6% between 2003/04 - 2013/14 and the rise has been most substantial in percentage terms in Fenland (a 113.5% increase in migrant registrations)[20]. The rate of smoking and excessive alcohol consumption is higher among Eastern European communities. Fenland and Cambridge City are among the areas with the highest unadjusted rate of tuberculosis (TB) within the Anglia & Essex area. TB in the UK is higher among migrants from countries with high incidence of TB and these include Lithuania and Latvia.
5. Those who do not speak English
    - 1.9% of the population in Cambridgeshire and Peterborough have low English proficiency[17]. According to ONS data only two-thirds (65%) of people who could not speak English well or at all ('non-proficient)' were in good health, compared with nearly 9 in 10 (88%) who could speak English very well or well ('proficient)'[21].
6. Street-based sex workers
    - There is a widespread substance misuse problem among this street-based sex workers with 86 per cent of street-based sex workers reporting crack cocaine use, 40 per cent using heroin, and 5 per cent are HIV positive[22].
7. Those with a severe mental illness
    - Over 2000 people living in Cambridgeshire and Peterborough have been diagnosed with a severe mental illness, such as psychosis and

bipolar disorder[23]. People with these diagnoses have a life expectancy of up to 20 years shorter than the general population[24].

8. Those with a learning difficulty
    - In Cambridgeshire and Peterborough there are 3,955 people on the learning disability Quality Outcomes Framework register[25]. Learning disabilities affect health in different ways. A review of the literature found higher levels of epilepsy, coronary heart disease, respiratory disease, diabetes, chronic pain, visual and hearing impairments and mental health problems in those with learning difficulties[26].

# Guiding Principles to reduce health inequalities

There is no silver bullet to reduce health inequalities, but there is much that the NHS can do. Key to this is acting together as a whole system to tackle inequalities. Making small changes to services during the design and implementation process, often with minimal cost, can help to ensure that services do not increase inequalities while supporting those in greatest need.

There are several national and international resources which outline ways in which the health care system can address health inequalities[1,3,27,28,29]. Drawing upon these guidelines, we have developed a set of seven Guiding Principles to help staff across the health care system take action to reduce health inequalities.

The seven principles are:

1. ***Explore the impact of decisions on health inequalities early in the decision-making process***

2. ***Value staff through parity of recruitment, promotion and employment***

3. ***Offer simple, hassle-free services***

4. ***Partner with other organisations to take a place-based approach to address social determinants of health***

5. ***Allocate health care resources proportionate to need***

6. ***Consider actions at different stages of life***

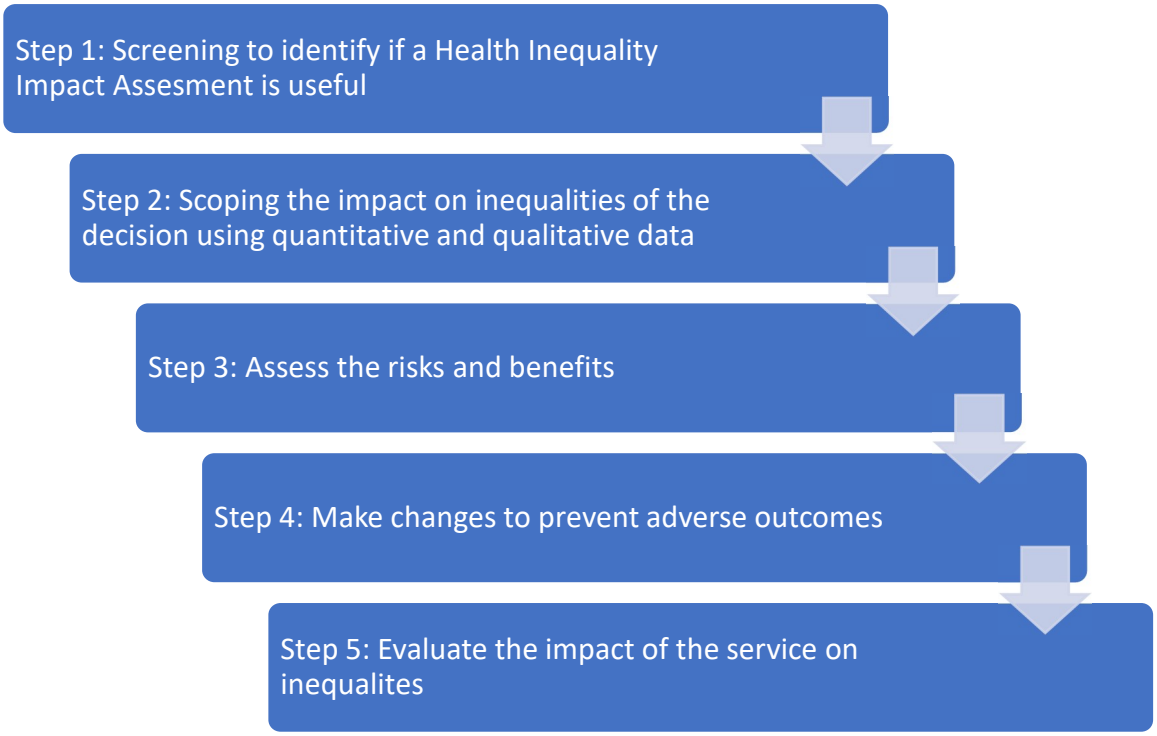
7. ***Harness the community benefits of the Social Value Act***

*Principle 1: Explore the impact of decisions on health inequalities early in the decision-making process*

Some health care interventions can inadvertently increase inequalities. For example, a non-targeted cancer screening campaign may increase inequalities because we know that white middle class people are more likely to respond to screening invitations. Therefore, anyone involved in re-designing services needs to think through how the design of the service may increase inequalities or disproportionally disadvantage one community.

Health Inequalities Impact Assessment (HIIA) is a key process for exploring the impact of decision making on disadvantaged and inclusion health groups. The Institute of Health Equity report on reducing inequalities through new models of care recommend undertaking a Health Inequalities Impact Assessment during service re-design. Whilst there are multiple names for HIIA, assessments all follow a similar structure.

*Figure 17: Process for undertaking a Health Inequality Impact Assessment*




Importantly, a HIIA is a process, not a form. The process should involve several team members brainstorming the possible impacts that the service may have on inequalities and then looking at quantitative data and/or speaking to community groups to understand the impact. It is important to consider the impact across the socio-economic gradient and across inclusion health and disadvantaged populations.

## *Principle 2: Value staff through parity of recruitment, promotion and employment*

The NHS is the fifth largest employer in the world, employing about 1.3 million staff in the UK. In Cambridgeshire and Peterborough CCG the NHS employs about 25,000 staff in its hospitals, community trust and general practices (not including allied health professionals such as community pharmacists and ambulance staff)[i]. That means that about 1 in every 26 working age people work for the NHS (or 3.8% of the working age population)[ii]. Additionally, there are non-NHS organisations that are commissioned by the NHS or are dependent on the NHS as a part of the supply chain. Many of these jobs within, or associated with, the NHS are low paid.

Public Health England and the Institute of Health Equity published a report describing the ways in which good working conditions can improve health[30]:

- adequate pay;
- protection from physical hazards;
- job security and skills training with potential for progression;
- a good work-life balance; and
- the ability for workers to participate in organisational decision-making.

In a separate report the Institute of Health Equity published a report describing the role of health professionals in reducing health inequalities[31]. The report called on NHS organisations to ensure good quality of work that increases control, respect and rewards efforts, and provides services such as occupational health.

The NHS does not just have a role in good working conditions, but also supporting people who are not in employment, education or training (NEETs). For example, The Prince's Trust supported by Health Education England has launched a three-year pre-employment programme to give 10,000 people who may not have had the opportunity to work in the NHS the basic skills and experience needed.

The current National Living Wage is £8.21 per hour for those 25 and over, however the Living Wage Foundation estimate that £9.30 per hour is required to cover the cost of living based on a basket of household goods and services[32]. The Foundation argue that this should be applied to everyone over 18 years old whereas current the National Living Wage for 18-20 year olds is £6.15 and for 21-24 year olds is £7.70.

[i] This comes from Addenbrookes (~9800), CPFT (~4000), NWFT (~6100) Papworth (1918), GP practices (2850) and CCG (310)

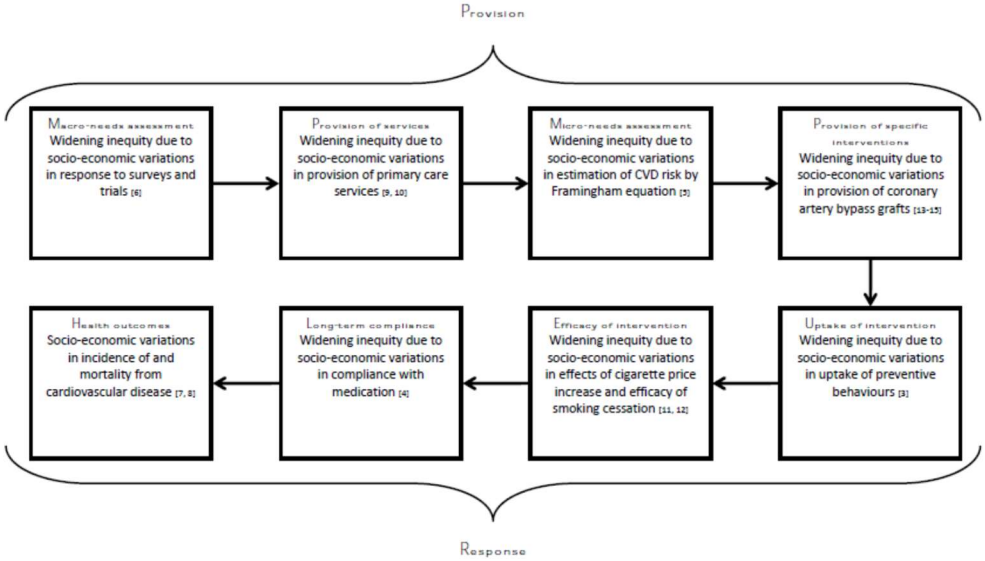
[ii] Based on General Practice registered population for Cambridgeshire and Peterborough CCG from National General Practice Database

## *Principle 3: Offer simple, hassle-free services*

Services which require patients to jump through numerous hoops to benefit tend to increase inequalities. This has been described as a staircase effect, where each step represents a step in the patient pathway[33]. Only patients who can navigate the system benefit, disadvantaging certain patients, such as those with financial or employment challenges, poor health literacy, limited transport options or lack of an advocate or disempowerment. To reduce inequalities, we should design services which are simple and hassle-free and do not require patients to navigate complex systems.

