

Excess mortality in England during the COVID-19 pandemic

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Introduction:

Excess mortality monitoring is not dependent on completeness or consistency of coding of causes of death and captures deaths caused directly and indirectly by COVID-19. It takes account of existing inequalities in the baseline rates and shows the additional impact of COVID-19. We report weekly on excess mortality by age, gender, geographical area, deprivation, and ethnicity.

Methods:

A quasi-Poisson model was fitted to deaths data for 2015-2019 to estimate expected mortality in population sub-groups each week during the COVID-19 pandemic. This was compared with observed mortality reported each week. Information on deaths registered was obtained from death certificates. Ethnicity was obtained from hospital records linked to deaths data.

Results:

Early in the pandemic, excess deaths exceeded official reported COVID-19 deaths every week. Throughout the pandemic there

were stark inequalities in excess death rates. Based on data from 21 March 2020 to 9 April 2021, people living in the most deprived areas in England experienced more excess (1.21 times; 95% CI 1.21-1.22) compared with people living in the least deprived areas (1.17; 1.16-1.18). Black (1.56; 1.53-1.58) and Asian groups (1.55; 1.53-1.56) experienced more excess than the White group (1.16; 1.16-1.17). There was wide variation between English regions.

Conclusions:

Reporting overall excess mortality early in the pandemic is important to inform policy makers and public about the true scale of the death toll when coding is inconsistent and

developing. This approach has highlighted the large increases in already established inequalities in mortality. It provides rapid surveillance of developing disparities for national and local decision makers. It has been used to inform policy around reducing disparities and to revise messaging to encourage hospital attendance for non- COVID-19 health problems.

Key messages:

- Excess deaths from all causes is a robust measure of overall impact, unaffected by coding consistency.
- COVID-19 has dramatically worsened established inequalities between ethnic groups and deprivation groups.