

DATA INSIGHTS

COMMUNITY MORTALITY DUE TO COVID-19: DIFFERENCES IN AGE DISTRIBUTION BETWEEN CARE HOME RESIDENTS AND THE GENERAL POPULATION

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SUMMARY OF PROJECT

This project explores the risk of mortality due to Covid-19 and other causes for people aged 65+ in Scotland between 1 March and 30 June 2020.

WHAT WE DID

Health records of over a million people were linked to data from death certificates for the entire population of Scotland aged 65 or older on 1 March 2020 (N=1,059,959) to enable analysis of factors related to the risk of dying of Covid-19 or other causes between 1 March 2020 and 30 June 2020. More specifically, analysis focused on age, sex, deprivation, urban-rural status of place of residence, care home residency, number of prescribed medicines, and pre-existing health conditions. Individual pre-existing health conditions were also compared for their relative contribution to the risk of dying due to Covid-19 or other causes.

A new method for identifying care home residents was used based on the [Unique Property Reference Number \(UPRN\)](#), which is a unique identifier associated with each property in the UK. This allowed people's addresses to be cross referenced with a list of care homes, helping to include more than two thousand additional care home residents in addition to those identified from hospital records alone.

WHAT WE FOUND SO FAR

A forthcoming paper will discuss findings in more detail. This data insights will touch on one element of Covid-19 mortality, specifically the implications of age for mortality in care home residents relative to people who lived in other settings.

The following graph is an example of a density plot, where each coloured 'blob' represents a different group of people:

- those who died due to Covid-19, which was over 3,500 - shown in green (N=3,778)
- those who died of other causes, which was over 15,000 - shown in lilac (N=15,374)
- those who were alive at the end of the 3-month study period - shown in dark purple (N=1,040,807)

Each 'blob' represents 100% of each group; although the number of people in each group were very different, the areas covered by the 'blobs' are shown equal sizes to emphasise differences in their distribution.

GRAPH:



The graph showed that age distribution of care home residents was much older for 'all blobs', with the majority of residents being between 75yrs - 95 yrs old. Most importantly there didn't appear to be any connection between their age and whether they lived or died during the study period.

Conversely in the general population, the age distribution between each 'blob' is significant. Those that were alive during the study period (purple) were weighted heavily toward younger ages, mainly 65yrs - 75 yrs old. Indeed for those not in care homes, after the age of 78 yrs the number of those who were still alive kept dropping, while those who had died (both green and lilac) continued to increase. It was also interesting to note that in this group, the distribution of ages for those that died was similar whether the death involved Covid-19 or not.

By using primary care data (from General Practitioners, GPs), in this study we were able to ascertain people's pre-existing health conditions, allowing for a richer understanding of pre-existing conditions, their number, and how they affected people's risk of dying. This allowed us to better understand the implications of morbidities and co-morbidities with regard to the pandemic.

This study also demonstrates the usefulness of the Unique Property Reference Number (UPRN) measure for identifying care home residents, and further emphasises the need for better care home data collection. It highlights how the linkage of administrative data can enable analysis for which relying on single data sources would be of no help. The use of this approach to ascertain household status has potential for a wide range of important policy relevant research. Our own work is looking into the potential of the UPRN to understand how household status influenced people's use of care during the pandemic.

WHY IT MATTERS

Our graph highlights the major difference in age distribution for care home residents, relative to the rest of the population aged over 65 years. This is particularly important with regard to Covid-19 mortality which disproportionately affected older people. Those living in care homes represented one of the most vulnerable cohorts in the population. It is important that we can learn from what has happened to inform future approaches to caring for and protecting our citizens who reside in care homes.

It is difficult to envisage any other means by which analysis could feasibly be done of this vulnerable group of care home residents. Comparison is very important to understand how different contexts influence outcomes, such as mortality during the pandemic. By understanding how this situation arose we can enable changes to be made for the future and avoid a similar outcome.

WHAT'S NEXT?

We are finalising an academic paper for publication which assesses the characteristics of those that died from Covid-19 and other causes during the first wave of the pandemic. This will allow us to present the work in greater detail and depth. For example, we will compare the risk of dying due to Covid-19 as opposed to a different cause across a range of pre-existing chronic conditions.

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