Previous research has described the extent to which individuals have to use their own resources to benefit from an intervention or service as agency[34]. Interventions which require high agency (e.g. individuals have to use considerable personal resources to benefit) tend to be favoured by governments but are more likely to lead to inequalities, whereas low agency interventions (e.g. individuals only need to use a small amount of effort to benefit) are more likely to reduce inequalities.

White and colleagues give the following example: an intervention may be efficacious in 50% of those to whom it is delivered appropriately, but the condition for which it is efficacious is only diagnosed in 80% of those with the condition, only 60% of those diagnosed gain access to the intervention, only 90% of providers deliver the intervention as intended, and only 70% of consumers adhere to the intervention as intended. Its overall community effectiveness will thus be the product of the efficacy, multiplied by each of these modifiers (i.e. 0.5 x 0.8 x 0.6 x 0.9 x 0.7 = 0.15). In other words, the intervention would have an overall community effectiveness in 15% of the target population. Furthermore, if the magnitude of any of these five modifiers of the efficacy of the intervention varied by socio-economic position, then a socio-economic gradient of effectiveness would be observed[35]. Using cardiovascular disease as an example, White and colleagues also describe how inequalities occur from evidence to implementation to outcomes.

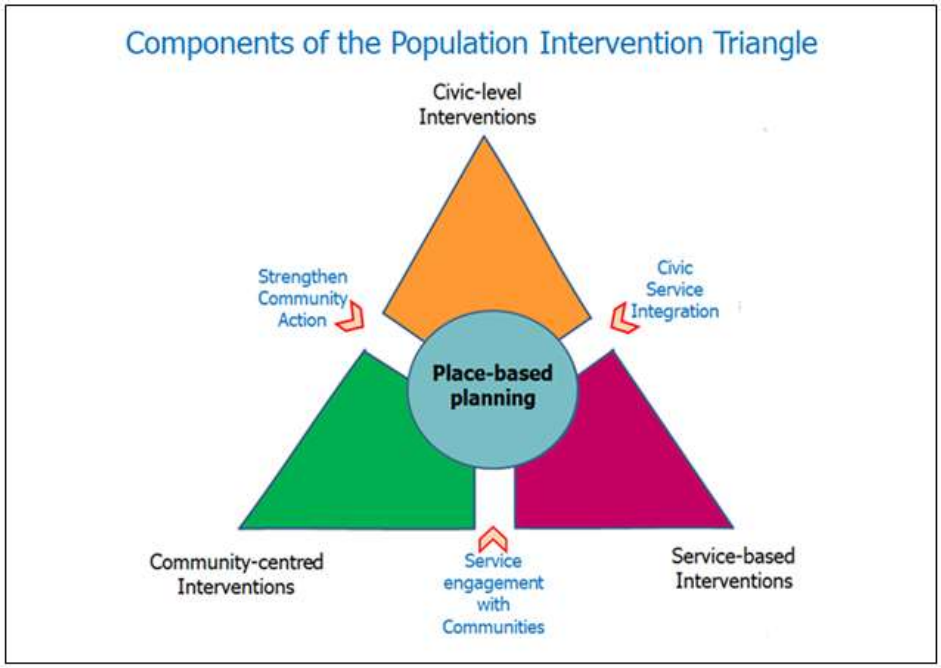



Source: White M, Adams J, Heywood P. How and why do interventions that increase health overall widen inequalities within populations? In Babones S (Ed.). *Health, inequality and society.* Bristol: Policy Press (*2009*).

*Principle 4: Partner with other organisations to take a place-based approach to address social determinants of health*

Addressing health inequalities requires the actions of multiple organisations working together. This may include partnering with organisations within the health care systems, such as general practices and community services, other public bodies, such as local authorities, voluntary sector organisations and communities themselves. The Institute of Health Equity recommends that partnerships within the health sector should be consistent, broad and focussed on the social determinants of health[31].

Public Health England in their recently publication on Place-based approaches for reducing inequalities[1] advocating an approach that treats the 'place', not just individual problems or issues. This requires partnership working in local neighbourhoods. The guidance recommends partnership working across the Population Intervention Triangle, as shown below.




Source: Public Health England Place-based approaches for reducing health inequalities: main report. 2019

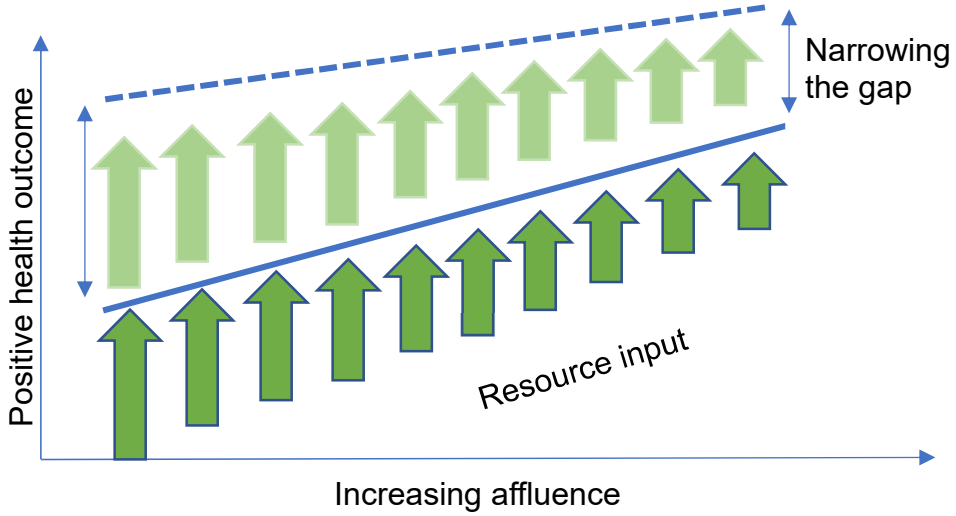
Civic-Level Interventions include the various tiers of local authority, regulation, licencing, healthy public policy and planning, and campaigns. Community-Level Interventions building on local assets such as leadership, infrastructures and community champions.

For service-based interventions the guidance provides a diagnostic tool called the Population Outcomes Through Services Framework. This tool provides a practical, systematic approach to addressing service-level intervention issues in a coherent way.

*Principle 5: Allocate health care resources proportionate to need*

Allocating resources according to need will ensure that the most disadvantaged and vulnerable people get the support that they need. This will help close the inequality gap between the most and least deprived. The Marmot report published in 2010 recommends something called "proportionate universalism", which states that services should be accessible to all, but the intensity of the service should be proportionate to need with the most disadvantaged receiving more resource[36]. The approach enables everyone in the population to access services whilst also looking across the socio-economic gradient. It does not only have to be about funding, it might be that rolling out services first in the most disadvantaged areas means that those areas have more time to benefit from new services. It could also apply to workforce or where services are located.

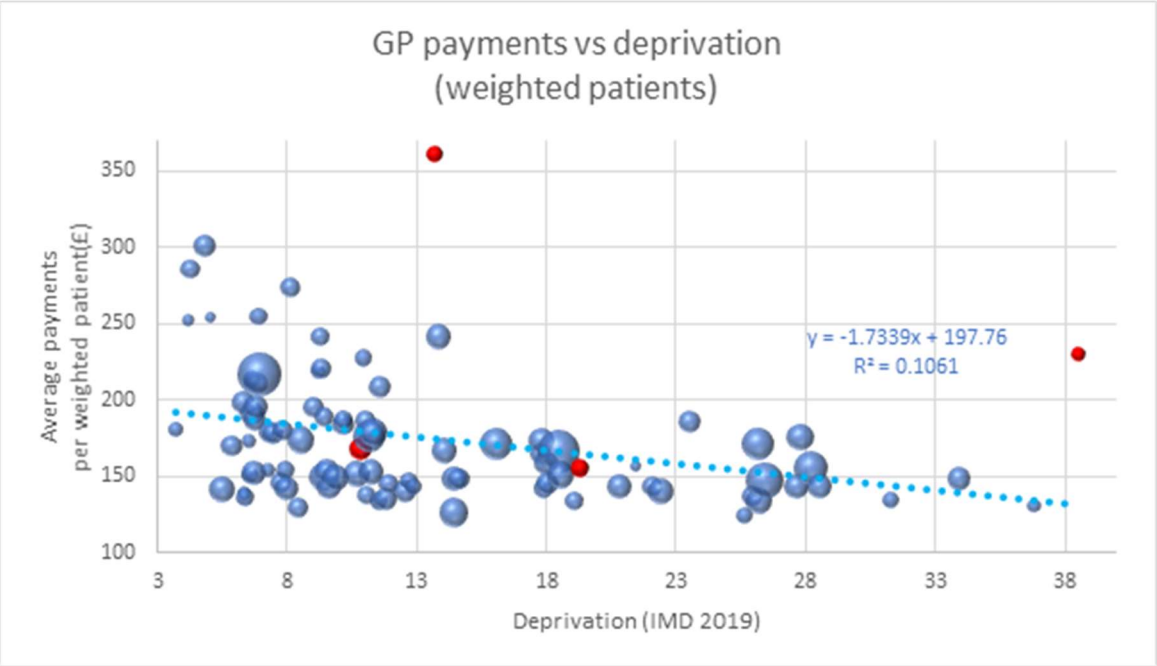
The concept is shown below.




