



# Mortality associated with COVID-19 outbreaks in care homes: early international evidence

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## ltccovid.org

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Corrections and comments are welcome at [info@ltccovid.org](mailto:info@ltccovid.org). This document was last updated on 26 June and may be subject to revision.

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## 1. Key findings

- Official data on the numbers of deaths among care home residents linked to COVID-19 is not available in many countries but an increasing number of countries are publishing data
- International comparisons are difficult due to differences in testing availabilities and policies, different approaches to recording deaths, and differing definitions of what constitutes a “care home”.
- There are three main approaches to quantifying deaths in relation to COVID-19: **deaths of people who test positive** (before or after their death), **deaths of people suspected** to have COVID-19 (based on symptoms or epidemiologically linked), and **excess deaths** (comparing total number of deaths with those in the same weeks in previous years). Another important distinction is whether the data covers deaths of care home residents or only deaths in the care home (as there are variations in the share of care home residents who are admitted to hospital and may die there)
- This updated report contains data from a larger number of countries and this shows that **earlier suggestions** (when data were available for fewer countries) **that the share of all COVID-19 deaths who were care residents increases with the total number of deaths may not be a robust finding**, as New Zealand and Slovenia, despite having had relatively small numbers of total COVID deaths, have had a large share of those deaths among care home residents (72 and 81% respectively).
- The impact of COVID-19 on care home residents has been very different internationally, with some countries reporting no deaths (or infections) in care homes, such as Hong Kong, Jordan and Malta, and two countries reporting that over 80% of COVID-19 deaths were of care home residents. Without including the three countries with zero deaths, and with the caveat that the definitions used vary, **on average the share of all COVID-19 deaths that were care home residents is 47% (based on 26 countries)**.
- To compare the relative impact of COVID-19 on care home residents in different countries it may be more useful to focus on the share of all care home residents whose deaths have been linked to COVID-19. We found that that, for the 18 countries for which have these data, **the share of all care home residents who have died (linked to COVID-19) ranges from 0 to 6.1%. This is share is highly correlated to the total number of COVID-19 deaths in the whole population**.
- It is also worth noting that whilst the focus of this report is on care homes, many older people receive care in the community. Currently, there is limited evidence from anywhere in the world on how those individuals have been directly or indirectly affected by COVID-19.

## 2. Measuring the impact of COVID-19 on care home residents and staff: imperfect and limited data, but essential for resource allocation decisions

There is growing international evidence that people living in care homes are particularly vulnerable to severe COVID-19 infections and that they are experiencing high rates of mortality as a result. There are also numerous examples from those countries of care homes becoming unviable as not enough staff is available due to sickness and self-isolation measures. This document uses “care homes” for all non-acute residential and nursing facilities that house people with some form of long-term care needs. It is important to note that what is considered a care home is different in most countries and as a result this means that the data summarised in this report is not strictly comparable.

The impact of COVID-19 on residents and staff has become apparent in two ways: distressing news reports of care homes becoming overwhelmed due to large number of deaths in a short amount of time and too many staff members being either sick or self-isolating, and, increasingly, estimates of deaths of care home residents both from official and non-official sources.

A few countries have started to test people in care homes (staff and residents) systematically, as a result of growing awareness of the scale of the infections and deaths in care homes and of the limitations of relying symptoms to track the spread of the disease. For example, in Ontario, Canada, where the population in care homes now represent over 80% of deaths<sup>1</sup> from probable cases of COVID-19 have led to a recent order by the provincial government for increased testing, beginning with care homes that are currently experiencing an outbreak<sup>2</sup>. This population-level testing is critical for determining the true impact of COVID-19, including secondary infection rate and secondary clinical attack rate<sup>3</sup> among care home staff and residents, asymptomatic fraction of infection, and case fatality ratio of COVID-19 infection.

Another difficulty in comparing data on deaths is that in some countries the data only record the place of death, while others also report deaths in hospital of care home residents. We have tried to clarify this in this report where possible. There may also be differences in the extent to which care home residents are transferred to hospital or not.

The authors of this report are fully aware of the limitations of existing data and do not consider that the data presented here are directly comparable. However, it is important to share these data as, if the levels of infections and deaths of care residents and staff are not measured in a timely (even if imperfect) manner, there is a danger that opportunities to alert policymakers to the scale of the impact of COVID-19 in care homes will be missed. This may result in allocations of scarce resources (including testing, personal protection equipment, medical personnel and medicines) that leave out the settings that are experiencing some of the biggest challenges in relation to COVID-19.

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<sup>1</sup> <https://www.ontario.ca/page/how-ontario-is-responding-covid-19#section-1>

<sup>2</sup> <https://news.ontario.ca/opo/en/2020/04/ontario-takes-immediate-steps-to-further-protect-long-term-care-residents-and-staff-during-covid-19.html>

<sup>3</sup> The secondary attack rate is the probability that an infection occurs among susceptible people within a specific group (ie, household or close contacts)

This document, which will continue to be updated and improved as new information and data become available, summarises information from three types of sources: epidemiological studies, official estimates and news reports and relies on national experts for confirmation of sources and definitions.

### **3. Methods to estimate deaths linked to COVID-19**

There are three main approaches to recording deaths linked to COVID-19. It is important to understand the differences in the data that is obtained through these different approaches, and to also consider the role of each of these approaches in terms of generating the information that is needed to develop strategies to reduce the impact of COVID-19.

#### **a. Numbers of deaths of people who have tested positive for COVID-19**

If it was possible to test everyone suspected of having COVID-19 either while still alive or post-mortem, this method would offer the most accurate count of the numbers of people who have died while being infected with COVID-19. These data are very important in order to learn more about the epidemiology of the disease and how it affects people with different characteristics and underlying health conditions in terms of case fatality, long-term sequelae, etc.

Under this definition, the new International Classification of Diseases, Tenth Revision (ICD-10) emergency code U07.1 is used in mortality coding. Specifically, this code is used when COVID-19 has been confirmed by laboratory testing, irrespective of severity of clinical signs or symptoms<sup>4</sup>.

This approach has a number of limitations in terms of offering an estimate of the impact of the disease in the population or among a certain population group. The first limitation is that very few countries have the capacity to test all people with symptoms<sup>5</sup>. The second is that, particularly among care home residents who have underlying health conditions, the infection may present with atypical symptoms (such as delirium) that may be attributed to other potential conditions (for example urinary tract infections) and, as a result, it is possible that some people may not be tested because their symptoms are not identified as potential COVID-19. It is also important to note that in many countries, at least initially, care homes were not prioritised for testing, which means that relying on the numbers of people who died with a positive test for COVID-19 would leave out most of the deaths that happened in care homes. Another limitation of this approach is that it does not include deaths that are indirectly linked to COVID-19, for example, due to people not using health care services for other conditions, or due to difficulties linked to social isolation measures.

#### **b. Number of deaths of people suspected of having COVID-19**

Another approach to try to measure deaths linked to COVID-19 is to count suspected cases, as is currently done in Belgium, Canada, England France, Ireland, Scotland and some regions of Spain, This approach has the risk of mis-attribution of deaths. In the short-term this approach has the advantage of providing timely information that is not subject to biases introduced by testing priorities. In the case of

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<sup>4</sup> <https://icd.who.int/browse10/2019/en#/U07.1>

<sup>5</sup> [https://read.oecd-ilibrary.org/view/?ref=129\\_129658-l62d7lr66u&title=Testing-for-COVID-19-A-way-to-lift-confinement-restrictions](https://read.oecd-ilibrary.org/view/?ref=129_129658-l62d7lr66u&title=Testing-for-COVID-19-A-way-to-lift-confinement-restrictions)

estimating the number of deaths in care homes, particularly where initial testing priorities were entirely focused on hospital, a system that records suspected cases can provide important timely information on the potential scale of deaths linked to COVID-19 in care homes and private households that can support decisions to, for example, increase testing in care homes or of staff that provide care in private homes as we have observed in Ontario, Canada. However, this could lead to an overestimation of fatalities attributable to COVID-19. Not surprisingly, countries that have taken this approach report higher proportions of deaths due to COVID-19 than countries that report deaths among confirmed cases.

Under this definition, ICD-10 emergency code U07.2 is used in mortality coding. Specifically, this code should be used when COVID-19 is diagnosed clinically or epidemiologically but laboratory testing is inconclusive or not available<sup>6</sup>.

### **c. Number of excess deaths during the COVID-19 pandemic compared to previous years**

Comparing the deaths during the COVID-19 pandemic to deaths that have happened in previous years in the same weeks or months (“excess mortality”) is the best way to estimate the mortality impact of COVID-19. This approach has the advantage of being able to also include deaths that are indirectly linked to COVID-19. These data on mortality will typically be collected by national statistical offices through the registration of deaths and it is important to note that in most countries there is a lag between the date in which a death occurs, and the date in which it is registered, and that disaggregation by place of death (for example between hospital, care homes and private homes) is not always made available in a timely manner. Excess deaths should also take into account year-on-year variability in weekly death rates which can be affected by, among other things, seasonal flu outbreaks. Ideally comparisons should show the range of deaths on each week over a historical time period – such as the previous five years.

## **4. International data on mortality associated with COVID-19 among care home residents**

This section aims to collect the latest information available from a number of countries and will be updated regularly as new information becomes available.

It is very important to note that the data reported here are not comparable. Data from official sources have been used where possible, and, when not available, information from news reports has been collected. There are a number of caveats that should be noted:

- We only have information on a few countries so far (please email [a.comas@lse.ac.uk](mailto:a.comas@lse.ac.uk) if you can contribute, please see annex 1).
- The systems for recording deaths linked to COVID-19 in care homes (and the definition of what is a care home) vary between different countries and even regions.

### **Australia**

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<sup>6</sup> <https://icd.who.int/browse10/2019/en#/U07.1>

The Department of Health of the Australian Government first published deaths linked to COVID-19 in care homes on the 15<sup>th</sup> of April, as well as deaths among users of home care services. On 21<sup>st</sup> June, Australia has had a total of 102 deaths, of these 29 were residents in subsidized aged care facilities. There were also 3 deaths among people who used publicly subsidized home care. Care home residents represented 31% of total deaths<sup>7</sup>. These figures are based on people who have tested positive for COVID-19 and are for the place of residence, not place of death (may include residents who died in hospital).

