



Public Health
England

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Disparities in the risk and outcomes of COVID-19

Executive summary

This is a descriptive review of data on disparities in the risk and outcomes from COVID-19. This review presents findings based on surveillance data available to PHE at the time of its publication, including through linkage to broader health data sets. It confirms that the impact of COVID-19 has replicated existing health inequalities and, in some cases, has increased them. These results improve our understanding of the pandemic and will help in formulating the future public health response to it.

The largest disparity found was by age. Among people already diagnosed with COVID-19, people who were 80 or older were seventy times more likely to die than those under 40. Risk of dying among those diagnosed with COVID-19 was also higher in males than females; higher in those living in the more deprived areas than those living in the least deprived; and higher in those in Black, Asian and Minority Ethnic (BAME) groups than in White ethnic groups. These inequalities largely replicate existing inequalities in mortality rates in previous years, except for BAME groups, as mortality was previously higher in White ethnic groups. These analyses take into account age, sex, deprivation, region and ethnicity, but they do not take into account the existence of comorbidities, which are strongly associated with the risk of death from COVID-19 and are likely to explain some of the differences.

When compared to previous years, we also found a particularly high increase in all cause deaths among those born outside the UK and Ireland; those in a range of caring occupations including social care and nursing auxiliaries and assistants; those who drive passengers in road vehicles for a living including taxi and minicab drivers and chauffeurs; those working as security guards and related occupations; and those in care homes. These analyses do not take into account the existence of comorbidities, which are strongly associated with the risk of death from COVID-19 and could explain some of these differences.

When this data was analysed, the majority of testing had been offered to those in hospital with a medical need. Confirmed cases therefore represent the population of people with severe disease, rather than all of those who get infected. This is important because disparities between diagnoses rates may reflect differences in the risk of getting the infection, in presenting to hospital with a medical need and in the likelihood of being tested.

Some analyses outlined in this review are provisional and will continue to be improved. Further work is planned to obtain, link and analyse data that will complement these analyses.

Deprivation

People who live in deprived areas have higher diagnosis rates and death rates than those living in less deprived areas. The mortality rates from COVID-19 in the most deprived areas were more than double the least deprived areas, for both males and females. This is greater than the inequality seen in mortality rates in previous years, indicating greater inequality in death rates from COVID-19.

High diagnosis rates may be due to geographic proximity to infections or a high proportion of workers in occupations that are more likely to be exposed. Poor outcomes from COVID-19 infection in deprived areas remain after adjusting for age, sex, region and ethnicity, but the role of comorbidities requires further investigation.

Ethnicity

People from Black ethnic groups were most likely to be diagnosed. Death rates from COVID-19 were highest among people of Black and Asian ethnic groups. This is the opposite of what is seen in previous years, when the mortality rates were lower in Asian and Black ethnic groups than White ethnic groups. Therefore, the disparity in COVID-19 mortality between ethnic groups is the opposite of that seen in previous years.

An analysis of survival among confirmed COVID-19 cases and using more detailed ethnic groups, shows that after accounting for the effect of sex, age, deprivation and region, people of Bangladeshi ethnicity had around twice the risk of death than people of White British ethnicity. People of Chinese, Indian, Pakistani, Other Asian, Black Caribbean and Other Black ethnicity had between 10 and 50% higher risk of death when compared to White British.

These analyses did not account for the effect of occupation, comorbidities or obesity. These are important factors because they are associated with the risk of acquiring COVID-19, the risk of dying, or both. Other evidence has shown that when comorbidities are included, the difference in risk of death among hospitalised patients is greatly reduced.

Occupation

A total of 10,841 COVID-19 cases were identified in nurses, midwives and nursing associates registered with the Nursing and Midwifery Council. Among those who are registered, this represents 4% of Asian ethnic groups, 3.1% of Other ethnic groups, 1.7% of White ethnic groups and 1.5% of both Black and Mixed ethnic groups. This analysis did not look at the possible reasons behind these differences, which may be driven by factors like geography or nature of individuals' roles.