This approach also means that health outcomes for the whole population increase whilst also reducing the inequalities gap.

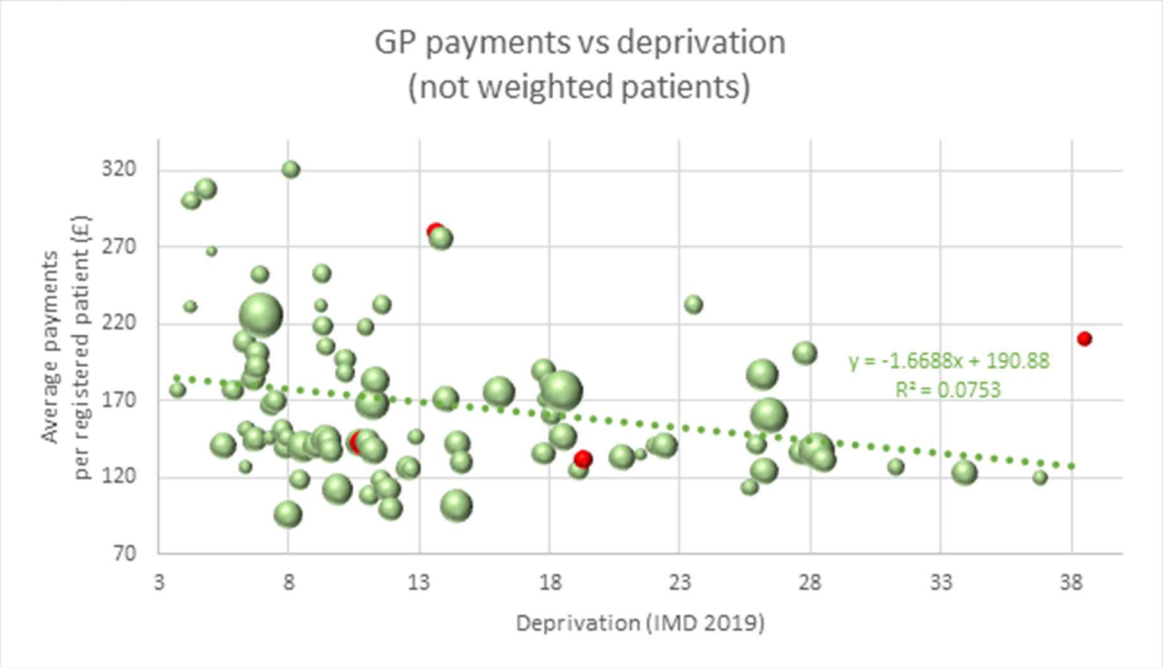
In Cambridgeshire and Peterborough, practices in more deprived areas receive less funding than those in the least deprived areas. The inequality gap in funding per weighted head of population in general practice between practices in the highest and lowest deprivation decile is £57. Figure 18 and Figure 19 show how general practice income is inversely proportionate to need.

*Figure 18: Relationship between deprivation and average payments per weighted patient.*




Note: Deprivation (IMD 2019) is plotted against the Average payments per weighted patient for GP practices in Cambridgeshire and Peterborough. Higher IMD scores represent higher deprivation. Bubble sizes are proportional to the size of the average number of weighted patients. Weights are calculated based on age and gender, patient need (morbidity and mortality), list turnover, market forces, rurality and patients in nursing or residential homes. For comparison non-weighted data are shown below.

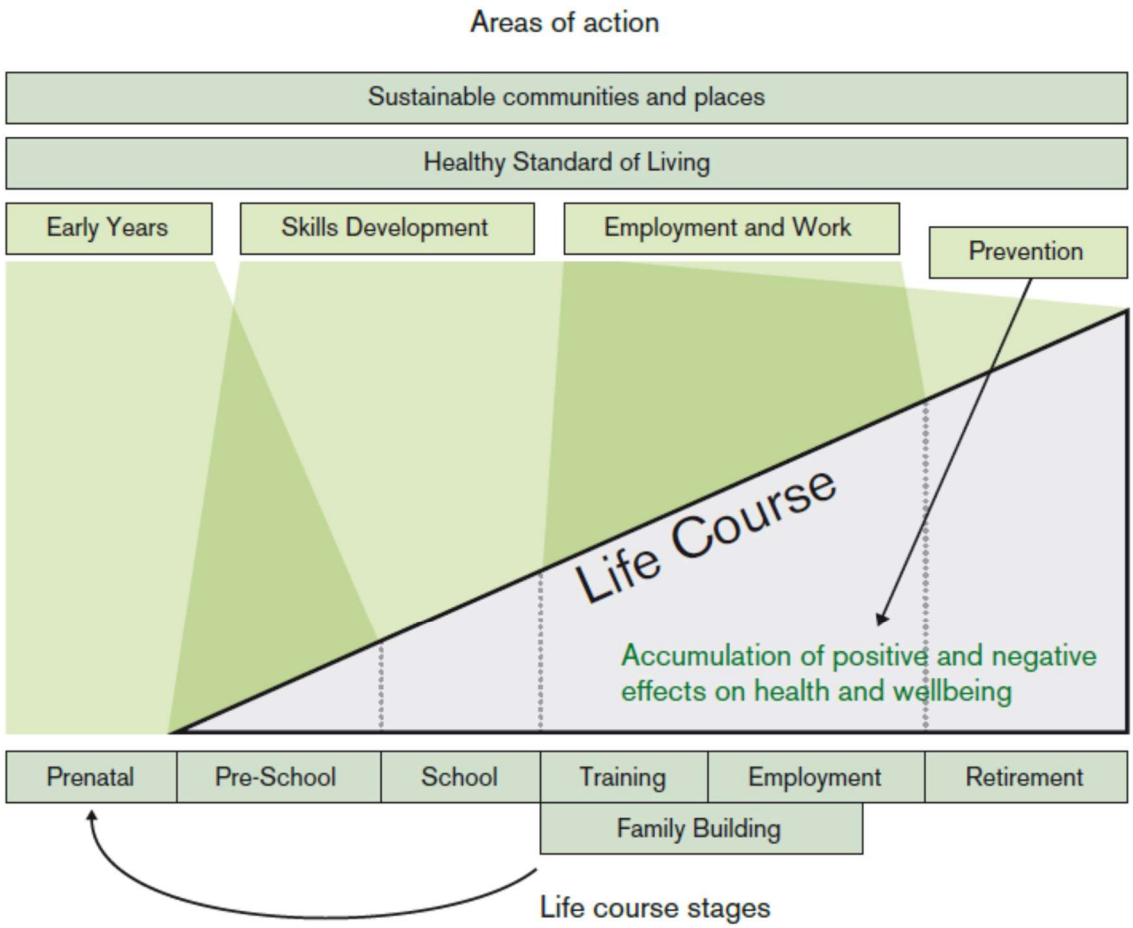
*Figure 19: Relationship between deprivation and average payments per patient (non-weighted)*



*Principle 6: Consider actions at different stages of life*

Disadvantage accumulates over the course of a person's life leading to inequalities later in life. This may start before birth if a pregnant mother smokes or uses illicit drugs. Adverse childhood experiences are associated with a number of poor outcomes in later life, such as alcohol abuse, unplanned teenage pregnancy, poor diet and incarceration[9].

The Marmot Review recommends action across the life course to address health inequalities[36]. Specifically, the report's highest priority recommendation is to give every child the best start in life. The action areas across the life course are shown below.




Source: Marmot, M. Fair society, healthy lives: the Marmot Review : strategic review of health inequalities in England post-2010. 2010

The health service can influence several of these stages through direct action (such as improving antenatal care), partnerships (such as improving immunisation coverage in school and pre-school children) and advocacy (such as making the case for increased early years funding).

### *Principle 7: Harness the community benefits of the Social Value Act*

The Social Value Act (2013) requires public sector commissioners, including health sector bodies, to consider the economic, social and environmental wellbeing in procurement of services contracts. The ambition of the act is to get the most value for money from public spending. Creating social value can reduce health inequalities through action on the social determinants of health – for example, by improving employment and housing. Public Health England have described in detail in their report potential areas where public bodies could use the Social Value Act[37].

Actions include employing local residents or target groups such as young unemployed people, building local supply chains, procuring with the voluntary, community and social enterprise (VCSE) sector, working with schools and young people, requiring contractors to pay a living wage and minimising negative environmental impact.

In Cheshire and Merseyside NHS Providers, Local Authorities, Clinical Commissioning Groups (CCGs) and Voluntary, Community, Faith and Social Enterprise sector (VCFSE) organisations have all signed up to a Social Value Charter[38]. The Charter outlines the local vision and principles for maximising the potential of Social Value, including embedding social value across the whole commissioning cycle. In addition to this Cheshire & Merseyside Health & Care Partnership have been successful being one of a group of Social Value Accelerator Sites across the UK.  This has included the development of social value champions and networks, increased use of social value measurement tools, such as the National TOMS Frameworks and Social Value Calculator, delivery of Social Value Training and development of Social Value Award/Kite Mark for Anchor Institutions[39].