## Austria<sup>8</sup>

Data for the 5<sup>th</sup> June<sup>9</sup> shows that, up to that date, 833 residents in care homes for older people tested positive for COVID-19 and of these, 222 had died with COVID-19. Compared to the 646 total deaths linked to COVID-19 in Austria on the same date, deaths of care home residents would represent 34% of all deaths (data from the Austrian epidemiological alert system).

There have been 417 cases among staff in care homes. In addition, 56 residents, of which 2 died, and 61 staff in care homes for people disabilities were recorded (data based on reporting from the länder, thus subject to variation given differing definitions).

At the end of 2018 there were 69,730 residents in care homes in Austria, using this as the denominator for the total number of care home residents, 0.3% of care home residents would have died with COVID-19<sup>10</sup>.

## Belgium

Belgium first reported official estimates of the number of deaths in care homes on the 11<sup>th</sup> April. The data is collected by Sciensano, a public research institution, which publishes very detailed epidemiological daily reports on COVID-19<sup>11</sup>. They include data on the number of deaths in care homes (“maisons de repos”). As of the 15<sup>th</sup> April, reports have also included the number of tests done within care homes. For deaths outside hospital, Belgium reports both “confirmed” cases (through a test or, since the 1<sup>st</sup> April, a chest scan), and “suspected” cases where the patient had not been tested but a doctor confirmed that their symptoms were consistent with COVID-19.

On 20<sup>th</sup> June, there had been 9,696 deaths linked to COVID-19 in Belgium, of these, 4,851 people died in care homes (50%). This number also includes suspected cases and, of the total deaths, 73% of all care home deaths were suspected cases, and only 27% had been confirmed with a test. The reported % of deaths in care homes has increased since the first date these data were published, from 42% on the 11<sup>th</sup> April to 50% on 20<sup>th</sup> June.

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<sup>7</sup> <https://www.health.gov.au/news/health-alerts/novel-coronavirus-2019-ncov-health-alert/coronavirus-covid-19-current-situation-and-case-numbers>

<sup>8</sup> With thanks to Andrea E. Schmidt, Kai Leichsenring, Heidemarie Stafflinger, Annette Bauer

<sup>9</sup> [https://goeg.at/PK\\_COVID-19\\_in\\_Alten-\\_und\\_Pflegeheimen](https://goeg.at/PK_COVID-19_in_Alten-_und_Pflegeheimen)

<sup>10</sup> Source: BM Arbeit, Soziales, Gesundheit und Konsumentenschutz (BMASGK) (2019), *Österreichischer Pflegevorsorgebericht* (Austrian Report on Long-term Care 2018), Vienna, BMASGK.<sup>10</sup>

<sup>11</sup> <https://covid-19.sciensano.be/sites/default/files/Covid19/Derni%C3%A8re%20mise%20%C3%A0%20jour%20de%20la%20situation%20%C3%A9pid%C3%A9miologique.pdf>

The weekly bulletin<sup>12</sup> of the 19<sup>th</sup> June reports estimates that in total, there had been 6,213 deaths of care home residents, including 1,353 deaths in hospital and 15 in other locations, 21.8% of care home residents had died in hospital. Based on this, 64% of all deaths linked to COVID-19 in Belgium would have been of care home residents.

Between the 10<sup>th</sup> of April and the 27<sup>th</sup> May, there were 148,762 tests on staff, of these, 2% were positive, and of those who tested positive, 74% were asymptomatic. Of the 148,727 tests of residents, 4% were positive and of these, 76% were asymptomatic.

Belgium has an estimated 125,000 people aged 65 and over living in care homes<sup>13</sup>, the number of care home residents whose deaths are linked to COVID-19 so far would represent 4.9% of all care home residents aged 65 or over, without including the care home residents who died in hospital, the share would be 3.9%.

## Canada

On March 5, the first outbreak in a Canadian long-term care home was reported in the province of British Columbia (BC), where a staff member at the Lynn Valley Care Centre in Vancouver had tested positive for COVID-19<sup>14</sup>. On March 8, a resident at the home became the first Canadian to die from COVID-19. Since early March, BC's Provincial Health Officer has provided regular updates to the public on the number of cases and deaths in care homes through press conferences. Similarly, many other provincial medical officers of health and premiers have provided frequent updates on the spread of COVID-19 in Canadian care homes. However, it was not until recently that reports about care homes have been presented systematically as part of the provinces' epidemiological reports, such as the ones produced by the BC Centre for Disease Control<sup>15</sup> starting on March 23 and Public Health Ontario on March 31<sup>16</sup>. Quebec is the latest province to disclose the number of cases and deaths of residents in care homes, as of April 13. Most Canadian provinces and territories have had either no cases or too few cases in care homes to provide meaningful estimates<sup>17</sup>.

According to the 2016 Census, 425,755 Canadians live in long-term care or retirement homes as well as assisted living facilities. Hsu et al<sup>18</sup> estimate published on the 4<sup>th</sup> of June found that between 17,246 of these residents (representing 4.1% of all residents in care homes) had been infected with COVID-19, and 6,236 of them died as a result (1.5% of all care home residents). This amounted to 85% of all COVID-19 deaths in Canada.

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<sup>12</sup> [https://covid-19.sciensano.be/sites/default/files/Covid19/COVID-19\\_Weekly%20report\\_20200619%20-%20FR.pdf](https://covid-19.sciensano.be/sites/default/files/Covid19/COVID-19_Weekly%20report_20200619%20-%20FR.pdf)

<sup>13</sup> <https://kce.fgov.be/fr/les-maisons-de-repos-ne-se-pr%C3%A9parent-pas-un-avenir-de-tout-repos>

<sup>14</sup> <https://www.theglobeandmail.com/canada/article-how-the-coronavirus-took-north-vancover-lynn-valley-care-centre/>

<sup>15</sup> <http://www.bccdc.ca/health-info/diseases-conditions/covid-19/data>

<sup>16</sup> <https://www.ontario.ca/page/how-ontario-is-responding-covid-19#section-0>

<sup>17</sup> <https://ltccovid.org/wp-content/uploads/2020/04/LTC-COVID19-situation-in-Canada-22-April-2020-1.pdf>

<sup>18</sup> Hsu AT, Lane NE, Sinha SK, Dunning J, Dhuper M, Kahiel Z, Sveistrup H. Report: Understanding the impact of COVID-19 on residents of Canada's long-term care homes — ongoing challenges and policy responses. LTCcovid, International Long-Term Care Policy Network, CPEC-LSE, 10 May 2020 [https://ltccovid.org/wp-content/uploads/2020/05/LTCcovid-country-reports\\_Canada\\_Hsu-et-al\\_May-10-2020-2.pdf](https://ltccovid.org/wp-content/uploads/2020/05/LTCcovid-country-reports_Canada_Hsu-et-al_May-10-2020-2.pdf)

Due to variation in reporting across the provinces, we are unable to determine whether the location of death was in a care home at this time. It is important to note that, in Canada, most official sources have been reporting total counts of deaths in care homes, whether or not COVID-19 was determined to be a contributing or underlying cause of death. This may have inflated the estimates of the proportion of deaths due to COVID-19. Unfortunately, given the low rates of testing early on in the pandemic, some residents who died remain suspected rather than confirmed cases without post-mortem testing. Comparing the deaths during the COVID-19 pandemic to deaths during the same period in previous years (e.g., in the same weeks or months to determine the excess mortality) may be the best way to estimate the true mortality impact of COVID-19.

## Denmark<sup>19</sup>

By the 15<sup>th</sup> June, there had been confirmed COVID-19 infections in 13% of Danish nursing homes (119 out of 930). 582 residents in nursing homes in Denmark had tested positive for COVID-19 and 211 of these had died<sup>20</sup>. In the total population, 598 COVID-19 related deaths were confirmed, the share of confirmed deaths among nursing home residents was 35%.

There were just over 40,000 nursing home residents in Denmark, this suggests that 0.5% of nursing home residents would have died from confirmed COVID-19.

## Finland<sup>21</sup>

As of the 23<sup>rd</sup> of June 7,155 people had tested positive for COVID-19 in Finland and 327 people died. Of those, 45% died in social care 24 hour units<sup>22</sup>.

## France

France first published official death estimates for people in care homes on the 31<sup>st</sup> of March. The % of all deaths among care home residents has ranged from 39.2% to 51%).

The most recent numbers published by the Ministry of Health on the 16<sup>th</sup> June reported a total of 29,547 deaths as a result of COVID-19, of which 14,341 (49%) were residents in care homes<sup>23</sup>. Of these, 10,457 (73%) died in the care home and were mostly “probable cases” where a doctor confirmed that the symptoms were associated with COVID-19. The remaining 3,884 (27%) died in hospital and were confirmed through testing<sup>24</sup>.

Between the 1st March and 15<sup>th</sup> June there were 20,262 confirmed cases of COVID-19 among care home. Deaths among care home staff are not reported in this bulletin. There are an estimated 605,061

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<sup>19</sup> With thanks to Tine Rostgaard

<sup>20</sup> <https://www.ssi.dk/sygdomme-beredskab-og-forskning/sygdomsovervaagning/c/covid19-overvaagning>

<sup>21</sup> <https://itccovid.org/2020/06/14/new-report-covid-19-and-clients-of-long-term-care-in-finland-impact-and-measures-to-control-the-virus/>

<sup>22</sup> <https://thl.fi/en/web/infectious-diseases-and-vaccinations/what-s-new/coronavirus-covid-19-latest-updates/situation-update-on-coronavirus>

<sup>23</sup> établissements sociaux et médico-sociaux (ESMS)

<sup>24</sup> <https://www.santepubliquefrance.fr/maladies-et-traumatismes/maladies-et-infections-respiratoires/infection-a-coronavirus/documents/bulletin-national/covid-19-point-epidemiologique-du-18-juin-2020>

care home beds in France<sup>25</sup>, thus the number of deaths of care home residents linked to COVID-19 would represent 2.4% of all the available beds.

