

# CG. Report 6: The effects of Covid-19 in Care Homes: Mixed Methods Review Protocol

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## Background

The COVID-19 pandemic has had a disproportionate impact on those living in care homes. Such individuals are at the highest risk for severe disease and death as they are often older with multiple underlying conditions. <sup>1</sup> Care home residents are more at risk of infectious outbreaks as they often share rooms, live mainly indoors in close quarters and have frequent close contact with staff who move between potentially contagious patients. <sup>2</sup>

Care homes were already vulnerable before the pandemic as they were already struggling to provide high-quality care. Few countries had plans in place to protect the vulnerable individuals who live in long-term care facilities. As the pandemic unfolded, those living in care homes also faced barriers to accessing emergency and elective treatments. There have been calls for improvements in response to COVID-19 in care homes. <sup>3</sup>

Numerous media reports have reported the scale of the problem and the failings. <sup>4 5</sup> US reports suggest that over a third of COVID-19 Deaths Occur in Nursing Homes & Assisted Living Facilities. Similar to estimates from around the globe. <sup>6</sup>

However, an up to date review of the global effects of the COVID pandemic is lacking. Not all countries publish data on care home deaths. International comparisons are therefore problematic due to differences in testing and recording deaths and definitions. Because of these difficulties, we used a mixed-methods approach to address three questions: 1) what was the mortality in care homes by country; 2) how does the mortality compare with previous periods, and 3) how can the mortality be explained?

## Methods

We will aim to address three main questions:

- 1 What were the mortality rates in care homes by country?
2. How does the mortality in care homes compare with previous periods?
3. What explains any excess mortality in care homes?

To answer question 1 (what were the mortality rates in care homes by country) we will source the national data on care home deaths and use the most up to date data to report the total number of

deaths. We will also extract information on the total care home cases when reported. We will use the same date as the documented care home deaths to estimate the total population of covid-19 cases using the date reported on Worldometer by country (<https://www.worldometers.info/coronavirus/>). If there are discrepancies between the Worldometer and the National Dataset we use the Worldometer data to calculate the care home cases and deaths proportion (and report the national data as a sensitivity analysis). We will also record information on the definition of a care home resident by country and analyse whether definitions (e.g., skilled nursing care homes versus residential care homes) affect the reported cases or deaths reported. We will also attempt to collate information on the population in care homes to analyse the total proportion of deaths across care homes. We also report descriptive characteristics on those countries that report more than 10,000 care home deaths

To address questions 2 and 3, we will perform a scoping review using a flexible framework for restricted systematic reviews—<sup>7</sup>. We will search LitCovid, and the WHO Covid-19 database using the search terms ("care homes" OR "nursing homes") AND mortality. We will also perform a bibliography search of included articles.

To answer question 2 (mortality comparisons), we will include studies that analysed data on deaths and compare them to a pre-exposure period that permitted an analysis of excess mortality. In addition, we will extract data on the country, the region, the study type, the covid Study dates, length of covid analysis, the population/setting, the sample of care homes, the effect on mortality, causative factors, information from death certificate review, staff sickness, symptoms and study limitations when reported. Finally, we will calculate the percent relative increase in deaths (Excess) and the percent of care home-related death when reported.

To answer question 3, we will include studies that analysed data on interventions and or exposures that might explain excess mortality. We did not include studies that examined patient demographic factors such as age, frailty, ethnicity, symptoms or rates of covid that might explain mortality. We excluded case reports and or reviews and cross-sectional studies or surveys. We will extract data country, region, the study type, the Intervention/exposure, the covid date, length of study, population/setting, reported effects effect on staff (numbers/sickness etc.,) effects on residents and the reported impact on death and any causative factors along with the study limitations. Our review approach is available on the Collateral Global website: What is a Rapid Review? <sup>8</sup>

## **Quality**

We will assess quality using the Newcastle–Ottawa Scale (NOS) for nonrandomised studies, including cohort studies. <sup>9</sup> To determine quality the scale evaluates 1) the selection of the cohort, 2) the comparability of cohorts and 3) the outcome. Selection is assessed via the representativeness of the Exposed Cohort; the selection of the Non-Exposed Cohort, the ascertainment of the exposure, and a demonstration that the outcome of interest was not present at the start of the study where applicable comparability of cohorts is assessed based on the design or analysis of the study and the

outcome based on the objectivity of the assessment, adequate length of follow-up for the outcome of interest and the cohort.

**Dissemination:**

We will produce a report and make this publicly available whilst submitting it for publication in a peer-review journal. We will aim to index the review findings on the Oxford Research Archive and the Collateral Global website.

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**Ethics Committee Approval**

No approval is necessary.

**Data Availability**

All data included in the review will be linked to Figshare, an open access repository.