# Monitoring health inequalities

## *Developing the indicator list*

Establishing “health inequalities indicators” is key as we seek to take a systematic, data-driven approach to decision making through benchmarking, monitoring and evaluation. A robust set of indicators will allow the health care system to identify the key inequalities and develop plans to close the inequality gap. A breadth of indicators is important to cover different conditions, service areas and timescales. For example, life expectancy is an important long-term indicator but is affected by many different factors within and outwith the health care system, whereas hypertension treatment is a short-term indicator which would in turn effect long-term indicators, such as early deaths from cardiovascular.

There are numerous socio-economic indicators which could be constructed using the Index of Multiple Deprivation and routinely collected data. The latest Index of Multiple Deprivation data published for 2019 is produced independently by the Ministry of Housing Communities & Local Government and reflects seven different domains of place-based deprivation: income, employment, education, health, crime, barriers to housing and services and living environment. Income and employment make up almost half of the index.

There are various choices to be made when developing local health inequalities indicators and we have made the following decisions:

1. Identification of the main causes of pre-mature mortality and morbidity from the Global Burden of Disease project and mapped possible indicators across five areas: risk factors, access to and use of services, diagnostics, treatment and outcomes.
2. Focus first on socio-economic inequalities using the Index of Multiple Deprivation 2019, with data on disadvantaged and inclusion health groups to follow later
3. Consider WITHIN CCG inequalities, rather than comparing local CCG data with national averages
4. Report indicators, where possible, at the level of action, e.g. diabetes treatment targets would be reported at general practice and Primary Care Network level.
5. For each indicator we would primarily report the inequality gap between the most and least deprived quintile because this would be easier to interpret rather than the slope index of inequalities. However, before reporting the inequality gap we would ensure that each indicator has a socio-economic gradient.

Where possible, we have age-standardised the data to take account of difference in the age structure between practice, but this has not been possible for some of the indicators.

## *List of health inequality indicators*

The following metrics are reported as a within CCG inequality gap between the most and least deprived quintile.

Risk factors

1. Obesity Prevalence (%), 18+ only
2. National Child Measurement Programme, Prevalence of Excess Weight, 2015/16 - 17/18 Average Reception Year
3. National Child Measurement Programme, Prevalence of Excess Weight, 2015/16 - 17/18 Average Year 6
4. Breastfeeding Prevalence (%)

Access to and use of services

1. Directly age-standardised rate of avoidable hospital admissions per 1,000 registered population, all ages
2. Directly age-standardised rate of emergency hospital admissions per 1,000 registered population, 0-4 years only
3. Directly age-standardised rate of emergency department attendances per 100,000 registered population0-4 years only
4. Directly age-standardised rate of emergency hospital admissions per 1,000 registered population, all ages
5. Proportion describing GP Experience as 'Very Good' or 'Fairly Good' in GP Patient Survey, all ages
6. Proportion describing GP Booking Experience as 'Very Good' or 'Fairly Good' in GP Patient Survey, all ages

Diagnostics

1. Directly age-standardised rate of angiography hospital admissions per 100,000 registered population, all ages

Treatment

1. Percentage of patients with type 2 diabetes who meet all 3 National Diabetes Audit treatment targets, all ages
2. Percentage of patients with hypertension in whom last blood pressure reading (in preceding 12 months) is 150/90 mmHg or less, all ages

Outcomes

1. Male Life Expectancy
2. Female Life Expectancy
3. Directly age-standardised rate of mortality from causes considered preventable per 100,000 registered population, all ages
4. Directly age-standardised rate of mortality from causes amenable to healthcare per 100,000 registered population, all ages

5. Directly age-standardised rate of mortality from cardiovascular disease per 100,000 registered population, under 75 years only
6. Directly age-standardised rate of mortality from cancer per 100,000 registered population, under 75 years only
7. Directly age-standardised rate of mortality from respiratory disease per 100,000 registered population, under 75 years only

## *The inequality gap in Cambridgeshire and Peterborough*

Table 1 shows the inequality gap between Cambridgeshire and Peterborough for the basket of health inequalities indicators. The socio-economic gradient is clear for all indicators with people living in more deprived areas having consistently poorer health outcomes across risk factors (obesity), service use (hospital admissions and attendances), satisfaction with general practice, diagnostics (angiography rates), treatment (diabetes and hypertension), pre-mature mortality and life expectancy. Indicators broken down by Primary Care Network are presented in the Appendix.

If we compared a town of 10,000 people who were in the bottom deprivation quintile to a similar town in the top quintile there would be stark differences:

- Of the 125 new mothers each year, 23 fewer would breast feed their babies
- Of the 120 children in reception, 7 more would be overweight and of the 120 children in Year 6, 15 more would be overweight
- 480 more people would be obese
- There would be 75 more avoidable admissions per year and 279 more emergency admissions per year
- Of the 500 children in the town aged 0-4 there would be 43 more emergency admissions and 123 attendances at A+E per year
- 880 fewer people would describe the their GP experience as 'Very Good' or 'Fairly Good' and 1,000 more would describe their GP Booking Experience as 'Very Good' or 'Fairly Good'
- Three fewer people having angiography per year
- Of the 600 people with diabetes, 36 fewer people would be meeting all three diabetes targets per year
- Of the 1200 people with hypertension 42 fewer people would be meeting their blood pressure target per year
- Life expectance would be 4.2 years less in men and 3.6 years less in women
- Every year five extra people would die prematurely from cardiovascular disease, 4 from cancer and 3 from respiratory disease.

*Table 1: Inequality gap across Cambridgeshire and Peterborough*

| Indicator | Deprivation quintiles | Data | Gap | Corr coef | Notes |
|---|---|---|---|---|---|
| Obesity | Quintile 1 (Most deprived) | 11.4 | 4.8 | 0.47 | Percentage 18+ only |
| | Quintile 2 | 9.6 | | | |
| | Quintile 3 | 7.0 | | | |
| | Quintile 4 | 8.0 | | | |
| | Quintile 5 (Least deprived) | 6.6 | | | |
| Excess weight in reception | Quintile 1 (Most deprived) | 22.1 | 6.0 | 0.54 | National Child Measurement Programme, Prevalence of Excess Weight, 2015/16 - 17/18 Average Reception Year |
| | Quintile 2 | 20.7 | | | |
| | Quintile 3 | 17.4 | | | |
| | Quintile 4 | 18.5 | | | |
| | Quintile 5 (Least deprived) | 16.1 | | | |
| Excess weight in Year 6 | Quintile 1 (Most deprived) | 36.3 | 12.4 | 0.69 | National Child Measurement Programme, Prevalence of Excess Weight, 2015/16 - 17/18 Average Year 6 |
| | Quintile 2 | 31.5 | | | |
| | Quintile 3 | 27.5 | | | |
| | Quintile 4 | 25.8 | | | |
| | Quintile 5 (Least deprived) | 23.9 | | | |
| Breast feeding | Quintile 1 (Most deprived) | 34.9 | 18.8 | -0.73 | Percentage |
| | Quintile 2 | 41.9 | | | |
| | Quintile 3 | 47.9 | | | |
| | Quintile 4 | 53.4 | | | |
| | Quintile 5 (Least deprived) | 53.7 | | | |
| Avoidable admissions | Quintile 1 (Most deprived) | 101.0 | 7.5 | 0.65 | Directly age-standardised rate of avoidable hospital admissions per 1,000 registered population, all ages |
| | Quintile 2 | 96.1 | | | |
| | Quintile 3 | 84.7 | | | |
| | Quintile 4 | 79.9 | | | |
| | Quintile 5 (Least deprived) | 73.0 | | | |
| Emergency admissions | Quintile 1 (Most deprived) | 101.0 | 27.9 | 0.42 | Directly age-standardised rate of emergency hospital admissions per 1,000 registered population, all ages |
| | Quintile 2 | 96.1 | | | |
| | Quintile 3 | 84.7 | | | |
| | Quintile 4 | 79.9 | | | |
| | Quintile 5 (Least deprived) | 73.0 | | | |
| 0-4 year old emergency admissions | Quintile 1 (Most deprived) | 197.3 | 85.3 | 0.38 | Directly age-standardised rate of emergency hospital admissions per 1,000 registered population, 0-4 years only |
| | Quintile 2 | 172.1 | | | |
| | Quintile 3 | 152.8 | | | |
| | Quintile 4 | 113.4 | | | |
| | Quintile 5 (Least deprived) | 112.0 | | | |
| | Quintile 1 (Most deprived) | 658.0 | 247.4 | 0.73 | Directly age-standardised rate of emergency |

| | | | | | |
|---|---|---|---|---|---|
| 0-4 year old emergency attendances | Quintile 2 | 534.0 | | | department attendances per 1,000 registered population, 0-4 years only |
| | Quintile 3 | 437.6 | | | |
| | Quintile 4 | 460.5 | | | |
| | Quintile 5 (Least deprived) | 410.6 | | | |

| | | | | | |
|---|---|---|---|---|---|
| | Better than CCG C&P average | | Worse than CCG C&P average | | No different from CCG C&P average |

Corr Coef = correlation coefficient. As values approach 1 there is a positive correlation (as deprivation increases, the indicator increases) and as values approach -1 there is a negative correlation (as deprivation increases, the indicator value decreases).