## Germany<sup>26</sup>

Germany's Robert Koch-Institute published the first official number of infections and deaths in different care settings on 22 April. People in care and nursing homes are covered under §36 of the Protection Against Infection Law (IfSG). §36 also includes people living in facilities for people with disabilities or other care needs, homeless shelters, community facilities for asylum-seekers, repatriates and refugees as well as mass accommodation and prisons.

Since the 22nd April, the RKI has provided daily updates. In Germany, medical doctors and other health and care professionals must inform the local health authorities about each suspected case of COVID-19. The health authorities transmit the information within one working day to the relevant highest health authority within their federal state. They then provide the Robert Koch-Institute with the relevant data. There can be a delay in reporting, which is why the data presented here may not entirely represent the number of cases of COVID-19 and COVID-19 related deaths for the specific dates. Data that is being transmitted later is being added to the relevant dates as it comes in and feeds into the total case count. Data recorded here includes only confirmed cases following a laboratory diagnosis independent of clinical assessment. In addition, the Robert Koch-Institute advises that information on care setting is missing in 37% of transmitted cases, which means that the number of people affected in specific care settings, represents the minimum number of cases.

On 23<sup>rd</sup> June 2020, 17,604 people living in communal settings and 9,781 people working in these settings (as defined by §36 IfSG) had been infected with COVID-19. Out of these, 3,491 residents (20% of those infected) as well as 46 staff have died (0.5% of those infected). The total deaths in Germany on the 23<sup>rd</sup> June were 8,895, so deaths in communal settings represent 39% of all deaths<sup>27</sup>. So far there is no information on the suspected numbers of deaths or excess mortality in care homes.

It is important to emphasize that these data from Germany includes communal settings such as homeless shelters, accommodation for refugees and prisons, which may house a younger population, so it is not directly comparable with the data on care homes presented for the other countries in this report. However, these data suggest that in Germany care residents represent a smaller share of all deaths compared to other countries with similar number of deaths in total. The total number of people living in care and nursing homes in Germany in 2017 was 818,000<sup>28</sup>, assuming that there were a similar number in 2020 and that all the deaths in communal establishment had been care home residents, 0.4% of all care home residents would have died due to COVID-19 so far. Because the death figures includes people living in other establishments, the percentage is likely to be lower.

## Hong Kong SAR China

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<sup>25</sup> <https://www.insee.fr/fr/statistiques/3676717?sommaire=3696937>

<sup>26</sup> With thanks to Klara Lorenz-Dant

<sup>27</sup> [https://www.rki.de/DE/Content/InfAZ/N/Neuartiges\\_Coronavirus/Situationsberichte/2020-06-23-en.pdf?\\_\\_blob=publicationFile](https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/Situationsberichte/2020-06-23-en.pdf?__blob=publicationFile)

<sup>28</sup> <https://de.statista.com/statistik/daten/studie/36438/umfrage/anzahl-der-zu-hause-sowie-in-heimen-versorgten-pflegebeduerftigen-seit-1999/>

According to the daily update of the Government as of 22<sup>nd</sup> June 2020, there have been 1,162 confirmed cases of COVID-19. Among them, 5 people have passed away<sup>29</sup>. There have been no infections or deaths in care homes so far.<sup>30</sup>

## Hungary<sup>31</sup>

On the 2<sup>nd</sup> June, the Surgeon General of Hungary reported a total of 532 deaths related to COVID-19, with 127 of those being residents in LTC homes (24%)<sup>32</sup>. COVID-19 deaths are defined as people who have tested positive and died. As less than 3% of the population aged 65 or more lives in care homes in Hungary, it is expected that the share of deaths in care homes in Hungary will be lower than in other countries.

In 2018, the total number of residents of care homes for older people was 55,170 of which 50,589 were aged 65 or more. No newer figures are available, assuming that the number of residents hasn't changed, the share of care home residents who died would be 0.2%. The size of the 65+ population was 1.852 million.

## Ireland<sup>33</sup>

Ireland has a centralised system to collect epidemiological information in relation to cases of COVID-19 infections<sup>34</sup>. All deaths, in all care settings and dwellings, related to COVID-19 that are notified to the Health Prevention Surveillance Centre are included in the official count of deaths. The number of notified deaths in care homes has now been published in governmental daily reports.

As of the 22 June, there have been 25,383 cases of COVID-19 in Ireland and 1,717 deaths. Of these, 7,112 cases of COVID-19 were in long-term care facilities (LCFs), 5,594 of which have been in nursing homes. There have been a total of 1,086 deaths linked to LCFs, 963 of which are linked to nursing homes (i.e. 63.2% and 56% respectively). These figures were given at the National Public Health Emergency Team (NPHE) press briefing held at the Department of Health on the 22 June<sup>35</sup>.

Ireland carried out a census of mortality in long-term care residential facilities<sup>36</sup> for the period from the 1<sup>st</sup> January to 19<sup>th</sup> April. The data published on the 1<sup>st</sup> May shows that in that period there had been 3,368 deaths in these facilities, of these, 616 were linked to COVID-19. Of the 616 COVID-19 related deaths, 395 have been confirmed with a laboratory test and 221 are probable COVID-19 deaths.

No data on the total number of LCF residents has been found, but there are an estimated 30,000 people living in nursing homes. Out of these, 3.2% of all nursing home care residents would have died as a result of COVID-19.

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<sup>29</sup> <https://chp-dashboard.geodata.gov.hk/covid-19/en.html>

<sup>30</sup> <https://ltccovid.org/wp-content/uploads/2020/04/Hong-Kong-COVID-19-Long-term-Care-situation-27-April-2020-1.pdf>

<sup>31</sup> With thanks to Robert Gal

<sup>32</sup> <https://koronavirus.gov.hu/cikkek/az-idosotthonokban-fertozottek-fele-mar-meggyogyult>

<sup>33</sup> With thanks to Maria Pierce

<sup>34</sup> <https://ltccovid.org/wp-content/uploads/2020/04/Ireland-COVID-LTC-report-updated-28-April-2020.pdf>

<sup>35</sup> <https://twitter.com/roinnslainte/status/1275107587810263041>

<sup>36</sup> <https://www.gov.ie/en/publication/868ad8-mortality-census-of-long-term-residential-care-facilities-1-january-/>

## Israel<sup>37</sup>

The first COVID-19 patient in Israel was diagnosed on February 27th and since then the number of confirmed cases has risen to 22,090 (as of June 24th), with 46 in serious condition and 307 deaths<sup>38</sup>. Of the deaths, 137<sup>39</sup> were residents in long-term care facilities (45%). The first outbreak in Israeli long-term care facilities began in mid-March, sixteen days after the first patient was diagnosed in Israel. Only a month after the initial outbreak, and following massive public criticism and a call for help from the managers of long-term care facilities, the Israeli government appointed a national-level team to manage the COVID-19 outbreaks long-term care facilities<sup>40</sup>.

## Italy

The only data available on the COVID-19 outbreak in nursing homes is from the results of the National Health Institute (Istituto Superiore di Sanità, ISS)'s survey, which was sent to 3,276 nursing homes out of the 4,629 operating on the national territory.

On June 17<sup>th</sup> ISS published the final results of the survey. Data are referred to the period between February 1<sup>st</sup> and May 5<sup>h</sup>. As of May 5<sup>th</sup>, 1,356 nursing homes responded. The total mortality rate during that timeframe is 9.1% (considering all deaths). The Covid-19 related mortality rate (tests + suspected) is 3.1%<sup>41</sup>.

## Jamaica<sup>42</sup>

As of the 22<sup>nd</sup> June, 665 people have tested for positive and there have been 10 deaths<sup>43</sup>. There is no information on whether any of these cases, deaths or recoveries have taken place among residents or staff of care homes, other than a news report of one member of staff who tested positive at a state care home or 'infirmary'.<sup>44</sup>

## Jordan<sup>45</sup>

On 22<sup>nd</sup> of June 2020<sup>46</sup> there have been 1,042 cases of Covid-19 in the country and 9 deaths, but no infections or deaths in care homes.

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<sup>37</sup> With thanks to Shuli Brammli and Sharona Zadok

<sup>38</sup> <https://www.gov.il/he/departments/publications/reports/daily-report-25062020>

<sup>39</sup> MoH internal report 24.06.2020

<sup>40</sup> <https://ltccovid.org/2020/04/30/the-impact-of-covid-19-on-people-using-and-providing-long-term-care-in-israel/>

<sup>41</sup> <https://ltccovid.org/2020/06/26/updated-estimates-of-mortality-of-nursing-home-residents-and-staff-linked-to-the-covid-19-pandemic-in-italy/>

<sup>42</sup> With thanks to Rochelle Amour

<sup>43</sup> <https://jamcovid19.moh.gov.jm/>

<sup>44</sup> <http://jamaica-gleaner.com/article/lead-stories/20200527/nursing-home-scare-infirmary-worker-infected-coronavirus-triggering>

<sup>45</sup> With thanks to John Black

<sup>46</sup> <https://petra.gov.jo/>

## Malaysia<sup>47</sup>

Up to the 23<sup>rd</sup> of June, 8,590 people have tested positive and 121 of these have died<sup>48</sup>. On 20 May, it was announced that 18 positive cases were from 15 care homes, indicating COVID-19 was present in 8% of care homes. As of 30 May, a total of 11,049 residents and staff had been screened from a total of 295 care homes that found 26 positive cases. Of the 26 cases, 22 (85%) were asymptomatic carriers.

## Malta<sup>49</sup>

Until the 23<sup>rd</sup> June 665 people have tested positive and, of these, 9 have died<sup>50</sup>. So far, there have been no deaths in residential care settings for both older persons and staff<sup>51</sup>.

## New Zealand

In Aotearoa New Zealand the Aged Residential Care (ARC) sector comprises 38,000 beds accommodated in over 650 facilities throughout the country. As at the 10<sup>th</sup> of June 2020, there have been 1,154 confirmed and 350 probable cases of COVID-19 identified, for a total of 1,504 cases. Of these, there were 22 deaths. Of these, 16 were in ARC Facilities, accounting for 72.2% % of all COVID-19 related fatalities in the country<sup>52</sup>. The number of deaths in aged care facilities represents 0.04% of all beds.

