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Subject: Fw:Re: Nursing homes - evidence
Date: Sunday 29 March 2020 09:48:41
Attachments: [Covid_19_update_on_24_March_2020_2.pptx](#)
[HRB Evidence Centre Evidence Search. COVID-19 and Nursing Homes. 24March2020.docx](#)

Sent from IBM Notes Traveler

> From: "Niall Redmond" <Niall_Redmond@health.gov.ie>
> To: "Kathleen MacLellan" <Kathleen_MacLellan@health.gov.ie>
> Cc: "Mairin Ryan" <Mairin_Ryan@health.gov.ie>
> Date: Sat, 28 Mar 2020 23:12
> Subject: Re: Nursing homes - evidence
>
> Just an FYI while I see Nursing Homes and Evidence in the subject line.
> We asked the HRB to complete an evidence search on Covid-19 and Nursing Homes which they turned around very quickly and provided during the week.
> Attached are the outputs which might have some general interest.
> Niall
>
>
>
> -----Kathleen MacLellan/SLAINTE wrote: -----
>
> To: Mairin Ryan/SLAINTE@SLAINTE
> From: Kathleen MacLellan/SLAINTE
> Date: 03/28/2020 09:49PM
> Cc: Niall Redmond/SLAINTE@SLAINTE
> Subject: Nursing homes - evidence
>
> Mairin
> Could your team include looking at any evidence in nursing homes - spread, mortality, prevention, actions etc. We are seeing a growing number of clusters in nursing homes.
> Thanks
> Kathleen
>
> Sent from IBM Notes Traveler

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Covid 19

Age
Vulnerable group

Updated 23 March 2020

Research questions

Q. What is the latest evidence around older age groups? At what age does the risk significantly increase (eg 50, 65, 75)?

We have scoped this out to include the following risks, and from a brief scan of the literature: infection, case classification (mild, severe, critical), and mortality.

Q. What is the latest evidence about co-morbidities and vulnerable groups (not age)?

We have scoped this out to be for people aged 50 years and under
A brief scan of sources shows a current focus on 5 co-morbidities: Cancer; Chronic Respiratory Disease, Cardiovascular Disease, Diabetes, Hypertension.

COVID-19: age, gender distribution and co-morbidities

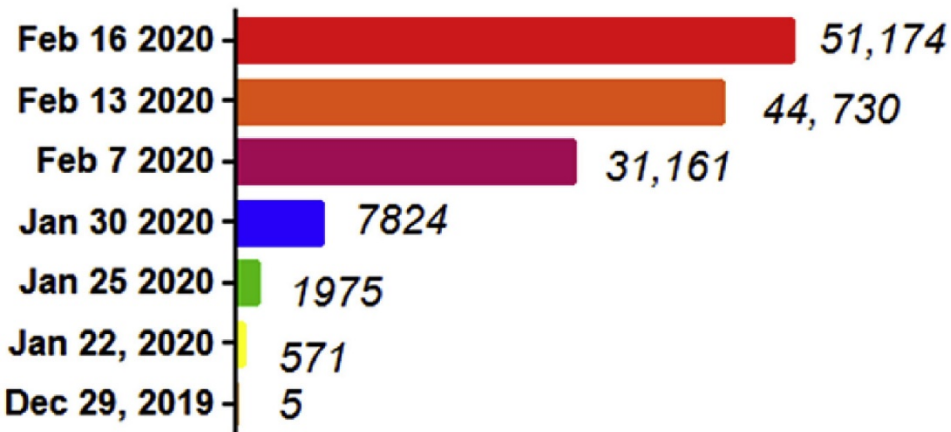
- Examined a number of websites (CDC, ECDC, WHO and associated links) and PubMed database to identify epidemiological reports on the COVID-19 outbreak
- Only five documents describes age and five documents described comorbidities (both from China)
- These documents describe the situation in China, Italy, Korea and Singapore
- Information from China, Korea and Italy are useful as they link characteristics to case fatality rate (CFR)