Table 1 (continued)

| Indicator | Deprivation quintiles | Data | Gap | Corr coef | Notes |
|---|---|---|---|---|---|
| Good GP experience | Quintile 1 (Most deprived) | 79.8 | 8.8 | -0.52 | Proportion describing GP Experience as 'Very Good' or 'Fairly Good' in GP Patient Survey, all ages |
| | Quintile 2 | 80.4 | | | |
| | Quintile 3 | 85.7 | | | |
| | Quintile 4 | 88.3 | | | |
| | Quintile 5 (Least deprived) | 88.6 | | | |
| Good GP booking experience | Quintile 1 (Most deprived) | 67.6 | 10.0 | -0.39 | Proportion describing GP Booking Experience as 'Very Good' or 'Fairly Good' in GP Patient Survey, all ages |
| | Quintile 2 | 67.7 | | | |
| | Quintile 3 | 75.2 | | | |
| | Quintile 4 | 76.3 | | | |
| | Quintile 5 (Least deprived) | 77.6 | | | |
| Angiography | Quintile 1 (Most deprived) | 193.6 | 28.8 | 0.21 | Directly age-standardised rate of angiography hospital admissions per 100,000 registered population, all ages |
| | Quintile 2 | 179.8 | | | |
| | Quintile 3 | 165.5 | | | |
| | Quintile 4 | 195.1 | | | |
| | Quintile 5 (Least deprived) | 164.8 | | | |
| Meeting all three diabetes targets | Quintile 1 (Most deprived) | 32.5 | 6.5 | -0.25 | Percentage of patients with type 2 diabetes who meet all 3 National Diabetes Audit treatment targets, all ages |
| | Quintile 2 | 35.1 | | | |
| | Quintile 3 | 37.0 | | | |
| | Quintile 4 | 35.0 | | | |
| | Quintile 5 (Least deprived) | 39.0 | | | |
| Hypertensive patients meeting BP target | Quintile 1 (Most deprived) | 76.1 | 5.1 | -0.30 | % of patients with hypertension in whom last blood pressure reading (in preceding 12mths) is ≤ 150/90 mmHg, all ages |
| | Quintile 2 | 77.0 | | | |
| | Quintile 3 | 79.0 | | | |
| | Quintile 4 | 80.8 | | | |
| | Quintile 5 (Least deprived) | 81.2 | | | |

| | | | | | |
|---|---|---|---|---|---|
| Male Life Expectancy | Quintile 1 (Most deprived) | 79.1 | 4.2 | -0.59 | Years |
| | Quintile 2 | 79.9 | | | |
| | Quintile 3 | 82.3 | | | |
| | Quintile 4 | 82.5 | | | |
| | Quintile 5 (Least deprived) | 83.3 | | | |
| Female Life Expectancy | Quintile 1 (Most deprived) | 82.9 | 3.6 | -0.55 | Years |
| | Quintile 2 | 82.7 | | | |
| | Quintile 3 | 85.2 | | | |
| | Quintile 4 | 84.8 | | | |
| | Quintile 5 (Least deprived) | 86.5 | | | |
| Premature cardiovascular mortality | Quintile 1 (Most deprived) | 86.4 | 49.8 | 0.51 | Directly age-standardised rate of mortality from cardiovascular disease per 100,000 registered population, < 75 years |
| | Quintile 2 | 69.2 | | | |
| | Quintile 3 | 51.8 | | | |
| | Quintile 4 | 56.3 | | | |
| | Quintile 5 (Least deprived) | 36.6 | | | |

| | | | | | |
|---|---|---|---|---|---|
| | Better than CCG C&P average | | Worse than CCG C&P average | | No different from CCG C&P average |

Corr Coef = correlation coefficient. As values approach 1 there is a positive correlation (as deprivation increases, the indicator increases) and as values approach -1 there is a negative correlation (as deprivation increases, the indicator value decreases).

Table 1 (continued)

| Indicator | Deprivation quintiles | Data | Gap | Corr coef | Notes |
|---|---|---|---|---|---|
| Premature cancer mortality | Quintile 1 (Most deprived) | 139.3 | 38.5 | 0.53 | Directly age-standardised rate of mortality from cancer per 100,000 registered population, under 75 years only |
| | Quintile 2 | 121.1 | | | |
| | Quintile 3 | 112.6 | | | |
| | Quintile 4 | 106.4 | | | |
| | Quintile 5 (Least deprived) | 100.8 | | | |
| Premature respiratory mortality | Quintile 1 (Most deprived) | 41.7 | 25.0 | 0.50 | Directly age-standardised rate of mortality from respiratory disease per 100,000 registered population, < 75 years |
| | Quintile 2 | 32.1 | | | |
| | Quintile 3 | 26.6 | | | |
| | Quintile 4 | 18.3 | | | |
| | Quintile 5 (Least deprived) | 16.6 | | | |
| Preventable mortality | Quintile 1 (Most deprived) | 198.1 | 91.6 | 0.28 | Directly age-standardised rate of mortality from causes considered preventable per 100,000 registered population, all ages |
| | Quintile 2 | 166.2 | | | |
| | Quintile 3 | 133.9 | | | |
| | Quintile 4 | 133.5 | | | |

| | | | | | |
|---|---|---|---|---|---|
| | Quintile 5 (Least deprived) | 106.5 | | | |
| Mortality amenable to health care | Quintile 1 (Most deprived) | 138.7 | 79.9 | 0.57 | Directly age-standardised rate of mortality from causes amenable to healthcare per 100,000 registered population, all ages |
| | Quintile 2 | 106.7 | | | |
| | Quintile 3 | 89.0 | | | |
| | Quintile 4 | 87.4 | | | |
| | Quintile 5 (Least deprived) | 58.8 | | | |

| | | | | | |
|---|---|---|---|---|---|
| | Better than CCG C&P average | | Worse than CCG C&P average | | No different from CCG C&P average |

Corr Coef = correlation coefficient. As values approach 1 there is a positive correlation (as deprivation increases, the indicator increases) and as values approach -1 there is a negative correlation (as deprivation increases, the indicator value decreases).

## *Future indicators*

There are several indicators that we wanted to include but were unable to for data availability reasons. Our hope is that these will be included in future health inequalities monitoring.

- Total number of COVID deaths in the community
- Unplanned hospital admissions for stroke per 100,000 per month
- Number of inpatient, day-case and outpatient elective procedures per 100,000 population per week compared to same time last year
- Patients screened for breast cancer in last 36 months, aged 50-70
- Patients attending a cervical screening within target period
- Patients aged 60-74 screened for bowel cancer in last 30 months
- Last stage cancer diagnosis
- Physical health check delivery, where individual has severe mental illness
- Smoking status at time of delivery
- Smokers that have successfully quit at 4 weeks
- Emergency admissions as a result of fatty liver disease
- School readiness
- Percentage of 5 year olds with tooth decay
- Health checks delivered where individual CVD risk score was 20%+
- Premature deaths from all causes at age 75 or under

Furthermore tuberculosis, opioid use, HIV, psychoactive drug use and viral hepatitis are particularly associated with the greatest socio-economic inequality in pre-mature mortality[40]. These conditions are intrinsically linked with deprivation and should be considered in future inequalities monitoring.

At present we do not have inequality gap for disadvantaged and inclusion health group, primarily because of data availability issues. We also do not have inequality indicators related to end of life care and only limited data on mental health. These should be considered in future health inequalities indicator lists.

# Priority areas of recommendation for the STP and CCG

Based on a review of national guidance and local data, and congruent with local authority Joint Strategic Needs Assessment and the Health and Wellbeing Board Strategy, we recommend the following three areas for priority action.

## *1. Working across the system to reduce health inequalities*

A whole health care systems approach to address health inequalities is needed. Through the collective efforts of everyone across all organisations and work programmes we can move towards an equity-focussed health care system. To achieve this, we propose three key actions:

### *a. Establish a Health Care System Inequalities Group to monitor and drive action on health inequalities*

Considerable progress has been made across the system to address health inequalities. There is a need to galvanise the momentum and drive forward to ambitions of this strategy

.

- We recommend that a system-wide group is established to monitor health inequalities data, promote the use of the Guiding Principles and deliver the implementation plan. The group could report to the Joint Clinical Group. The group would also be able to further develop the health inequalities indicators, respond to emerging evidence and develop recommendations, especially around BAME inequalities and mental health impacts.

### *b. Promote awareness of the Guiding Principles and embed them in commissioning and delivering of services across all STP partners*

The Guiding Principles are based on national and international recommendations on how health care systems can address health inequalities. They clearly show what the NHS can do to reduce health inequalities and have implications for every part of the health care system.

- We recommend the endorsement of the 7 Guiding Principles within the STP and a widespread communications and publicity campaign to raise awareness across health care commissioners and decision makers. The Guiding Principles would also be useful to scrutinise, and where necessary modify, local health care plans and decisions to reduce inequalities.

### *c. Increase the use of Health Inequality Impact Assessment (HIIA)*

In their NHSE-commissioned report on Reducing Health Inequalities through New Models of Care, the Institute of Health Equity recommend that HIIAs are undertaken as an integral part of policy development and decision making to reduce health inequalities. The process includes screening to identify if HIIA is appropriate, scoping

the impact on inequalities, assessing the risks and benefits, developing recommendations and evaluation. HIIA should be undertaken in a meaningful way for all major commissioning and health care decisions, complemented by the Guiding Principles. The process should then be proportionate to the decision being made.

- We recommend that HIIA are embedded across the health care system and all organisations, including assessing the impact on BAME[iii] groups. We recommend that commissioners and health care staff undertake a HIIA screening for all business plans and commissioning plans that affect patient care. A draft SOP[iv] is shown in the appendix.
- We recommend that the disadvantaged and inclusion health groups are prioritised in light of COVID-19 and actions taken to ensure that they have access to health care and adopting actions, such as the Safe Surgery initiative.