## Norway<sup>53</sup>

On the 15<sup>th</sup> of April the Norwegian Institute of Public Health published data on the number of deaths linked to COVID-19 that have occurred in institutions/care homes for the first time. The report from the 19<sup>th</sup> June<sup>54</sup> shows that, out of 244 confirmed deaths related to COVID-19, 94 (39%) occurred in hospitals, 144 (59%) in health institutions (care homes and other institutions) and 5 (2%) in private homes. The Norwegian newspaper VG publishes detailed data on the location of all deaths, including care homes. At the end of 2019, there were 39,466 beds in care homes in Norway<sup>55</sup>, so deaths in care homes would amount to 0.4% of all beds.

## Portugal

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<sup>47</sup> With thanks to Maw Pin Tan

<sup>48</sup> <http://covid-19.moh.gov.my/>

<sup>49</sup> With thanks to Maria Aurora Fenech

<sup>50</sup> <https://deputyprimeminister.gov.mt/en/health-promotion/covid-19/Pages/covid-19-infographics.aspx>

<sup>51</sup> <https://ltccovid.org/wp-content/uploads/2020/06/LTC-covid-situation-in-Malta-6-June-2020.pdf>

<sup>52</sup> <https://ltccovid.org/2020/06/23/covid-related-deaths-in-ltc-in-aotearoa-new-zealand-brief-report/>

<sup>53</sup> With thanks to Norwegian newspaper VG

<sup>54</sup> <https://www.fhi.no/contentassets/ca5914bd0aa14e15a17f8a7d48fa306a/2020.06.19-dagsrapport-norge-covid-19.pdf>

<sup>55</sup> <https://www.ssb.no/en/pleie/>

Although no official reports have been published, the Government of Portugal released to the media the number of deaths in nursing homes. According to data published on May 9, 450 people have died in these nursing homes, 40% of all deaths in the country<sup>56</sup>.

## Singapore

The Ministry of Health centrally collects and publishes epidemiological information about COVID-19 on a daily basis<sup>57</sup>. As of the 22<sup>nd</sup> June, there are 42,313 confirmed cases of COVID-19 infection (the majority in dormitories of migrant workers) and 26 deaths. There have been 2 COVID-19 related deaths in nursing homes. The deaths among nursing home residents represented 8% of the total number of deaths among people with confirmed COVID-19 infections.

## Slovenia<sup>58</sup>

As of the 23<sup>rd</sup> of June 1,541 had had positive tests in Slovenia, of these, 460 were in care homes, corresponding to 323 residents and 137 members of staff. In total, there had been 111 deaths<sup>59</sup>.

Data on the numbers of deaths of care home residents can be obtained from an announcement that, as of the 20<sup>th</sup> of May (when there had been 105 deaths in Slovenia), 52% of these deaths happened in care homes and another 29% were deaths in hospital of care home residents. This would bring the total share of deaths of care home residents to 81%<sup>60</sup>.

## South Korea<sup>61</sup>

Based on data provided in the LTCcovid report for South Korea<sup>62</sup>, of 247 deaths linked to COVID-19 in South Korea on the 30<sup>th</sup> of April, 20 (8.1%) were people presumed to have been infected in nursing homes, and another 64 deaths (25.9% of the total) in Long-Term Care Hospitals. Deaths in both types of settings would amount to 34% of total deaths. However, there were no deaths in care homes as all residents with potential COVID infections were transferred to hospitals.

## Spain

On April 3<sup>rd</sup>, the Spanish Health Ministry required that every regional Government provide them with their data on deaths in care homes in a homogenous way. This was done in order to have a national estimate. The data that each community is required to send to the Ministry every Tuesday and Friday are as follows:

- Total sum of deaths in care homes from the 8<sup>th</sup> of March, 2020 to the present date.

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<sup>56</sup> «Coronavírus: já morreram 450 idosos em lares». may 09, 2020, Accedido: may 10, 2020. [En línea]. Disponible en: <https://www.sabado.pt/portugal/amp/coronavirus-ja-morreram-450-idosos-em-lares>.

<sup>57</sup> <https://www.moh.gov.sg/news-highlights/details/61-more-cases-discharged-657-new-cases-of-covid-19-infection-confirmed>

<sup>58</sup> With thanks to Alenka Oven

<sup>59</sup> <https://covid-19.sledilnik.org/en/stats>

<sup>60</sup> <https://www.gov.si/novice/2020-05-29-celotna-izjava-dr-beovic-glede-zdravstvene-oskrbe-stanovalcev-domov-za-starejse/>

<sup>61</sup> With thanks to Hongsoo Kim

<sup>62</sup> Kim, H (2020) *The impact of COVID-19 on long-term care in South Korea and measures to address it*. LTCcovid, International Long-Term Care Policy Network, CPEC-LSE, 7 May 2020. <https://lccovid.org/wp-content/uploads/2020/05/The-Long-Term-Care-COVID19-situation-in-South-Korea-7-May-2020.pdf>

- Total sum of confirmed COVID-19 deaths in the nursing home from the 8th of March, 2020 to the present date.
- Total sum of deaths with symptoms that are compatible with COVID-19 (not confirmed) in the nursing home from the 8th of March, 2020 to the present date.

Despite this requirement, the Health Ministry has not yet made public the data regarding the total number of deaths in nursing homes. All of the available information comes from the media<sup>63</sup> and from regional governments. Although the information offered by regional governments has been progressively clarified, the data are not yet completely comparable: some regions differentiate between deaths of people who have been diagnosed with COVID-19 and deaths of those with symptoms of the illness but who have not been diagnosed, while other regions do not make that distinction. In the latter case, there is no way of knowing whether a region's data refers only to confirmed cases or if non-confirmed cases are also included.

In addition, some regions, but not all, have included deaths in care homes for adults with disabilities or mental illness in their data.

Taking these limitations into account, and using the last data provided by the regional Governments, a total of 19,553 people have passed away in care homes (23<sup>th</sup> of June). This number includes both the deaths of people who have been diagnosed with COVID-19 and the deaths of those with symptoms of the illness but who have not been diagnosed. These deaths represent a 68.1% of all COVID-19 confirmed deaths in Spain.

However, if the deaths of people without a positive test are not taken into account, the number of deaths in care homes would be reduced to 9,679, a 34.1% of the officially recorded deaths in Spain. This percentage is probably closer to reality, since the general data about COVID-19 mortality in Spain references the total of cases confirmed via a diagnostic test (PCR or antibody testing)<sup>64</sup>.

An alternative way of measuring the impact of Covid-19 in the mortality of nursing homes consists of calculating the percentage of registered deaths in nursing homes (both suspicious and confirmed) in relation to the excess mortality for the over-74 population and the whole of the population in Spain. According to data from the Daily Mortality Monitoring System (MoMo)<sup>65</sup>, the excess mortality of people over 74 in Spain calculated for the 20th March-30th May period has been of 35.614, which represents 82% of the entire registered excess mortality. The 19.553 deaths in nursing homes represent 55% of the excess mortality in people over 74 and 45% of the entire excess mortality.

In Spain there were an estimated 322,000 care home residents in 2019<sup>66</sup>, so the share of residents who are estimated to have died (linked to COVID-19) would be 6%.

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<sup>63</sup> «Radiografía del coronavirus en residencias de ancianos: más de 19.500 muertos con Covid-19 o síntomas compatibles». may 10, 2020, Accedido: june 23, 2020. [En línea]. Disponible en:

<https://www.rtve.es/noticias/20200622/radiografia-del-coronavirus-residencias-ancianos-espana/2011609.shtml>.

<sup>64</sup> Ministerio de Sanidad, «Orden SND/352/2020, de 16 de abril, por la que se modifica la Orden SND/234/2020, de 15 de marzo, sobre adopción de disposiciones y medidas de contención y remisión de información al Ministerio de Sanidad ante la situación de crisis sanitaria ocasionada por el COVID-19». abr. 17, 2020, [En línea]. Disponible en: <https://boe.es/boe/dias/2020/04/17/pdfs/BOE-A-2020-4493.pdf>

<sup>65</sup> [https://momo.isciii.es/public/momo/dashboard/momo\\_dashboard.html#nacional](https://momo.isciii.es/public/momo/dashboard/momo_dashboard.html#nacional)

<sup>66</sup> <http://envejecimientoenred.es/una-estimacion-de-la-poblacion-que-vive-en-residencias-de-mayores/>

## Sweden<sup>67</sup>

On the 15th June there had been 4,810 deaths in Sweden where COVID-19 was mentioned in the death certificate, of which 2,280 were in care homes (47% of all deaths)<sup>68</sup>, that is. On 3rd June, a report<sup>69</sup> was published by the Swedish government describing an increase in the mortality rate in people living in assisted housing, compared to those not living in assisted housing, from 5.6 (between January to May 2016-2019) to 6.4 (between January to May 2020). In addition, people requiring home care were also found to have an increase in mortality rate compared to those not requiring home care, from 2.6 (between January to May 2016-2019) to 2.9 (between January to May 2020). The report nevertheless acknowledges the possible sampling bias, in that individuals living in assisted or home care have an inherently increased mortality rate compared to a comparable group not living in an assisted or home care setting due to an increase in comorbidities and age, for example.

On the 31st October there were 82,217 care home residents in Sweden, using that as the denominator for total number of residents, 2.8% of care home residents would have died.

## Turkey

Up to the 23<sup>rd</sup> June, 190,165 people have tested positive and there have been 5001 deaths in Turkey<sup>70</sup>. No administrative data on deaths of care home residents is published; information here relies on the public statements of the government officials provided in different platforms. As of 7 May, there were 1,030 diagnosed COVID-19 cases in care institutions who had been admitted to hospitals. So far, 150 deaths of care home patients have been reported. The deaths in nursing homes account for 4% of all COVID-19 deaths in Turkey<sup>71</sup>. No data has been provided so far concerning the infection or mortality rates of care home staff.

