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# **Health and Social Inequalities relating to the Covid-19 Pandemic**

Health and Wellbeing Scrutiny Commission

Date: 20 January 2021

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## Useful information

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### 1. Purpose of report

The purpose of this paper is to provide members of the Leicester Health and Wellbeing Scrutiny Commission with an overview of the health and social inequalities related to the covid-19 pandemic.

### 2. Report Summary

#### 2.1 Background and context

Analysis undertaken by Public Health England (PHE) in their 2020 report "Disparities in the risks and outcomes of COVID-19," [1] confirms that older people, males, people from deprived backgrounds and people from Black and Minority Ethnic (BAME) backgrounds are more likely to die with COVID-19.

The reason for this inequity is complex and involves a combination of economic and social drivers such as lifestyle and behaviour (involving work or leisure) and psychosocial factors that influence health seeking/supportive behaviour. In addition, genetic susceptibility and historical context need to be considered. The precise contribution of these elements to the risk of acquiring COVID19 and subsequent adverse outcomes is the subject of ongoing research, however early findings suggest that genetics may have a smaller contribution to overall risk than other elements.

The additional health burden of COVID-19 is of particular concern locally given the diversity and deprivation experienced by the population of Leicester.

Leicester City public health team address local health inequalities by applying theoretically informed and targeted interventions to the community served. The team provide detailed reports on local population health through the local Joint Strategic Needs Assessments (JSNA). The JSNA provides information by demographic information to allow ongoing analysis of inequalities locally.

Whilst the genetic contribution and scale of community infection of COVID-19 is still being established, public health are in a position to advise and support services to mitigate social determinants that impact the most vulnerable in society.

Due to the scale and impact of the COVID-19 pandemic on communities, it is a critical time to establish a comprehensive local approach to addressing inequalities. The last decade of fiscal policy has exacerbated health inequalities for certain groups in society. This can be seen in higher rates of obesity, cardiovascular disease, poor mental health, employment and housing.

The emergence of COVID-19 carries the potential to create larger divides in society that can further impact the overall health the population. By taking a place-based whole-system approach to tackling inequalities, public health can provide meaningful support to a range of service areas working to support the health of the local population.

## **2.2 Measuring Health and Social Inequalities**

“Health is a state of well-being with physical, cultural, psychosocial, economic and spiritual attributes, not simply the absence of illness.” [2]

As described above there are a complex range of factors that influence health, each of which affects people to differing degrees depending on their experience. When discussing ‘inequalities’ people tend to use domains such as age, gender, ethnic group and ‘deprivation’ to derive meaning. Which domain to use when describing inequalities depends upon what data is available, how complete that data is and what influence that information potentially carries.

“Health inequalities are avoidable and unfair differences in health status between groups of people or communities” [3]

In recent years evidence relating to social determinants of health is improving the way we understand factors (such as poor housing condition) and the amount they contribute to morbidity and mortality in the population. The nature of clinical treatment means the influence of physical factors on health is more well-established in the literature, although for an emerging disease such as COVID-19 much of the evidence is yet to be found.

One of the most commonly used composite measures of ‘deprivation’ at a small area-level is the Indices of Multiple Deprivation (IMD) which calculates an overall relative score of 7 domains<sup>1</sup>. Using the IMD measure, the latest healthy life expectancy data shows that people living in the most deprived areas in England live on average 19 more years in poor health than people living in the least deprived areas. Healthy life expectancy also differs by gender, ethnic group and by region. People from non-White British backgrounds are significantly more likely to live in more deprived areas and females living in the most deprived areas nationally had a significant reduction in healthy life expectancy between 2012-2017. [4] Around half of the gap in total life expectancy between people living in the most and the least deprived areas can be attributed to deaths from heart disease, cancer and stroke, the driving factors of which are predominantly lifestyle and behaviour-related (despite certain ethnic groups having a genetic predisposition to certain forms of disease). [5]

Reducing health inequalities is a fundamental part of the role of public health. [6] The COVID- 19 pandemic is exacerbating existing health inequalities which have been widening in the last decade. [4] The confounding effect of multiple (often interdependent) factors that influence health highlights the importance of taking a system-wide approach to address inequalities. [7] Public Health England (PHE) produced guidance on using place-based approaches to reduce health inequalities in recognition that each local area faces different causes of health inequalities and will have different assets available to them. [8]

## 2.3 The PHE Disparity Report [1]

The recent descriptive review of evidence from PHE outlines the disparities in risk and outcomes of COVID-19 patients in England. Where possible the report adjusted data analysis to account for potentially confounding factors; a summary of the factors accounted for in the analysis is included in Appendix 1. The majority of the analysis was adjusted to account for age, gender, ethnic group and deprivation of patients which presents a more informed picture of the people most affected by COVID-19. Despite the adjusted analysis, some key elements were not able to be considered (often due to a lack of data), these include occupation and the presence of comorbidities. Occupation and comorbidities will be discussed in greater depth later in this section to outline why these factors are important considerations in the management and mitigation of infectious disease.