China

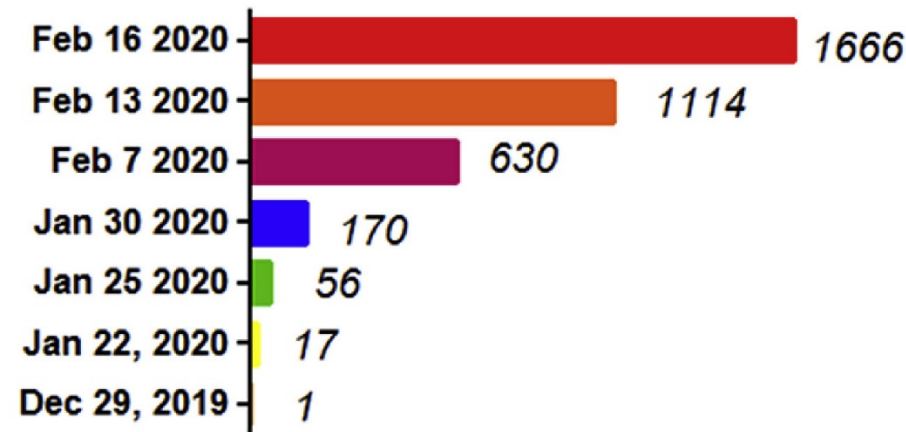
Number of diagnoses cases of COVID-19 and number of deaths, China

(A)