## United Kingdom

The UK Government publishes daily statistics on COVID-19 related deaths<sup>72</sup>. These data include information on deaths of people who have had a positive test result confirmed by a Public Health or NHS laboratory. As of the 20<sup>th</sup> of June there had been 303,110 lab-confirmed COVID-19 cases in the UK and 42,589 deaths. In addition, NHS England provides the same figures disaggregated by NHS Trust, region, age of the patient, and recently by ethnicity<sup>73</sup>. These death figures do not include people who had not been tested.

Figures including care homes are not reported in the same way in England and Wales, Northern Ireland and Scotland, therefore we present them in separate sub-sections.

### *England and Wales*

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<sup>67</sup> With thanks to Marta Szebehely

<sup>68</sup> <https://www.socialstyrelsen.se/statistik-och-data/statistik/statistik-om-covid-19/statistik-over-antal-avlidna-i-covid-19/>

<sup>69</sup> <https://www.socialstyrelsen.se/globalassets/1-globalt/covid-19-statistik/statistik-relaterad-till-covid-19/faktablad-dodlighet-aldre.pdf>

<sup>70</sup> <https://covid19.saglik.gov.tr/>

<sup>71</sup> <https://ltccovid.org/wp-content/uploads/2020/06/The-COVID-19-Long-Term-Care-situation-in-Turkey.pdf>

<sup>72</sup> <https://coronavirus.data.gov.uk/>

<sup>73</sup> <https://www.england.nhs.uk/statistics/statistical-work-areas/covid-19-daily-deaths/>

The Office for National Statistics (ONS) provides weekly updates of deaths registered in England and Wales. The nature of these figures differs from the NHS figures in that they include all deaths where “COVID-19” was mentioned (by a doctor) on death certificates (i.e. where ICD10 codes U07.1 and U07.2 were used). Up to the 12<sup>th</sup> of June, there were 48,538 deaths registered in England and Wales involving COVID-19<sup>74</sup>. ONS weekly figures are usually published approximately 11 days in arrears as the registration process takes time. As of 12<sup>th</sup> of June, 30,868 COVID-19 related deaths occurred in hospital (64%), 14,404 occurred in care homes (30%), 2,205 occurred in private homes (5%) and 660 in hospices (1%)<sup>75</sup>.

The ONS also publishes estimates of excess mortality during the period of the pandemic. Between week 11 (starting 9<sup>th</sup> March) and the 12<sup>th</sup> of June 2020 there have been 59,138 additional deaths in England and Wales compared to the same time of the year in the previous five years<sup>76</sup>. Deaths linked to COVID-19 represented 88% of all excess deaths during that period. There were 26,745 excess deaths in care homes in England and Wales during that period<sup>77</sup>.

In England, the CQC also collect data on all care home resident deaths, not only those occurring in the care home. Data up until the 1<sup>st</sup> May show that 12,526 care home residents in England and Wales died from COVID-19 or related causes<sup>78</sup>. For this period, 72% of all care home resident deaths occurred in the care home. Since then, data for England alone has been released by CQC which shows that since the 2<sup>nd</sup> of May and up until 12<sup>th</sup> of June, there were a further 7,174 COVID-19 related deaths of care home residents<sup>79</sup>. Of those where the place of death was stated (6,552), 5,063 (77%) happened in the care homes. Thus, in total since the first death of a care home resident due to COVID-19, 19,700 deaths of care home residents have been registered in England and Wales<sup>80</sup>.

For the same period, the CQC data also show that 84% of all deaths of care home residents (where place of death is stated) occur in care homes. Assuming this figure is also true for Wales, this would suggest that the total number of excess deaths among care home residents in England and Wales (including those who died elsewhere) would be around 31,839<sup>81</sup>. Accordingly, deaths registered as linked to

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<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/datasets/weeklyprovisionalfiguresondeathsregisteredinenglandandwalesCOVID-19Placeofoccurrence>.

75

<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/datasets/weeklyprovisionalfiguresondeathsregisteredinenglandandwales>

76

<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/datasets/weeklyprovisionalfiguresondeathsregisteredinenglandandwalesWeeklyfigures2020>.

77

<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/bulletins/deathsregisteredweeklyinenglandandwalesprovisional/weekending12june2020>. Data for Figure 8.

78

<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/datasets/numberofdeathsincarehomesnotifiedtothecarequalitycommissionenglandTable5>.

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<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/datasets/numberofdeathsincarehomesnotifiedtothecarequalitycommissionenglandTable4>.

<sup>80</sup> This figure only includes COVID-19 deaths of care home residents in Wales up until 1<sup>st</sup> June.

<sup>81</sup> Own calculation assuming 84% of care home residents’ excess deaths in a care home (26745/0.84).

COVID-19 in care homes would represent 45% (14,404/31,839) of all excess deaths of care home residents in England and Wales.

There is data on the number of care homes with COVID-19 outbreaks in England available from Public Health England. During the period up to the 14<sup>th</sup> of June 6,438 care homes have experienced outbreaks, this represents 41.5% of all care homes<sup>82</sup>.

#### *Northern Ireland*<sup>83</sup>

Since 19 April, the Department of Health of Northern Ireland has been releasing daily statistics on COVID-19<sup>84</sup>. As of 21<sup>st</sup> of June, 4,866 cases of COVID-19 have been confirmed in Northern Ireland, with 545 deaths. Of those deaths, 186 (34%) occurred in care homes. There were 70 active COVID-19 in care homes and 30 closed outbreaks<sup>85</sup>.

The Northern Ireland Statistics and Research Agency also publish data on deaths, including those where COVID-19 (suspected or confirmed) is mentioned on the death certificate<sup>86</sup>. According to this data, between the 21<sup>st</sup> March and the 12<sup>th</sup> June, there had been 795 registered COVID-19 deaths in Northern Ireland. Of those, 338 (43%) occurred in care homes. Excess deaths during this period were 913, meaning that COVID-19 related deaths accounted for 87% of excess deaths in Northern Ireland.

For the same period, the total number of care home residents<sup>87</sup> who died from suspected or confirmed COVID-19 was 412, meaning that around 83% of all COVID-19 care home resident deaths occurred within the care home. Furthermore, this would mean that care home resident deaths make up 52% of all COVID-19 deaths in Northern Ireland.

#### *Scotland*<sup>88</sup>

There is a detailed report analysing data on infection and deaths in care homes in Scotland<sup>89</sup>. There are 40,969 registered beds in care homes in Scotland<sup>90</sup> and figures from 2017 suggest an 87% occupancy rates (see table in the annex). Based on this, the number of residents in Scotland in 2020 would be around 35,643.

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[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/893025/COVID19\\_Care\\_Homes\\_17\\_June.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/893025/COVID19_Care_Homes_17_June.pdf)

83 With thanks to Corrina Grimes

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<https://app.powerbi.com/view?r=eyJrjoiZGYxNjYzNmUtOTlmZS00ODAxLWE1YTEtMjA0NjZmMzlmN2JmliwidCI6IjJjOWEzMGRILWQ4ZDctNGFhNC05NjAwLTRiZTc2MjVmZjZjNSlsmMiOjh9>

85

<https://app.powerbi.com/view?r=eyJrjoiZGYxNjYzNmUtOTlmZS00ODAxLWE1YTEtMjA0NjZmMzlmN2JmliwidCI6IjJjOWEzMGRILWQ4ZDctNGFhNC05NjAwLTRiZTc2MjVmZjZjNSlsmMiOjh9>

86 <https://www.nisra.gov.uk/publications/weekly-deaths> Excel Spreadsheet Weekly Deaths 2020

87 In these statistics, care home residents have been identified where either (a) the death occurred in a care home, or (b) the death occurred elsewhere but the place of usual residence of the deceased was recorded as a care home.

88 With thanks to David Bell and Elizabeth Lemmon

89 Bell D, Henderson D and Lemmon E (2020) *Deaths in Scottish care homes and COVID-19*. LTCcovid, International Long-Term Care Policy Network, CPEC-LSE, 17 May 2020 <https://ltccovid.org/2020/05/18/deaths-in-scottish-care-homes-and-covid-19/>

90 <https://www.careinspectorate.com/index.php/publications-statistics/93-public/datastore>

As of the 20th of June, 341 (32%) adult care homes in Scotland had a current case of suspected COVID-19 down from a peak of 45% on 30<sup>th</sup> May. A total of 688 (64%) adult care homes have lodged at least one notification for suspected COVID-19 to the Care Inspectorate since the start of the epidemic and 526 of these care homes have reported more than one case of suspected COVID-19. A total of 6,456 cumulative cases of suspected COVID-19 have been reported in care homes<sup>91</sup>.

In addition, data returned to the Care Inspectorate for the 10<sup>th</sup> June to the 16<sup>th</sup> June, show that 2,453 staff were reported as absent in adult care homes due to COVID-19, which represents 5.3% of all adult care home staff in those care homes who submitted a return<sup>92</sup>. This figure has been falling steadily since the 10<sup>th</sup> April.

Whereas the daily data on deaths refer only to symptomatic cases recorded in hospitals, National Records of Scotland (NRS) publishes a weekly analysis of death registrations which mention COVID-19 in the death certificate, again using the new emergency ICD10 codes. This measure captures COVID - related deaths in care homes and other settings as well as those in hospital. Data for the period 7<sup>th</sup> March up to the 14th June show that 4,070 of all deaths (22%) were related to COVID-19. During the same period there had been 4,877 excess deaths (compared to the 5-year average) in total and 2,451 excess deaths in care homes (50%)<sup>93</sup>. COVID-related deaths in Scotland represented 83%% of all excess mortality. A total of 1,896 COVID-19 deaths occurred in care homes (47% of all COVID-19 deaths)<sup>94</sup>.

In terms of deaths of care home residents, the most up to date data released by NRS shows that up until 17<sup>th</sup> May, there had been 1,777 COVID-19 related registered deaths of care home residents. Of those, 1,683 (91%) in the care home<sup>95</sup>.