### *d. Address inequalities in workforce distribution*

To deal fairly with the backlog of NHS care and ensure that inequalities are not exacerbated, there needs to be a more equal distribution of the workforce across Cambridgeshire and Peterborough. Currently for a 20 bedded-ward in CUH there would be 30 doctors, 13 consultants and 64 nurses, whereas in NWAFT there would be only 17 doctors, 7 consultants and 37 nurses. While some of this disparity may be explained by academic clinical staff and research nurses and out-patient and day case activity, there is likely to be a substantial inequality, especially since academic staff have been increasing their clinical time. In primary care there is a socio-economic gradient in GPs, with the most deprived practices having on average 1.5 fewer FTE GPs per 10,000 patients than the least deprived (Figure 6). However, this is compensated in part by more nurses where practices in deprived areas have about 1.5 more FTE nurses than less deprived areas. Inequalities in the distribution of the workforce will lead to inequalities in the number of procedures, quality of care and clinical outcomes.

- We therefore recommend a system-wide workforce plan should be expedited, with recommendations for addressing geographic workforce imbalances. Further consideration of joint appointments between CUHFT, RPHFT, CPFT and NWAFT should be actively pursued.

## *2. Addressing inequalities through needs-based commissioning for outcomes*

Financial leverage is a key factor in addressing health inequalities. A recent study found that allocating NHS funding proportionate to need over a seven year period reduced inequalities in amendable mortality[41]. Currently general practices income is inversely proportionate to need, with the practices in the most deprived areas receiving less income than those in the least deprived. This makes it much harder for these practices to improve services and treatment targets.

[iii] Black, Asian, and Minority Ethnic
[iv] Standard Operating Procedure

### *a. Allocate discretionary funding proportionate to need*

To help close the health gap between the most affluent and disadvantaged areas of the CCG, there is a need to allocate greater resources to those areas with greatest need. Arguable this is a fairer distribution of resources, rather than allocating per head of population which does not take into account population need. Allocating based on need is in line with one of the six recommendations of the Marmot review which states that services should be accessible to all but the intensity of the service should be proportionate to need with the most disadvantaged receiving more resource. The Index of Multiple Deprivation is an objective, independent measure of deprivation and should be used, where appropriate, to allocate resources.

- We recommend allocating funding and resources based weighted for deprivation, such as the Index of Multiple Deprivation. This approach has already been used for the Diabetes Locally Enhanced Service and should be rolled out further.

### *b. Allocate elective care based on need*

The lockdown has created a large backlog of elective procedures. During the period from 23rd March to 5th May last year, there were 31,341 elective procedures of which, 25,740 were day case procedures. Assuming there is a similar number of procedures this year, there could be a backlog of about 25,000 day elective procedures and 6,000 inpatient elective admissions. Based on last year's data from across Cambridgeshire and Peterborough, we know that there is a substantial inequality in elective procedures. There is a risk that as elective services resume inequalities are further increased if patients in the south of the patch have better access to elective procedures.

- We recommend that the provision of elective care should be considered from a health system level, based on clinical need using objective prioritisation criteria

## *3. Addressing inequalities in cardiovascular disease through targeted action on hypertension and diabetes*

To prioritise health outcome inequalities, we recommend using the modelling by Lewer and colleagues published in the Lancet Public Health in 2019[v]. The authors estimate the excess mortality attributable to socio-economic inequalities based on Index of Multiple Deprivation for both the conditions with the strongest link to socio-economic status and the conditions with the largest overall impact. Based on this data for Cambridgeshire and Peterborough, the condition contributing most to inequalities is ischemic heart disease (Appendix 3).

Circulatory disease causes 42% of the inequality gap in life expectancy in Peterborough in men – our emphasis should start there. The inequality gap for cardiovascular disease premature mortality is greater than for any other major

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***[1] Lewer, Dan et al. Premature mortality attributable to socioeconomic inequality in England between 2003 and 2018: an observational study The Lancet Public Health, Volume 5, Issue 1, e33 - e41***

condition. This gap is driven by risk factors, such as smoking, hypertension and diabetes. In the Global Burden of Disease Study[42] hypertension was the cause of 11% of all years of life lost and second only to smoking.

### *a. Reduce inequalities in hypertension management in primary care*

The cost to NHS in England from conditions attributable to high blood pressure has been estimated to be £2 billion[43]. In Cambridgeshire and Peterborough STP, it is estimated that optimising treatment of patients with hypertension would prevent 150 heart attacks and 230 strokes over 3 years, with a combined health and care saving of £4.5 million over that period. The Cambridgeshire and Peterborough Prevention Strategy prioritises identifying the number of people with hypertension and improving their care and the CCG Hypertension Case for Change includes working with clinical pharmacists to carry out quality improvement projects, increased use of the CCG's new medicine service, promotion of patient self-monitoring, and also to work with the local 'Know Your Numbers' campaign and increase referrals to healthy lifestyle service providers.

- We recommend that in those five Early Adopter PCNs target identification of hypertension and other cardiovascular risk factors using ECLIPSE data with the aim of reducing the inequality gap in hypertension control by 50%; equivalent to an improvement from 76.1% to 78.6% in the most deprived practices.
- We recommend the use of primary care equity audits using ECLIPSE to identify the key health care inequalities in cardiovascular disease management for inequalities relating to socio-economic status and minority ethnic groups.

### *b. Reduce inequalities in diabetes care in primary care*

The Cambridgeshire and Peterborough STP Diabetes and Obesity Strategy identified addressing health inequalities as a key target. Early Adopter PCNs have been identified, with clinical leaders, and an introduction of Eclipse data with a management plan for call/recall of cases not achieving their three treatment targets.

- We recommend that the Diabetes Early Adopter sites are combined with cardiovascular initiatives to reduce the inequality gap in achievement of the diabetes three treatment targets by 50% whilst also improving the performance across the patch; this would mean supporting practices in the least deprived areas to increase achievement by 1.1% (from 39.0% to 40.1%) and practices in the most deprived areas by 4.4% (from 32.5% to 36.9%). The actions set out in the Diabetes and Obesity Strategy are targeted to reduce the inequality gap. Such support would require resource re-distribution for practices in more deprived areas. An example methodology of how such investment could be allocated according to deprivation is in Appendix 4.
- We recommend the use of primary care equity audits using ECLIPSE to identify the key health care inequalities in diabetes management for inequalities relating to socio-economic status and minority ethnic groups and inclusion groups that address the differences in their health outcomes

We have a moral, legal and economic imperative to address health inequalities across Cambridgeshire and Peterborough. Concerted action across the whole health care system is needed to help us improve the health of everyone while also reducing the inequality gaps that persist.

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# Appendix 1: Excess mortality due to socio-economic inequalities by major condition from 2003 -2018 for Cambridgeshire and Peterborough

| Condition | Expected deaths based on socio-economic profile | Observed deaths | Proportion of deaths due to inequalities | Number of deaths due to inequalities |
|---|---|---|---|---|
| Ischaemic heart disease | 2685 | 4060 | 34% | 1375 |
| COPD | 662 | 1450 | 54% | 789 |
| Cancers: respiratory | 1844 | 2803 | 34% | 959 |
| Drugs, alcohol and other or vehicle accidents | 764 | 1312 | 42% | 548 |
| Other cardiovascular | 867 | 1384 | 37% | 517 |
| Other external causes | 793 | 1118 | 29% | 325 |
| Nervous system | 1009 | 1320 | 24% | 311 |
| Other forms of heart disease | 529 | 786 | 33% | 258 |
| Other digestive diseases | 540 | 787 | 31% | 247 |
| Liver disease | 646 | 899 | 28% | 253 |
| Other respiratory | 387 | 593 | 35% | 206 |
| Flu & pneumonia | 413 | 631 | 35% | 219 |
| Stroke | 994 | 1247 | 20% | 253 |
| Neonatal | 298 | 427 | 30% | 129 |
| Cancers: other | 3460 | 3767 | 8% | 307 |
| Cancers: breast | 1180 | 1059 | -11% | -121 |
| Cancers: digestive | 3228 | 3479 | 7% | 251 |
| Cancers: lympoid/haematopoietic | 999 | 1090 | 8% | 92 |
| Cancers: female genital | 671 | 713 | 6% | 42 |
| Other | 1407 | 2380 | 41% | 973 |

Source; Lewer, Dan et al. Premature mortality attributable to socioeconomic inequality in England between 2003 and 2018: an observational study The Lancet Public Health, Volume 5, Issue 1, e33 - e41 and online tool here https://public.tableau.com/profile/rob.aldridge#!/vizhome/MATI_19_11_25/MATI_dashboard