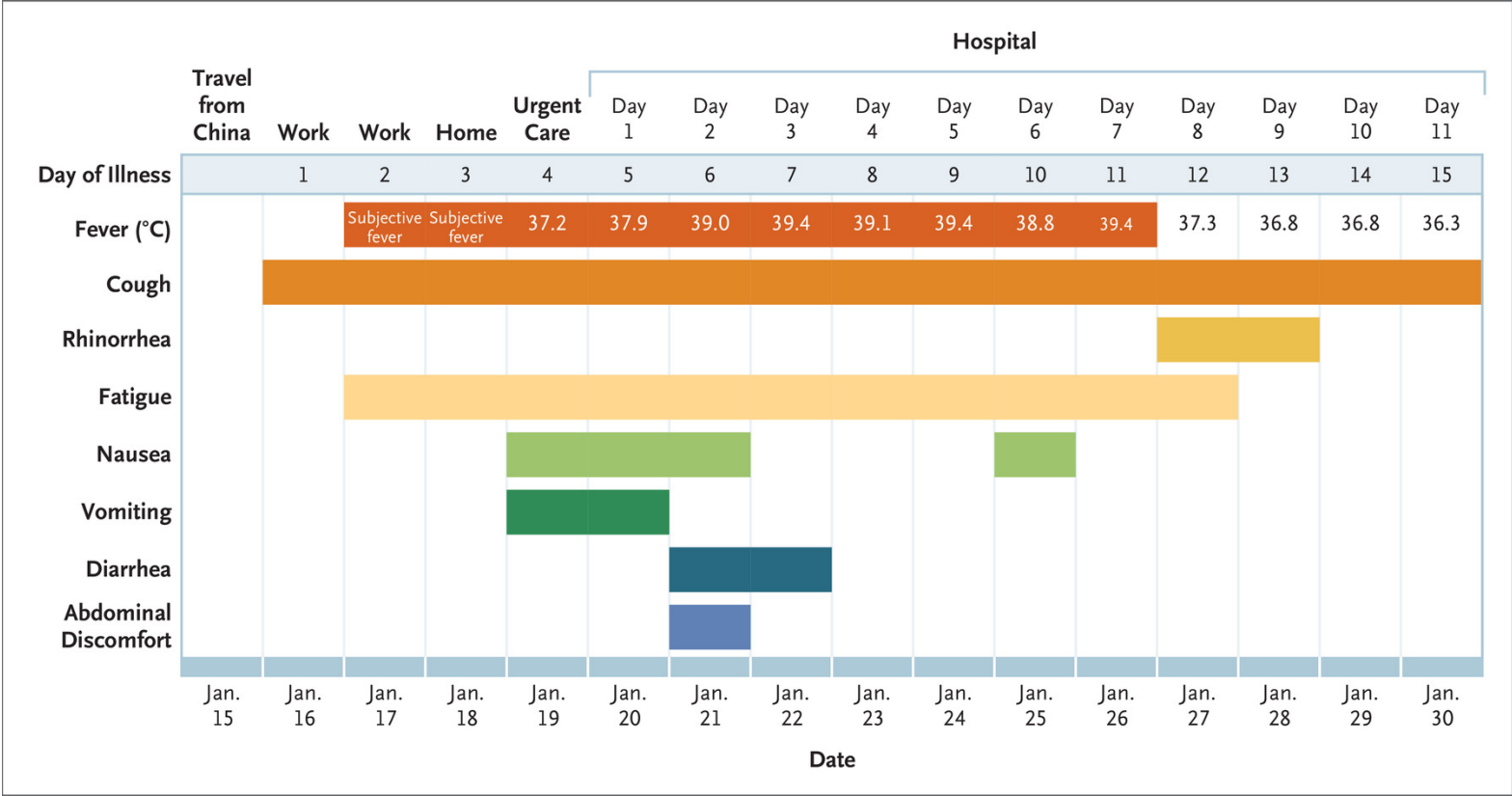
Cases with COVID-19 infection

(B)