## United States

As of the 18<sup>th</sup> June, there is COVID-19 data on long-term care facilities (LTCFs) available from 47 states (4 are not report)<sup>96</sup>. There have been 9,822 facilities with known cases (across 44 states) and 240,138 cases in LTCFs, of whom 50,185 died. Residents in LTCFs represented 14% of the cases and 45% of the deaths.

## 5. Comparison table and graphs

This section summarises the most recent data from official sources gathered in this document so far, but needs to be interpreted with the limitations and caveats described above. In this table we have tried to

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<sup>91</sup> <https://www.gov.scot/publications/coronavirus-covid-19-trends-in-daily-data/> (Excel spreadsheet at the bottom of the page, Table 7a.)

<sup>92</sup> <https://www.gov.scot/publications/coronavirus-covid-19-trends-in-daily-data/> (Excel spreadsheet at the bottom of the page, Table 7b.)

<sup>93</sup> <https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/vital-events/general-publications/weekly-and-monthly-data-on-births-and-deaths/deaths-involving-coronavirus-covid-19-in-scotland/related-statistics>

<sup>94</sup> <https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/vital-events/general-publications/weekly-and-monthly-data-on-births-and-deaths/deaths-involving-coronavirus-covid-19-in-scotland> (Data and charts icon, Tables 1 and 2)

<sup>95</sup> Available [here](#). Deaths of care home residents.

<sup>96</sup> <https://www.kff.org/coronavirus-policy-watch/this-week-in-coronavirus-june-11-to-june-17/>

distinguish between numbers of deaths among care home residents and number of deaths in care homes and between confirmed and probable deaths. There are more details on the differences in sources and definitions of the data provided in this table in the descriptions of the data available for each country above. As emphasized throughout this document, differences in data collection methods mean that these data are not suitable for direct comparisons or for ranking countries.

**Table 1. Number of COVID-related or confirmed deaths in the population and in care homes (or among care home residents).**

Country	Date	Approach to measuring deaths	Total number deaths linked to COVID-19	Number of deaths of care home residents linked to COVID-19	Number of deaths in care homes	Number of care home resident deaths as % of all COVID-19 deaths	Number of deaths in care homes as % of all COVID-19 deaths
Australia	21/06/2020	Confirmed	102	29		31%	
Austria	05/06/2020	Confirmed	646	222		34%	
Belgium	20/06/2020	Confirmed + Probable	9,696	6213	4,851	64%	50%
Canada	01/06/2020	Confirmed + Probable	7,326	6,236		85%	
Denmark	15/06/2020	Confirmed	598	211		35%	
Finland	23/06/2020	Confirmed	327		147		45%
France	16/06/2020	Confirmed + Probable	29,547	14,341	10,457	49%	35%
Germany <sup>97</sup>	23/06/2020	Confirmed	8,895	3,491		39%	
Hong Kong	22/06/2020	Confirmed	4	0	0	0%	0%
Hungary	02/06/2020	Confirmed	532	127		24%	
Ireland	22/06/2020	Confirmed + Probable	1,717		1,086	63%	
Israel	24/06/2020	Confirmed	307	137		45%	
Jordan	22/04/2020	Confirmed	9	0	0	0%	0%
Malta	23/06/2020	Confirmed	9	0	0	0%	0%
New Zealand	10/06/2020	Confirmed + Probable	22		16		72%
Norway	19/06/2020	Confirmed	244		144		59%
Portugal	09/05/2020		1,125	450		40%	
Singapore	22/06/2020	Confirmed	26	2	0	8%	
Slovenia	22/05/2020	Confirmed	105	85	55	81%	52%
South Korea	30/04/2020	Confirmed	247	84	0	34%	0%
Spain	23/06/2020	Confirmed + Probable	28,318 (confirmed) <sup>98</sup>		9,679 (confirmed) 19,553 (confirmed + probable)		34% (confirmed) 68% (confirmed+ probable)
Sweden	15/06/2020	Confirmed + probable	4,810	2,280		47%	

<sup>97</sup> Germany's definition includes communal establishments such as prisons, so the rate of care home residents may be lower.

<sup>98</sup> Caveat: Total death figures in Spain only include confirmed cases, probable deaths figures for the whole population are not currently available.

<b>England &amp; Wales (UK)</b>	12/06/2020	Confirmed + probable	48,538	19,700 <sup>99</sup>	14,364	41%	30%
<b>Northern Ireland (UK)</b>	12/06/2020	Confirmed + probable	795	412	338	52%	43%
<b>Scotland (UK)</b>	14/06/2020	Confirmed + probable	4,070	1,777 <sup>100</sup>	1,896	44% <sup>101</sup>	47%
<b>United States<sup>102</sup></b>	18/06/2020	Confirmed	240,138	50,185		45%	

*Sources: as per the data described in this document*

For some countries we have been able to obtain number of care home residents (or beds) that would correspond to the definition used in the number of deaths statistics in this report. As table 2 shows, the impact in terms of the share of care home residents who have died has been very different and follows closely the rate of deaths attributed to COVID-19 per million population.

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<sup>99</sup> This figure comprises data from two releases. The first data (<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/datasets/numberofdeathsincarehomesnotifiedtothecarequalitycommissionengland> Table 5) published by ONS for England and Wales from the onset of the pandemic to 1<sup>st</sup> May. The second data set (<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/datasets/numberofdeathsincarehomesnotifiedtothecarequalitycommissionengland>, Table 4) are for England only for the period 2<sup>nd</sup> May to 12<sup>th</sup> June.

<sup>100</sup> Only includes data up until 17<sup>th</sup> May.

<sup>101</sup> Based on care home resident deaths up until 17<sup>th</sup> May.

<sup>102</sup> Data from 45 states, see country description above.

**Table 2. Share of care home residents who may have died as a direct or indirect result of the COVID-pandemic**

	Number of care home residents (or beds)	Deaths attributed to COVID as percentage of all care home residents	Deaths attributed to COVID per million population <sup>103</sup>
<b>New Zealand</b>	38,000 (beds)	0.04%	4
<b>Hungary</b>	55,170	0.20%	60
<b>Austria</b>	69,730	0.30%	77
<b>Germany</b>	818,000 (beds)	0.40%	107
<b>Norway</b>	39,466 (beds)	0.40%	46
<b>Denmark</b>	40,000	0.50%	104
<b>Slovenia</b>	18,500	0.50%	52
<b>Canada</b>	425,755	1.50%	224
<b>France</b>	605,061	2.40%	455
<b>Sweden</b>	82,217	2.80%	511
<b>Italy<sup>104</sup></b>	297,158	3.10%	574
<b>Ireland<sup>105</sup></b>	31,250	3.20%	348
<b>Belgium</b>	125,000	4.90%	839
<b>United Kingdom<sup>106</sup></b>	411,000	5.3%	635
<b>Spain</b>	322,000	6.10%	606

Sources: based on data collected for this report and Worldometers<sup>104</sup>

### a. Comparing deaths linked to COVID-19 that use the same definitions

#### Confirmed deaths:

In Figure 1 we plot the share of all COVID-19 deaths accounted for by care home residents (i.e. both within and out with the care home), for the countries for which we have data of confirmed COVID-19 deaths.

The figure shows that for those countries, on average, around one third of all COVID-19 deaths are accounted for by care home residents. Notably, Singapore and Slovenia have particularly small are large

<sup>103</sup> <https://www.worldometers.info/coronavirus/#countries>

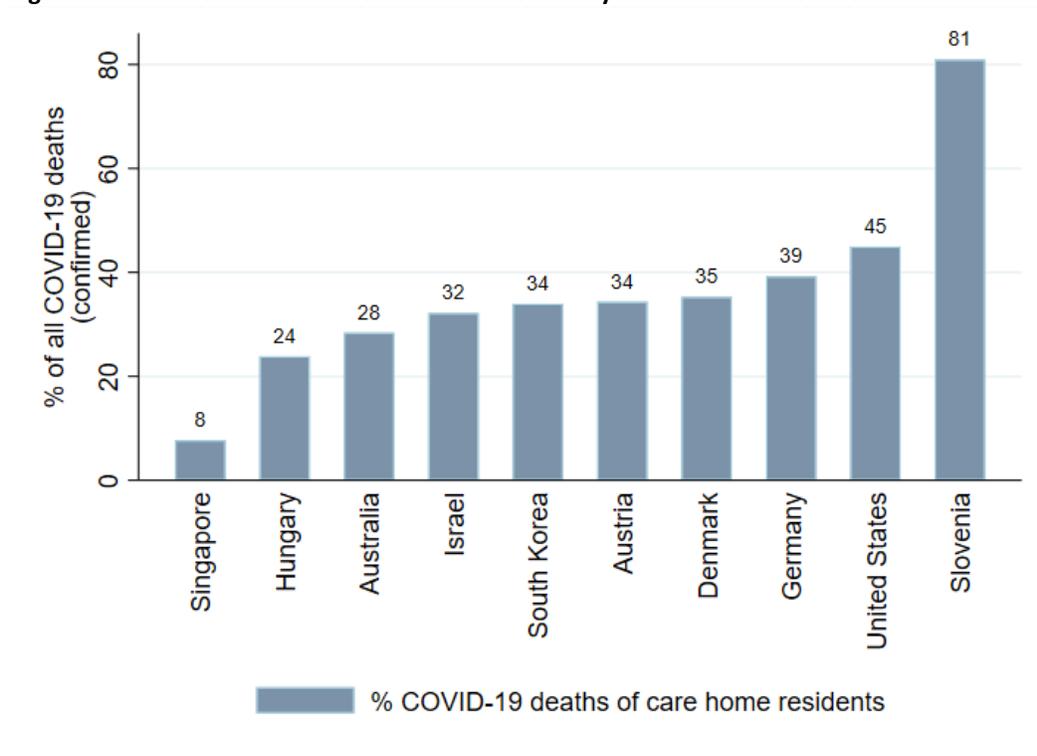
<sup>104</sup> Based on a national survey of care homes (see Italy section in this report and <https://ltccovid.org/2020/06/26/updated-estimates-of-mortality-of-nursing-home-residents-and-staff-linked-to-the-covid-19-pandemic-in-italy/>)

<sup>105</sup> This only includes nursing home residents. <https://www.hiqa.ie/areas-we-work/older-peoples-services>

<sup>106</sup> The share is likely to be an underestimate as it does not include data for deaths of care home residents in Wales. The figure from the total number of beds in the UK comes from: <https://assets.publishing.service.gov.uk/media/5a1fdf30e5274a750b82533a/care-homes-market-study-final-report.pdf> but the authors are seeking more up to date figures.

shares respectively, which may be influenced by the small number of deaths in those countries (26 and 105 respectively).