### 2.3.1 Headline results

Men are just as likely as women to be diagnosed with Covid-19 but are more likely to die and be admitted to intensive care than women (if they are hospitalised with the disease). This is particularly evident for people of working age (20-64), where men are twice as likely to die than women.

The risk of dying from COVID-19 increases with age, people aged 80+ who test positive are seventy times more likely to die than people under 40.

Cases tend to cluster in urban areas where there are high levels of deprivation.

Excess deaths (not due to COVID-19) are already higher in more deprived areas, although differences (between the most and least deprived) are even greater when looking at deaths caused by COVID-19. This shows elements of 'deprivation' (such as those covered by IMD 2015) are likely to be influencing the health outcomes observed in people with COVID-19.

Survival among confirmed cases, after adjusting for sex, age group, ethnicity and region was lower in the most deprived areas, particularly among those of working age where the risk of death was almost double the least deprived areas.

People who are not from a White ethnic background are more likely to be diagnosed with and die as a result of COVID-19. The risk of death is higher in all people from non-White backgrounds, but after adjusting for sex, age group and region this is particularly true for Bangladeshi people.

Some occupational groups may be more exposed to the virus than others. The PHE report identifies the professional groups that are seeing the highest number of deaths from COVID-19 are 'Road Transport Drivers', 'Caring Personal Services' and those in 'Elementary Security Occupations'<sup>2</sup> (Appendix 2). These professions report the highest absolute *number* of deaths from COVID-19 and deaths from 'all causes' is also higher than previous years. These absolute numbers are not adjusted for confounding variables and should be interpreted with caution.

Detailed occupation information shows the highest number of COVID-19 deaths are seen in public-facing and support roles.

The roles that are of particular interest in managing the impact of COVID-19 are; taxi/cab drivers; security guards and nursing auxiliaries/ assistants [here, the number of COVID-19 related deaths are high but there is also a significant rise in total deaths in 2020 compared to previous years].

*Table 1: Highest number of COVID-19 deaths by detailed occupation category*

<b>Detailed profession</b>	<b>Number of COVID-19 deaths</b>
Care workers and home carers	169
Taxi and cab drivers and chauffeurs	122
Security guards and related occupations	100
Sales and retail assistants	86
Nurses	81
Cleaners and domestics	78
Van drivers	57
Elementary storage occupations	54
Large goods vehicle drivers	52
Nursing auxiliaries and assistants	51

Note: 369 job roles listed, 143 recorded with a COVID-19 death

The occupations experiencing the highest numbers of deaths from COVID-19 (listed in Table 1 above), tend to be roles at the lower end of the pay scale where practical and physical elements of work form part of the role. This introduces the possibility of confounding where, for example, staff earning less money could be more likely to use public transport or depend upon public services that could increase their risk of exposure to the virus. In addition, there are associations between relative deprivation and many of the other factors that may increase risk of severe COVID, for example, age, ethnicity and comorbidities. The majority of roles in Table 1 also have gendered elements to them (security and driving being male dominated, whereas females predominantly undertake caring and cleaning roles); this could be confounding some of the trends observed by gender.

PHE advise that by using a place-based approach to tackle inequalities locally, the complexity of confounding factors relating to workplace health and wellbeing can be more robustly tackled. This enables a more holistic approach that can combat inequalities in the risks associated with COVID-19 as well as well as other wider determinants of health.

Analysis of different comorbidities mentioned on COVID-19 death certificates identified a higher proportion that mentioned diabetes, hypertension, chronic kidney disease, chronic obstructive pulmonary disease and dementia than would have been expected.

The proportion of COVID-19 death certificates that also mentioned diabetes was significantly higher in the most deprived. In addition, both diabetes and hypertensive disease were more commonly mentioned on death certificates of Black and Asian groups compared with White groups.