# Appendix 2: Health inequalities metrics at PCN level

| Primary care network name | IMD Score 2019 | Male Life Expectancy 2015-2017 | Female Life Expectancy 2015-2017 | Mortality rate from preventable causes per 100,000 2016-2018* | Mortality rate from healthcare amenable causes per 100,000 2016 - 2018* | Cardiovascular mortality rate per 100,000, 2016-2018, under 75 years only* | Cancer mortality rate per 100,000, 2016-2018, under 75 years only* | Respiratory disease mortality rate per 100,000, 2016-2018, under 75 years only* | Rate of avoidable hospital admissions per 1,000, 2018-2019* | Rate of emergency hospital admissions per 1,000, 2018-2019, 0-4 years only* | Rate of emergency hospital admissions per 1,000, 2018 – 2019* | Rate of angiography hospital admissions per 100,000, 2016 – 2019* | Rate of emergency attendances per 100,000, 2018- 2019, 0-4 years only* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central & Thistlemoor | 35.0 | 79.9 | 84.0 | 187.6 | 123.7 | 101.0 | 123.8 | 26.3 | 21.3 | 169.3 | 92.8 | 248.9 | 618.9 |
| Octagon Wisbech | 32.1 | 78.2 | 82.8 | 217.6 | 155.0 | 87.3 | 150.0 | 47.9 | 27.6 | 206.3 | 125.6 | 146.1 | 615.7 |
| BMC Paston | 29.8 | 79.8 | 83.0 | 205.0 | 144.4 | 93.2 | 142.7 | 36.8 | 20.9 | 206.6 | 99.1 | 191.8 | 694.8 |
| Octagon North | 28.0 | 78.9 | 82.4 | 184.5 | 129.1 | 80.9 | 128.0 | 40.1 | 18.4 | 195.3 | 87.5 | 200.6 | 644.0 |
| Peterborough Partnerships | 27.9 | 79.5 | 82.9 | 182.9 | 125.7 | 87.8 | 158.3 | 38.2 | 20.6 | 183.4 | 94.9 | 193.0 | 768.6 |
| Fenland | 22.1 | 79.8 | 82.8 | 178.8 | 126.7 | 71.4 | 135.5 | 49.6 | 25.4 | 289.7 | 118.5 | 184.0 | 566.1 |
| Cambridge City | 19.9 | 78.3 | 81.7 | 183.7 | 118.9 | 77.4 | 119.1 | 24.7 | 21.3 | 67.3 | 99.4 | 222.5 | 470.1 |
| South Peterborough | 16.9 | 82.1 | 85.3 | 139.0 | 83.9 | 55.5 | 116.3 | 24.6 | 16.0 | 198.5 | 82.4 | 189.2 | 551.7 |
| South Fenland | 16.7 | 80.9 | 83.2 | 168.1 | 104.6 | 67.3 | 130.7 | 24.9 | 20.2 | 236.7 | 98.9 | 184.8 | 500.0 |
| Huntingdon | 15.9 | 79.7 | 82.6 | 163.8 | 106.6 | 69.5 | 123.5 | 42.5 | 23.1 | 262.4 | 107.6 | 138.3 | 425.0 |
| Ely North | 12.6 | 82.8 | 85.8 | 145.2 | 95.2 | 61.2 | 109.7 | 21.6 | 16.6 | 67.7 | 84.6 | 214.4 | 525.0 |
| Cantab | 12.5 | 83.9 | 86.1 | 104.4 | 73.2 | 45.4 | 71.9 | 18.0 | 13.4 | 56.7 | 63.2 | 156.6 | 417.0 |
| Ely South | 12.0 | 82.5 | 86.3 | 154.5 | 104.2 | 75.3 | 100.9 | 20.7 | 16.0 | 96.8 | 78.0 | 209.8 | 479.3 |
| Cambridge City 4 | 11.8 | 81.3 | 83.5 | 151.9 | 101.0 | 51.9 | 135.2 | 23.2 | 17.1 | 76.5 | 81.7 | 225.8 | 487.4 |
| St Neots | 11.7 | 81.5 | 84.6 | 146.1 | 92.4 | 55.2 | 132.7 | 32.4 | 19.8 | 182.4 | 96.8 | 133.9 | 373.3 |
| Cam Medical | 11.3 | 84.4 | 87.4 | 98.5 | 62.2 | 35.3 | 98.6 | 17.3 | 12.3 | 68.7 | 96.8 | 135.3 | 474.9 |
| A1 Network | 10.4 | 82.6 | 85.7 | 114.1 | 63.9 | 39.5 | 96.1 | 15.3 | 16.7 | 231.4 | 60.1 | 123.8 | 374.1 |
| St Ives | 10.0 | 83.7 | 86.6 | 103.2 | 58.4 | 39.6 | 92.3 | 15.1 | 18.8 | 223.8 | 90.2 | 122.8 | 370.3 |
| Meridian | 8.4 | 83.7 | 86.3 | 111.0 | 58.8 | 39.6 | 97.7 | 17.6 | 14.4 | 72.4 | 75.2 | 192.6 | 402.1 |
| Granta | 8.3 | 83.1 | 86.6 | 115.9 | 72.2 | 35.6 | 97.8 | 18.0 | 13.5 | 62.5 | 67.7 | 197.8 | 451.6 |
| Cambs Northern Villages | 7.9 | 82.6 | 85.6 | 109.2 | 73.3 | 45.4 | 103.4 | 23.0 | 14.9 | 83.9 | 78.1 | 188.9 | 454.9 |

*Directly age standardised rate

| Primary care network name | IMD Score 2019 | Obesity Prevalence (%), 2018-19, 18+ only | Patients with type 2 diabetes who meet all 3 treatment targets, 2018-19 (%) | Patients with hypertension in whom last blood pressure reading (in preceding 12 months) is 150/90 mmHg or less, 2018-19 (%) | Proportion describing GP Experience as 'Very Good' or 'Fairly Good' in National GP Survey 2019 | Proportion describing GP Booking Experience as 'Very Good' or 'Fairly Good' in National GP Survey 2019 |
|---|---|---|---|---|---|---|
| Central & Thistlemoor | 35.0 | 8.4 | 42.1 | 82.9 | 82.5 | 79.1 |
| Octagon Wisbech | 32.1 | 12.2 | 31.1 | 79.2 | 83.0 | 69.4 |
| BMC Paston | 29.8 | 15.6 | 32.5 | 81.7 | 77.9 | 61.4 |
| Octagon North | 28.0 | 10.3 | 30.6 | 80.9 | 76.0 | 63.0 |
| Peterborough Partnerships | 27.9 | 8.9 | 32.7 | 79.4 | 73.3 | 65.7 |
| Fenland | 22.1 | 13.8 | 37.2 | 82.2 | 82.3 | 67.4 |
| Cambridge City | 19.9 | 7.4 | 36.4 | 80.3 | 84.3 | 72.1 |
| South Peterborough | 16.9 | 9.5 | 35.8 | 80.3 | 81.8 | 63.3 |
| South Fenland | 16.7 | 13.8 | 34.6 | 78.4 | 80.7 | 71.0 |
| Huntingdon | 15.9 | 9.9 | 33.4 | 89.5 | 86.7 | 73.9 |
| Ely North | 12.6 | 10.3 | 37.5 | 86.2 | 91.4 | 77.8 |
| Cantab | 12.5 | 3.3 | 37.3 | 86.4 | 84.9 | 75.8 |
| Ely South | 12.0 | 9.7 | 39.7 | 83.2 | 87.0 | 76.7 |
| Cambridge City 4 | 11.8 | 5.3 | 39.8 | 80.5 | 82.1 | 72.5 |
| St Neots | 11.7 | 8.1 | 32.2 | 82.3 | 80.6 | 64.8 |
| Cam Medical | 11.3 | 2.7 | 37.4 | 84.5 | 86.5 | 88.8 |
| A1 Network | 10.4 | 8.3 | 32.6 | 85.9 | 92.0 | 84.5 |
| St Ives | 10.0 | 8.2 | 33.0 | 82.1 | 90.0 | 79.9 |
| Meridian | 8.4 | 6.6 | 40.4 | 84.7 | 90.6 | 77.3 |
| Granta | 8.3 | 8.8 | 39.4 | 81.6 | 85.6 | 64.4 |
| Cambs Northern Villages | 7.9 | 7.1 | 39.7 | 84.3 | 88.3 | 75.8 |

# Appendix 3: Excess mortality due to socio-economic inequalities by major condition from 2003 -2018 for Cambridgeshire and Peterborough

| Condition | Expected deaths based on socio-economic profile | Observed deaths | Proportion of deaths due to inequalities | Number of deaths due to inequalities |
|---|---|---|---|---|
| Ischaemic heart disease | 2685 | 4060 | 34% | 1375 |
| COPD | 662 | 1450 | 54% | 789 |
| Cancers: respiratory | 1844 | 2803 | 34% | 959 |
| Drugs, alcohol and other or vehicle accidents | 764 | 1312 | 42% | 548 |
| Other cardiovascular | 867 | 1384 | 37% | 517 |
| Other external causes | 793 | 1118 | 29% | 325 |
| Nervous system | 1009 | 1320 | 24% | 311 |
| Other forms of heart disease | 529 | 786 | 33% | 258 |
| Other digestive diseases | 540 | 787 | 31% | 247 |
| Liver disease | 646 | 899 | 28% | 253 |
| Other respiratory | 387 | 593 | 35% | 206 |
| Flu & pneumonia | 413 | 631 | 35% | 219 |
| Stroke | 994 | 1247 | 20% | 253 |
| Neonatal | 298 | 427 | 30% | 129 |
| Cancers: other | 3460 | 3767 | 8% | 307 |
| Cancers: breast | 1180 | 1059 | -11% | -121 |
| Cancers: digestive | 3228 | 3479 | 7% | 251 |
| Cancers: lympoid/haematopoietic | 999 | 1090 | 8% | 92 |
| Cancers: female genital | 671 | 713 | 6% | 42 |
| Other | 1407 | 2380 | 41% | 973 |

Source; Lewer, Dan et al. Premature mortality attributable to socioeconomic inequality in England between 2003 and 2018: an observational study The Lancet Public Health, Volume 5, Issue 1, e33 - e41 and online tool here https://public.tableau.com/profile/rob.aldridge#!/vizhome/MATI_19_11_25/MATI_dashboard

# Appendix 4: Allocating proportionate to need

3. How to measure need – Index of Multiple Deprivation 2019

- There are several different ways of measuring "need", such as disease burden or health care use. However, these can miss undiagnosed disease or reflect health system behaviour rather than the underlying need. The latest Index of Multiple Deprivation (IMD) data published for 2019 is produced independently by the Ministry of Housing Communities & Local Government and reflects seven different domains of place-based deprivation.
- The IMD is published every 4-5 years, with the latest version published in 2019. The seven domains are income, employment, education, health, crime, barriers to housing and services and living environment. Income and employment make up 45% of the index, with health 13.5%.
- The health domain is made of four indicators:
    - Years of potential life lost: An age and sex standardised measure of premature death defined as death before the age of 75 from any cause (27.1% contribution)
    - Comparative illness and disability ratio: An age and sex standardised morbidity/disability ratio based on those receiving benefits due to inability to work through ill health (30% contribution)
    - Acute morbidity: An age and sex standardised rate of emergency admission to hospital (25.6% contribution)
    - Mood and anxiety disorders: A composite based on the rate of adults suffering from mood and anxiety disorders, derived from hospital episodes data, prescribing data and suicide mortality data (17.2% contribution)
- A score and rank are given to each Lower Super Output Area in England (geographic areas of about 1,500 population).