**Figure 1: Confirmed COVID-19 deaths accounted for by care home residents overall<sup>107</sup>**



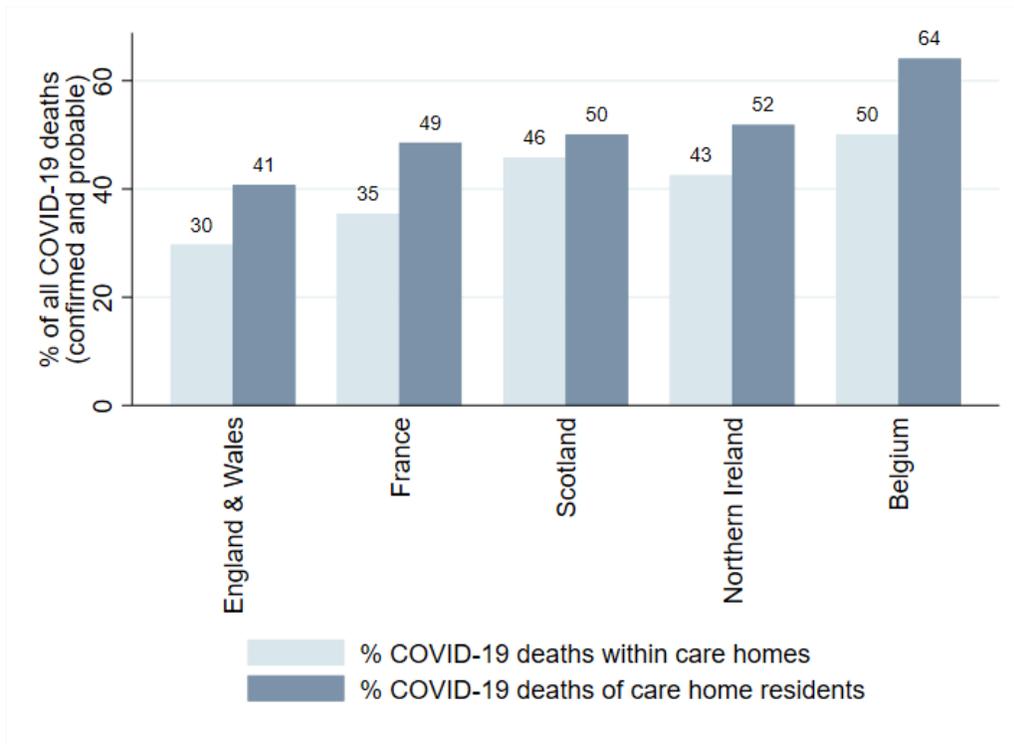
### Comparing deaths in care homes and deaths of care home residents

In Figure 2, we plot the data for those countries who record both the number of COVID-19 deaths occurring within the care home and the number of COVID-19 deaths of care home residents (including those who may have died in hospital), this time where COVID-19 deaths are based on confirmed and suspected cases. As one might expect, the share of deaths accounted for by care home residents is considerably higher than the share of deaths occurring within care homes. This difference ranges from 4 percentage points in Scotland, to 14 percentage points in France and Belgium. In the case where a country records only the number of COVID-19 deaths within care homes but not for care home residents overall, the differences observed in Figure 2 might give an indication of the share of COVID-19 deaths accounted for by care home residents. Though there are likely to be a number of other important factors to consider.

Further, compared to Figure 1, the share of COVID-19 deaths accounted for by care home residents is generally higher – around 50% compared to 30% - when probable and suspected cases are included. This highlights the need to use caution when making comparisons between countries when no distinction is made between the measurements of mortality used. For example, if Figures 1 and 2 were combined, all countries in Figure 1 (with the exception of Slovenia) would appear to be performing ‘better’ in terms of the share of all COVID-19 deaths accounted for by care home residents.

<sup>107</sup> Data as per figures stated in Table 1. Note that Hong Kong, Jordan and Malta are excluded as they had no recorded COVID-19 deaths of care home residents within the care home or out with the care home.

**Figure 2: Confirmed and probable or suspected COVID-19 deaths accounted for by deaths within care homes and by care home residents overall<sup>108</sup>**

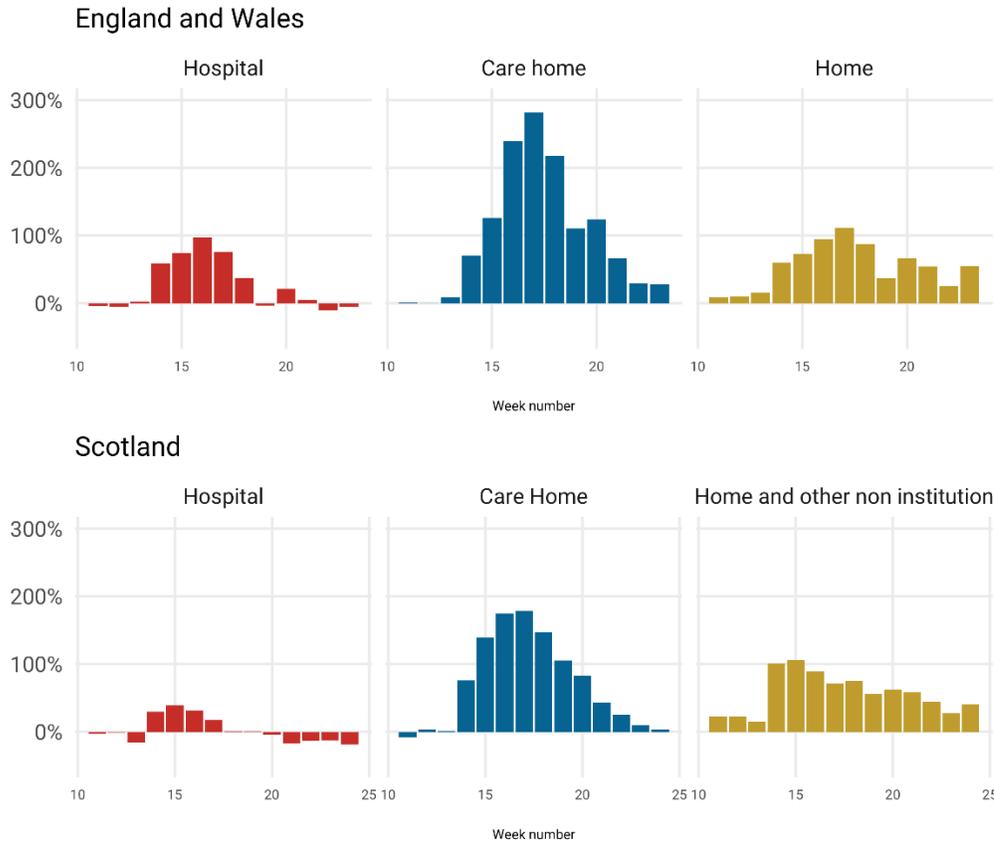


### Comparing excess all-cause deaths in the UK during the COVID pandemic

In Figure 3 we plot excess all-cause deaths in UK countries for which data is available broken down by location of death. The weekly change from the previous 5-year average increased in almost all of the weeks 10-24 of 2020 across all locations of death in both England & Wales and Scotland. This excess peaked in care homes at an almost 300% increase in England & Wales and an almost 200% increase in Scotland in week 17. In more recent weeks, in-hospital deaths are below the previous five-year average whilst deaths at home remain approximately 20%-50% above average.

**Figure 3. Percentage change in 2020 weekly all-cause deaths from previous 5 year average in UK countries for which data are available.**

<sup>108</sup> Scotland's data based on figures up until 17<sup>th</sup> May.

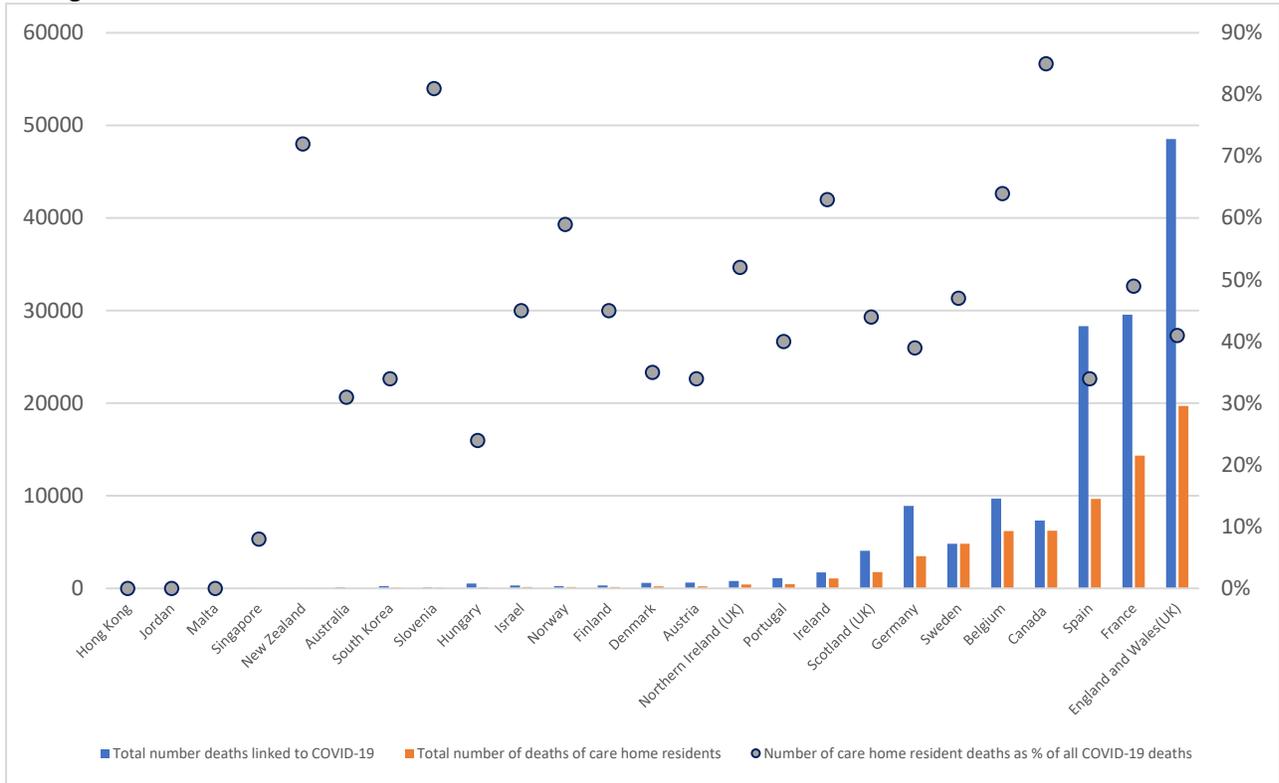


**Source:** Office for National Statistics and National Records for Scotland. Excludes other place of death in E & W where average % difference = +19.4 in weeks 11-23 and other institutional place of death in Scotland where average % difference = -5.1 in weeks 11-24.