The relationship between inequalities in chronic ill-health, deprivation and ethnicity is complex and inter-related. Further understanding is needed but optimising the control of known comorbidities in the population as a whole appears to be important.

There have also been a number of reports that have investigated the association between BMI and the risks associated with COVID-19. There is growing evidence that there is a small increase in the risk of death with COVID-19 in those with a BMI above 30, and this becomes particularly apparent with a BMI above 40.

Again, there is a complex inter-relatedness between obesity, comorbidities and ethnicity, but studies controlling for demographics and other health conditions suggest that obesity is a potential risk factor in its own right.

## **2.4 Inequalities in Leicester City**

Leicester's population is relatively young compared with England; a third of all city households include dependent children, 20% of Leicester's population (72,600) are aged 20- 29 years old (13% in England) and 12% of the population (42,300) are aged over 65 (18% in England). The large proportion of younger people in Leicester reflects the student population attending Leicester's two universities and inward migration to the city.

Almost half of Leicester's residents classify themselves as belonging to an ethnic group that is not White. Leicester has one of the country's largest Asian communities (37% of the population), with 28% of all residents defining themselves as of Indian heritage. At 3.8%, Leicester's African community is a notably larger proportion of the population than that for England (1.8%).

In 2011, 9% of city residents were providing unpaid care (30,965). Of this group, over two-fifths (43%) were giving 20 or more hours care a week (13,462). Some of these people are young carers. The level of unpaid caregiving in the city is lower than that in the East Midlands region (11%) and England (10%). This is due, in part, to the relatively youthful age profile of Leicester, for example, 6% fewer older people households than regional and national averages. The Leicester Health and Wellbeing Survey 2018 showed that 13% of residents look after a family member, partner or friend who needs help because of their illness, frailty or disability.

At the time of the Census (2011), 58% of Leicester's population aged 16 and over was economically active, 35% economically inactive (retired, students, looking after home/family or long-term sick) and 6% unemployed. A lower proportion of Leicester's population are economically active compared with England (66%).

Over half (53.9%) of those aged 16 and over who work in Leicester also live in Leicester, and just under half (46.1%) who work in Leicester live outside of the city.

Leicester has a high level of deprivation compared to England and is ranked 32<sup>nd</sup> out of 317 local authority areas in England, on the 2019 national Index of Deprivation (where 1 is worst). In Leicester, 39 lower super output areas are in

the 10% most deprived in the country. 35% of Leicester's population live in the most deprived 20% of areas in England and a further 37% live in the 20-40% most deprived areas. Only 2% of the Leicester population live in the 20% least deprived areas. [9]

## **2.5 Conclusion**

Inequalities in COVID-19 can be seen by age, sex, deprivation, ethnicity, occupation and comorbidities. The picture is complicated as many of these factors are interdependent and the evidence base is still growing. What is known is that these inequalities are not new and those seen in COVID-19 appear to mirror the pattern of inequalities seen in health in general. A defined programme of work is required to measure the specific impact of Covid-19 on the health and wellbeing of the population of Leicester. This programme of work will articulate the impact of the pandemic on health and social inequalities and recommend mitigations to address these inequalities. A whole system approach will be needed to address the underlying causes of social inequality and improve health equity going forward.

## **3. Recommendations**

3.1 Scrutiny members are asked to:

- Note the content of this report
- Support the ongoing programme of work to identify and address the impact of covid-19 on health and social inequalities across Leicester
- Receive an update on the inequality impact of Covid 19 on the local population

## **4. Financial, Legal and other implications**

Financial, Legal, Climate Change and Carbon Reduction Implications

None

Equalities implications

This report is concerned with equalities implications throughout.

## 5. Supporting information / appendices

### 5.1 References

1. Public Health England, "Disparities in the risks and outcomes of COVID-19," Public Health England, 2020.
2. D. F. Mark, M. Murray and E. V. Estacio, Health psychology: Theory, research and practice (5th Edition), London: SAGE, 2018.
3. Public Health England, "What do PHEs latest inequality tools tell us about inequalities in England?," PHE, 18 June 2019. [Online]. Available: <https://publichealthmatters.blog.gov.uk/2019/06/18/what-do-phes-latest-inequality- tools-tell-us-about-health-inequalities-in-england/>. [Accessed May 2020].
4. Institute of Health Equity, "Marmot Review 10 Years On," 2020.
5. Public Health England, "Health Profile for England: Chapter 5: inequity in health," July 2017. [Online]. Available: <https://www.gov.uk/government/publications/health-profile- for-england/chapter-5-inequality-in-health>. [Accessed May 2020].
6. Public Health England, "About Us," 2020. [Online]. Available: <https://www.gov.uk/government/organisations/public-health-england/about>. [Accessed 1 June 2020].
7. Public Health England, "Understanding health inequalities in England," July 2017. [Online]. Available: <https://publichealthmatters.blog.gov.uk/2017/07/13/understanding- health-inequalities-in-england/>. [Accessed May 2020].
8. Public Health England, "Health inequalities: place-based approaches to reduce inequalities. Guidelines to support local action on health inequalities," 2019.
9. Leicester City Public Health ICE Team, "Living in Leicester Adults JSNA Chapter," Leicester City Public Health Team, 2020.