4. How to allocate proportionate to need

There are three key discussion points on how to allocate funding to PCNs:

- Should funding be weighted by PCN population size or not?
    - Each PCN could be allocated the same funding irrespective of size or we could give larger PCNs proportionally more and smaller PCNs less. The smallest PCN is about 30,000 and the largest about 94,000 therefore weighting based on population size makes a considerable difference.
    - If population size is not considered, the difference per head of population varies by over £1 between the largest and smallest PCN (from £0.51 per head in the largest PCN to £1.57 in the smallest)

- Should total IMD or just the health domain be used?
    - There are arguments for both; total IMD takes into account the factors which drive health and health inequalities such as the employment, education and living environment, but the health domain more accurately reflects the health needs of the population. Here we propose

that the total IMD score is used because there is only a small variation in health domain scores across PCNs meaning that, if we use health domain alone, any allocation is mostly driven by PCN size rather than need.
    - The difference between using only PCN size and PCN size with health domain scores results in only an additional £4.5k for the most deprived PCN and £4k less for the most affluent PCN.
    - We should note that one issue with the IMD score is that two areas can have a similar IMD score, but deprivation may look different. For example, a rural and urban area with the same deprivation score may have a different deprivation profile. This may in turn effect issues such as recruitment of health care staff in rural deprived areas, compared to urban deprived areas.

- Should individual scores or ranks be used?
    - Scores are more sensitives than ranks because small differences in scores can result in big differences in ranks.
    - For example, the difference in IMD score between Meridian and Granta PCNs is 0.1 and they are ranked 1 place apart. However, the IMD score difference between Peterborough Partnerships and Fenland PCNs is 5.8, but are also ranked 1 place apart.

The calculation is as follows using IMD score weighted by population as an example.

- First, each individual patient in their respective PCN is allocated a score based on the IMD for that PCN.
- These are then totalled across all patients from all PCNs to give the total burden for all patients.
- Then to calculate the proportion of available resource to allocate to a certain PCN, an IMD score is once again allocated to each individual in a given PCN, added together to give a total burden for each PCN and this is divided by the total burden for all PCNs to give a proportion.
- The PCN is then allocated this proportion of funding from the total available.
- This can also be expressed in the following formula

$$a = \frac{b_z \times c_z}{\sum(a_i \times b_i)} \times d$$

$a$ = allocation for PCN ‘z’
$b_z$ = population for PCN ‘z’
$c_z$= IMD score for PCN ‘z’

$\sum(a_i \times b_i)$ = sum of all PCN populations multiplied by their IMD scores
$d$ = total funding available

5. Example of how allocating proportionate to need would impact on a hypothetical £1million fund

Here we use a **hypothetical** total fund of £1million to illustrate the differences.

- Based on the above, the best option appears to weight according to PCN population size (decision 1), use the total IMD rather than health domain (decision 2) and use score rather than the rank (decision 3).
- The table shows the difference between using this method and what we do currently which is allocating funds weighted by population size with a total resource allocation of £1million.

*Table 2: Allocation by PCN according to deprivation using different indices to weight the allocation*

| PCN Name | Total Registered Population Apr'19 | Index of Multiple Deprivation 2019 Score | Health domain of IMD 2019* | CURRENT Allocation just weighted on PCN size | | PROPOSED Allocation based on IMD score and population | |
|---|---|---|---|---|---|---|---|
| | | | | Total | Per head | Total | Per head |
| Central and Thistlemoor | 38,286 | 35.0 | 10.6 | £38,924 | £1.02 | £77,832 | £2.03 |
| Octagon Wisbech | 50,424 | 32.1 | 10.7 | £51,265 | £1.02 | £94,093 | £1.87 |
| BMC Paston | 39,588 | 29.8 | 10.5 | £40,248 | £1.02 | £68,569 | £1.73 |
| Octagon North | 94,011 | 28.0 | 10.4 | £95,579 | £1.02 | £153,227 | £1.63 |
| Peterborough Partnerships | 40,356 | 27.9 | 10.4 | £41,029 | £1.02 | £65,349 | £1.62 |
| Fenland | 30,444 | 22.1 | 10.4 | £30,952 | £1.02 | £39,040 | £1.28 |
| Cambridge City | 50,456 | 19.9 | 9.9 | £51,297 | £1.02 | £58,265 | £1.15 |
| South Peterborough | 67,343 | 16.9 | 9.8 | £68,466 | £1.02 | £66,153 | £0.98 |
| South Fenland | 30,355 | 16.7 | 9.9 | £30,861 | £1.02 | £29,394 | £0.97 |
| Huntingdon | 43,760 | 15.9 | 9.7 | £44,490 | £1.02 | £40,344 | £0.92 |
| Ely North | 37,855 | 12.6 | 9.1 | £38,486 | £1.02 | £27,783 | £0.73 |
| Cantab | 49,998 | 12.5 | 9.4 | £50,832 | £1.02 | £36,231 | £0.72 |
| Ely South | 36,634 | 12.0 | 9.1 | £37,245 | £1.02 | £25,504 | £0.70 |
| Cambridge City 4 | 56,400 | 11.8 | 9.4 | £57,341 | £1.02 | £38,616 | £0.68 |
| St. Neots | 53,511 | 11.7 | 9.3 | £54,403 | £1.02 | £36,371 | £0.68 |
| Cam Medical | 46,457 | 11.3 | 8.9 | £47,232 | £1.02 | £30,407 | £0.65 |
| A1 Network | 33,329 | 10.4 | 9.2 | £33,885 | £1.02 | £20,198 | £0.61 |
| St. Ives | 46,191 | 10.0 | 9.2 | £46,961 | £1.02 | £26,740 | £0.58 |
| Meridian | 48,323 | 8.4 | 8.9 | £49,129 | £1.02 | £23,624 | £0.49 |
| Granta | 43,001 | 8.3 | 8.8 | £43,718 | £1.02 | £20,629 | £0.48 |
| Cambs Northern Villages | 46,875 | 7.9 | 8.9 | £47,657 | £1.02 | £21,628 | £0.46 |

## Appendix 4

### Health Equity in England. The Marmot Report 10 years on

https://www.health.org.uk/sites/default/files/upload/publications/2020/Health%20Equity%20in%20England_The%20Marmot%20Review%2010%20Years%20On_full%20report.pdf

**Summary of recommendations**

**Recommendations for Giving Every Child the Best Start in Life:**

- Increase levels of spending on early years and as a minimum meet the OECD average and ensure allocation of funding is proportionately higher for more deprived areas.
- Reduce levels of child poverty to 10 percent – level with the lowest rates in Europe.
- Improve availability and quality of early years services, including Children's Centres, in all regions of England.
- Increase pay and qualification requirements for the childcare workforce.

**Recommendations for Enabling all Children, Young People and Adults to Maximise their Capabilities and Have Control over their Lives**

- Put equity at the heart of national decisions about education policy and funding.
- Increase attainment to match the best in Europe by reducing inequalities in attainment.
- Invest in preventative services to reduce exclusions and support schools to stop off-rolling pupils.
- Restore the per-pupil funding for secondary schools and especially sixth form, at least in line with 2010 levels and up to the level of London (excluding London weighting).

**Recommendations for Creating Fair Employment and Good Work for All**

- Invest in good quality active labour market policies and reduce conditionalities and sanctions in benefit entitlement, particularly for those with children.
- Reduce in-work poverty by increasing the National Living Wage, achieving a minimum income for healthy living for those in work.
- Increase the number of post-school apprenticeships and support in-work training throughout the life course.
- Reduce the high levels of poor quality work and precarious employment.

**Recommendations for Ensuring a Healthy Standard of Living for All**

- Ensure everyone has a minimum income for healthy living through increases to the National Living Wage and redesign of Universal Credit.
- Remove sanctions and reduce conditionalities in welfare payments.

• Put health equity and wellbeing at the heart of local, regional and national economic planning and strategy.

• Adopt inclusive growth and social value approaches nationally and locally to value health and wellbeing as well as, or more than, economic efficiency.

• Review the taxation and benefit system to ensure it achieves greater equity and ensure effective tax rates are not regressive.

**Recommendations to Create Healthy and Sustainable Places and Communities**

• Invest in the development of economic, social and cultural resources in the most deprived communities

• 100 percent of new housing is carbon neutral by 2030, with an increased proportion being either affordable or in the social housing sector

• Aim for net zero carbon emissions by 2030 ensuring inequalities do not widen as a result

**Recommendations for taking action**

• Develop a national strategy for action on the social determinants of health with the aim of reducing inequalities in health.

• Ensure proportionate universal allocation of resources and implementation of policies.

• Early intervention to prevent health inequalities.

• Develop the social determinants of health workforce.

• Engage the public.

• Develop whole systems monitoring and strengthen accountability for health inequalities

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