### b. Share of all COVID-19 deaths that were care home residents

Figure 4 plots the share of all deaths that were care home residents (or for some countries that died in care homes, see table 1 for details). As shown in figures 1 and 2, it is important to treat these data in caution as the definition vary. Compared to earlier versions of this table, as new countries have been added, the relationship between the total number of COVID-related deaths and the share of those that happens in care homes is less clear as some countries relatively few deaths, such as New Zealand and Slovenia, have had high share of deaths in care homes.

**Figure 4. Total number of deaths linked to COVID-19 in the total population compared to the number of deaths among care home residents**

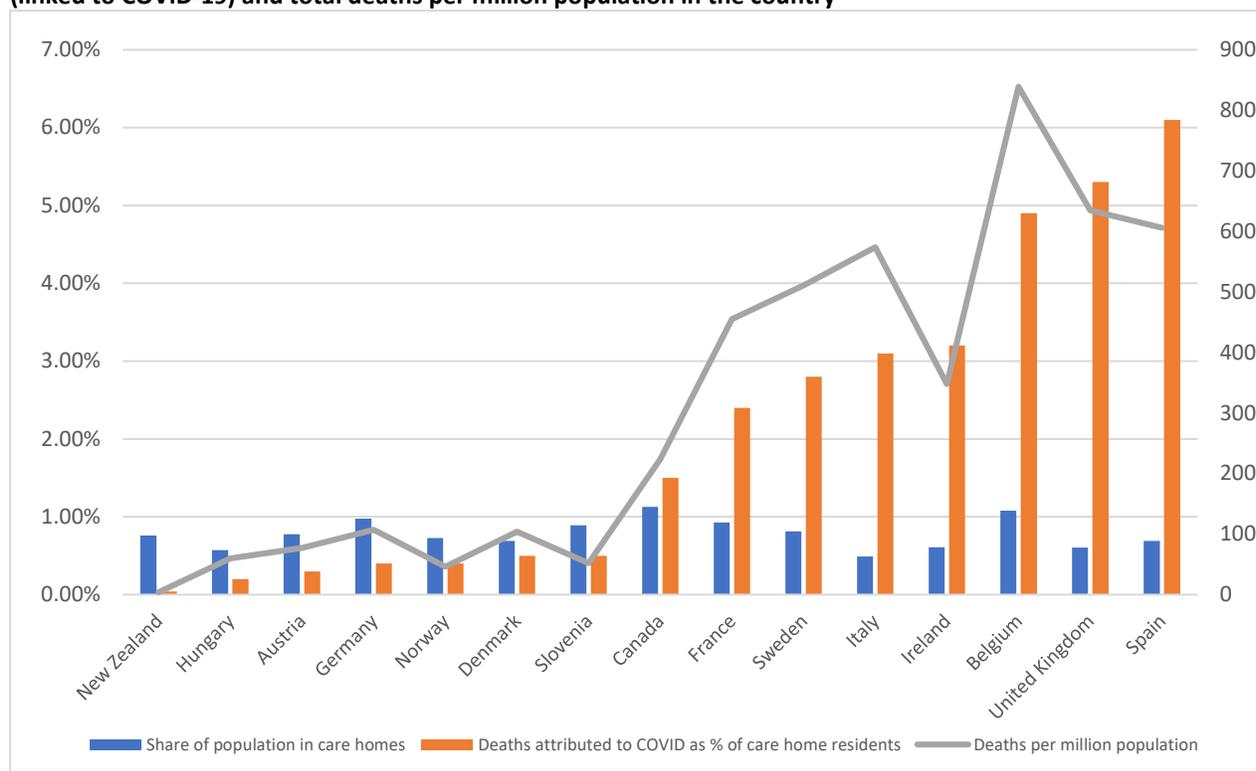


Source: based on figures collected for this report

### c. Share of care home residents whose deaths are linked to COVID

Figure 5 illustrates the data presented in table 2, comparing the share of population living in care homes, the share of care home residents whose deaths were recorded as confirmed or probable COVID-19, and the share of the total population who have died due to COVID-19 (per million). There is no correlation between the share of all population in care homes and the share of care home residents who died, but the share of care home residents who died tracks closely the rates of deaths for the whole population.

**Figure 5. Share of care home residents compared to the total population, share of care home residents who died (linked to COVID-19) and total deaths per million population in the country**



Sources: data gathered for this report (see table 2 and previous sections)

## 6. Discussion

Since the first version of this report of the 12<sup>th</sup> of April, an increasing number of countries are publishing data on deaths of care home residents (or deaths in care homes) linked to COVID-19, the authors are very grateful to all who have provided information about data availability in their countries.

There continues to be a lot of differences in how the data is collected and what it covers, but an increasing number of countries are providing more detailed data. The key differences in the data reported are due to whether the data covers deaths of care home residents (irrespective of whether they die in the care home or hospital) or just deaths that happen in the care homes, and the definition used for care homes. Another important difference is whether the deaths reported (both among care home residents and the whole population) cover cases confirmed through testing, cases where COVID was considered to be the probable cause of death, or excess mortality during the period of the pandemic.

To illustrate the impact of differences in definition, it is useful to consider the case of England and Wales, where data is available on both probable COVID-19 deaths of people who died in care homes, and on excess deaths in care homes and of care home residents. The share of all **probable** COVID-19 deaths **in** care homes is 30%, the share of all probable deaths **of** care home residents is 41%. The share of **excess deaths in** care homes is 45% and the share of deaths **of** care home residents is 54% of all excess deaths.

This report aims to present the data in a way that illustrates these differences. The authors are continuing to work to obtain more complete data for all countries included in the report, and hopefully additional countries, therefore continuing to improve the quality and comparability of the data presented here. As improved comparable data becomes available for more countries, we will be able to present graphs that are more comparable too and we may be able to generate datasets that may contribute to improve our understanding of the relationships between different measures adopted to prevent COVID-19 and mortality of care home residents.

A striking finding of the first version of this report published on the 12<sup>th</sup> of April and when data were only available for 5 countries, was that in all those countries the share of deaths of care home residents was around 50% of all deaths linked to COVID-19. As data for more countries have been added, and more detailed data has become available for some of the countries, it becomes clear that the impact of COVID-19 on care home residents has been very different internationally, with some countries reporting no deaths (or infections) in care homes, such as Hong Kong, Jordan and Malta, and two countries reporting that over 80% of COVID-19 deaths were of care home residents. Without including the three countries with zero deaths, and with the caveat that the definitions used vary, on average the share of all COVID-19 deaths that were care home residents is 47% (based on 26 countries).

Adding new data shows that earlier suggestions (when data were available for less countries) that the share of COVID-19 deaths who were care residents increases with the total number of deaths may not be a robust finding, as New Zealand and Slovenia, despite having had relatively small numbers of total COVID deaths, have had a large share of those among care home residents (72 and 81% respectively).

This suggests that, to look at the relative impact of COVID-19 on care home residents in different countries, it is more useful to focus on the share of care home residents whose deaths have been linked to COVID-19. There are some difficulties with comparing definitions of care homes, as the definitions used vary between countries and some include younger residents whereas others only report on care homes for older people. In this report we have sought to use the same definition within the same country for both the numerator (reported COVID-19 deaths among care residents) and the denominator (number of care home residents or, where not available, beds). We have found that the share of care home residents who have died ranges from 0 in Hong Kong, 0.04% in New Zealand, 0.3% in Austria, 0.4% in Germany and 1.5% in Canada, to 2% in Sweden, 2.4% in France, 4.9% in Belgium, 5.3% in the UK and 6.1% in Spain (see table 2 for all countries for which we have found data so far).

In addition to its direct impact on the lives of care residents and their families, mortality associated with COVID-19 is likely to have important consequences on the care sectors' economy for years to come. It is for instance likely to lead to changes in public perceptions of the risk associated with care homes, and therefore to reductions in levels of demand for institutional care. Even ignoring such demand effects, it is likely that the observed reductions in care home residents generated by COVID-19 excess mortality will take several years to be "absorbed" by new cohorts of care home admissions. Finally, many governments are likely to introduce regulatory changes aimed at preventing the risk of the spread of infectious diseases in care homes, through for instance changes in training, use of PPE, testing regimes and staffing levels. Such changes are likely to increase the costs of providing institutional care, and as a result push prices up and reduce further demand or impose additional financial burdens on public coffers at a particularly difficult fiscal time.

It is also worth noting that whilst the focus of this report is on care homes, many older people receive care in the community. Currently, there is limited published evidence from anywhere in the world on how those individuals have been directly or indirectly affected by COVID-19.

The authors of this report are analysing further the data available so far and will be grateful for any further information to support this work.