## 5.2 Appendix 1.

### Variables considered in the analysis used in the PHE disparities report.

	Age	Sex	Geography	Deprivation	Ethnicity	Occupation (HCW)	Occupation (all)	Diabetes	Hypertensive disease
Cores	Age Sex Ethnicity Deprivation Region Occupation Comorbidity Obesity	Age Sex Ethnicity Deprivation Region Occupation Comorbidity Obesity	Age Sex Ethnicity Deprivation Region Occupation Comorbidity Obesity	Age Sex Ethnicity Deprivation Region Occupation Comorbidity Obesity	Age Sex Ethnicity Deprivation Region Occupation Comorbidity Obesity	Age Sex Ethnicity Deprivation Region Occupation Comorbidity Obesity	Not discussed	Not discussed	Not discussed
Hospitalisations	Age Sex Ethnicity Deprivation Region Occupation Comorbidity Obesity	Age Sex Ethnicity Deprivation Region Occupation Comorbidity Obesity	Age Sex Ethnicity Deprivation Region Occupation Comorbidity Obesity	Age Sex Ethnicity Deprivation Region Occupation Comorbidity Obesity	Age Sex Ethnicity Deprivation Region Occupation Comorbidity Obesity	Not discussed	Not discussed	Not discussed	Not discussed
Mortality	Age Sex Ethnicity Deprivation Region Occupation Comorbidity Obesity	Age Sex Ethnicity Deprivation Region Occupation Comorbidity Obesity	Age Sex Ethnicity Deprivation Region Occupation Comorbidity Obesity	Age Sex Ethnicity Deprivation Region Occupation Comorbidity Obesity	Age Sex Ethnicity Deprivation Region Occupation Comorbidity Obesity	Not Discussed	Age Sex Ethnicity Deprivation Region Occupation Comorbidity Obesity	Age Sex Ethnicity Deprivation Region Occupation Comorbidity Obesity	Age Sex Ethnicity Deprivation Region Occupation Comorbidity Obesity
Survival analysis	Age Sex Ethnicity Deprivation Region Occupation Comorbidity Obesity	Age Sex Ethnicity Deprivation Region Occupation Comorbidity Obesity	Age Sex Ethnicity Deprivation Region Occupation Comorbidity Obesity	Age Sex Ethnicity Deprivation Region Occupation Comorbidity Obesity	Age Sex Ethnicity Deprivation Region Occupation Comorbidity Obesity	Not discussed	Not discussed	Not discussed	Not discussed

Green = adjusted for  
 Red = not adjusted for  
 Black = Not applicable

### 5.3 Appendix 2

The professional groups (according to the [ONS Standard Occupational Classification 2010](#)) that are seeing the highest number of deaths from COVID-19 are 'Road Transport Drivers', 'Caring Personal Services' and those in 'Elementary Security Occupations'. These professions report the highest absolute *number* of deaths from COVID-19 and deaths from 'all causes' is also higher than previous years. [10]

#### Road Transport Drivers

Large goods vehicle drivers

Van drivers

Bus and coach drivers

Taxi and cab drivers and chauffeurs

Driving instructors

#### Caring Personal Services

Nursing auxiliaries and assistants

Ambulance staff (excluding paramedics)

Dental nurses

Houseparents and residential wardens

Care workers and home carers

Senior care workers

Care escorts

Undertakers, mortuary and crematorium assistants

#### Elementary Security Occupations

Security guards and related occupations

Parking and civil enforcement occupations

School midday and crossing patrol occupations

Elementary security occupations n.e.c.

**6. Is this a private report (If so, please indicated the reasons and state why it is not in the public interest to be dealt with publicly)?**

No

**7. Is this a "key decision"?**

No

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