**Funding**

This review received funding from Collateral Global.

**Competing Interest Statement**

T.J. received a Cochrane Methods Innovations Fund grant to develop guidance on using regulatory data in Cochrane reviews (2015 to 2018). From 2014 to 2016, he was a member of three advisory boards for Boehringer Ingelheim. Market research companies occasionally interview T.J. about phase I or II pharmaceutical products for which he receives fees (current). TJ was a member of three advisory boards for Boehringer Ingelheim (2014 to 16). TJ was a member of an independent data monitoring committee for a Sanofi Pasteur clinical trial on an influenza vaccine (2015 to 2017). TJ is a relator in a False Claims Act lawsuit on behalf of the United States that involves sales of Tamiflu for pandemic stockpiling. If resolved in the United States favour, he would be entitled to a percentage of the recovery. T.J. is coholder of a Laura and John Arnold Foundation grant to develop a RIAT support centre (2017 to 2020) and Jean Monnet Network Grant, 2017 to 2020 for The Jean Monnet Health Law and Policy Network. TJ is an unpaid collaborator to the Beyond Transparency in Pharmaceutical Research and Regulation led by Dalhousie University and funded by the Canadian Institutes of Health Research (2018 to 2022). T.J. consulted for Illumina LLC on next-generation gene sequencing (2019 to 2020). TJ was the consultant scientific coordinator for the HTA Medical Technology programme of the Agenzia per i Servizi Sanitari Nazionali (AGENAS) of the Italian MoH (2007 to 2019). T.J. is Director Medical Affairs for B.C. Solutions, a market access company for medical devices in Europe. T.J. was funded by NIHR UK and the World Health Organization (WHO) to update Cochrane review A122, Physical Interventions to interrupt the spread of respiratory viruses. Oxford University funds T.J. to carry out a living review on the transmission epidemiology of COVID 19. Since 2020, T.J. has received fees for articles published by The Spectator and other media outlets. T.J. is part of a review group carrying out a Living rapid literature review on the modes of transmission of SARS CoV 2 (WHO Registration 2020/1077093 0). He is a member of the WHO COVID 19 Infection Prevention and Control Research Working Group, for which he receives no funds. T.J. is funded to co-author rapid reviews on the impact of Covid restrictions by the Collateral Global Organisation. CH holds grant funding from the NIHR, the NIHR School of Primary Care Research, the NIHR BRC Oxford and the World Health Organization for a series of Living rapid reviews on the modes of transmission of SARs-CoV-2

reference WHO registration No2020/1077093. He has received financial remuneration from an asbestos case and legal advice on mesh and hormone pregnancy tests cases. He has received expenses and fees for his media work, including periodic payments from the BBC, The Spectator, and other media outlets. He receives expenses for teaching EBM and is also paid for his G.P. work in NHS out of hours and regularly goes into care homes. He has also received income from publishing a series of toolkit books and appraising treatment recommendations in non-NHS settings. He is the Director of CEBM and is an NIHR Senior Investigator. He is co-director of the Global Centre for Healthcare and Urbanization based at Kellogg College at Oxford. He is a scientific advisor to Collateral Global that funds this review. JB is a significant shareholder in the Trip Database search engine ([www.tripdatabase.com](http://www.tripdatabase.com)) and an employee. He has previously received funding from institutions such as WHO, NIHR. Collateral Global funds MD.

## Endnotes

1. COVID-19 has laid bare the cracks in long-term care. Here's how to fix them
2. COVID-19 has laid bare the cracks in long-term care. Here's how to fix them
3. Too little, too late: The unacceptable neglect of the elderly in care homes during the COVID-19 pandemic in Spain'
4. Inside UK care homes: why the system is failing its coronavirus test
5. How the UK's care homes were abandoned to coronavirus  
<https://www.newstatesman.com/science-tech/coronavirus/2020/04/coronavirus-care-homes-carers-elderly-deaths-ppe>
6. Mortality associated with COVID-19 in care homes: international evidence.  
[https://ltccovid.org/wp-content/uploads/2021/02/LTC\\_COVID\\_19\\_international\\_report\\_January-1-February-1-1.pdf](https://ltccovid.org/wp-content/uploads/2021/02/LTC_COVID_19_international_report_January-1-February-1-1.pdf)
7. Plüddemann 2019Plüddemann A, Aronson JK, Onakpoya I, et al. Redefining rapid reviews: a
8. What is a Rapid Review? <https://collateralglobal.org/article/what-is-a-rapid-review/>
9. Ottawa Hospital Research Institute. (accessed 15 Nov 2021).  
[http://www.ohri.ca/programs/clinical\\_epidemiology/oxford.asp](http://www.ohri.ca/programs/clinical_epidemiology/oxford.asp)