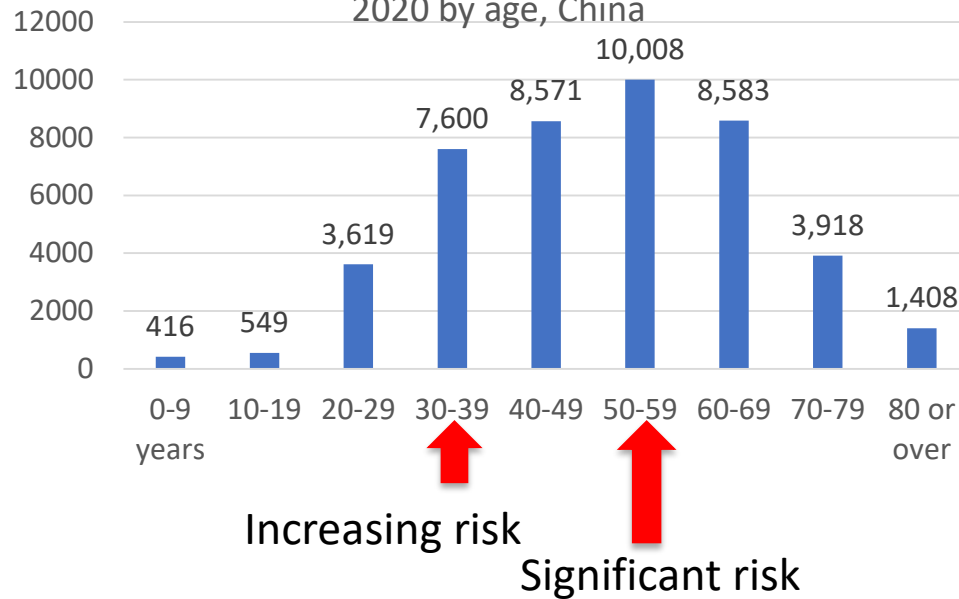
Death cases of COVID-19 infection

Signs and symptoms of COVID 19 based on experience in China

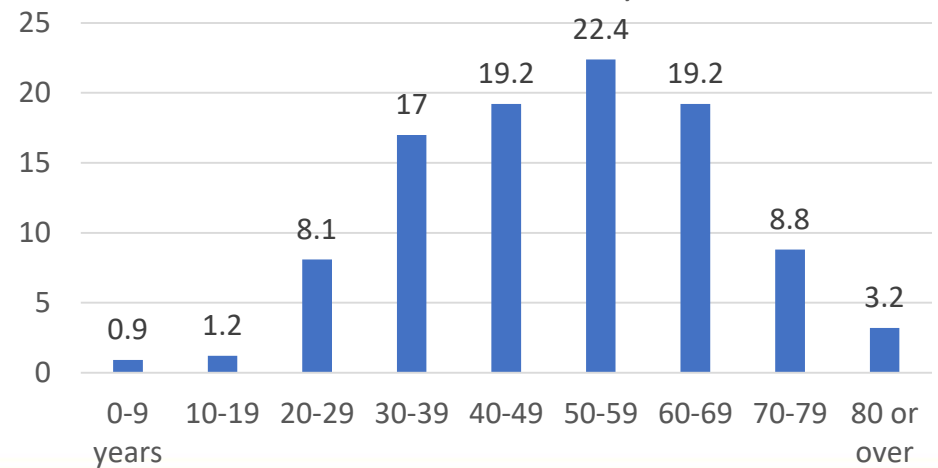




Number of confirmed cases to 11 February 2020 by age, China



Age distribution of confirmed cases to 11 February 2020



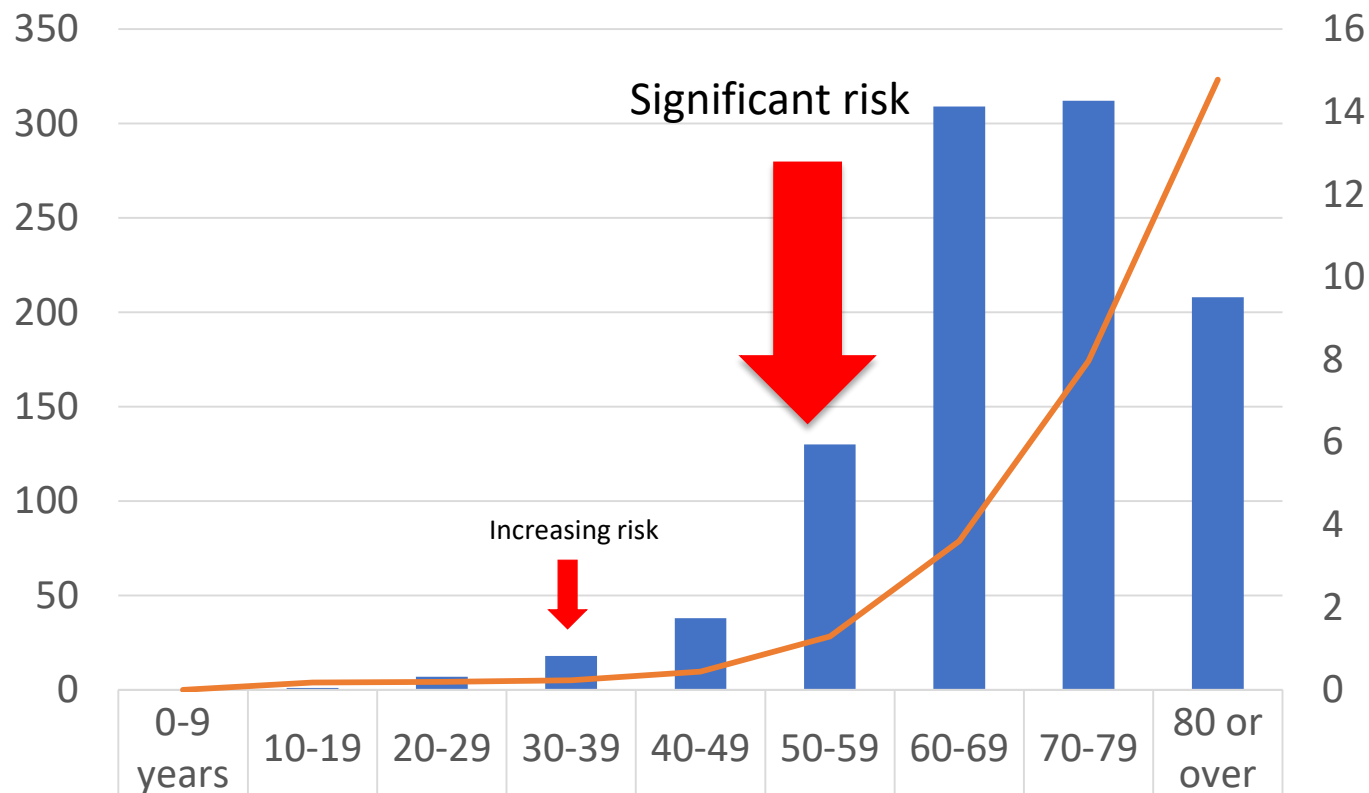


Characteristics	Severity of disease			Presence of outcome of interest	
	All patients (1099)	Non-severe (926)	Severe (173)	Yes (67)	No (1032)
Age (years)	1011	848	163	65	946
0-14	0.9	0.9	0.6	18.5	1
15-49	55.1	57.8	41.1	32.3	57.6
50-64	28.9	28.4	31.3	49.2	28.6
65 or over	15.1	12.9	27	32.8	12.8



Number and percentage of deaths by age to 11 February 2020, China

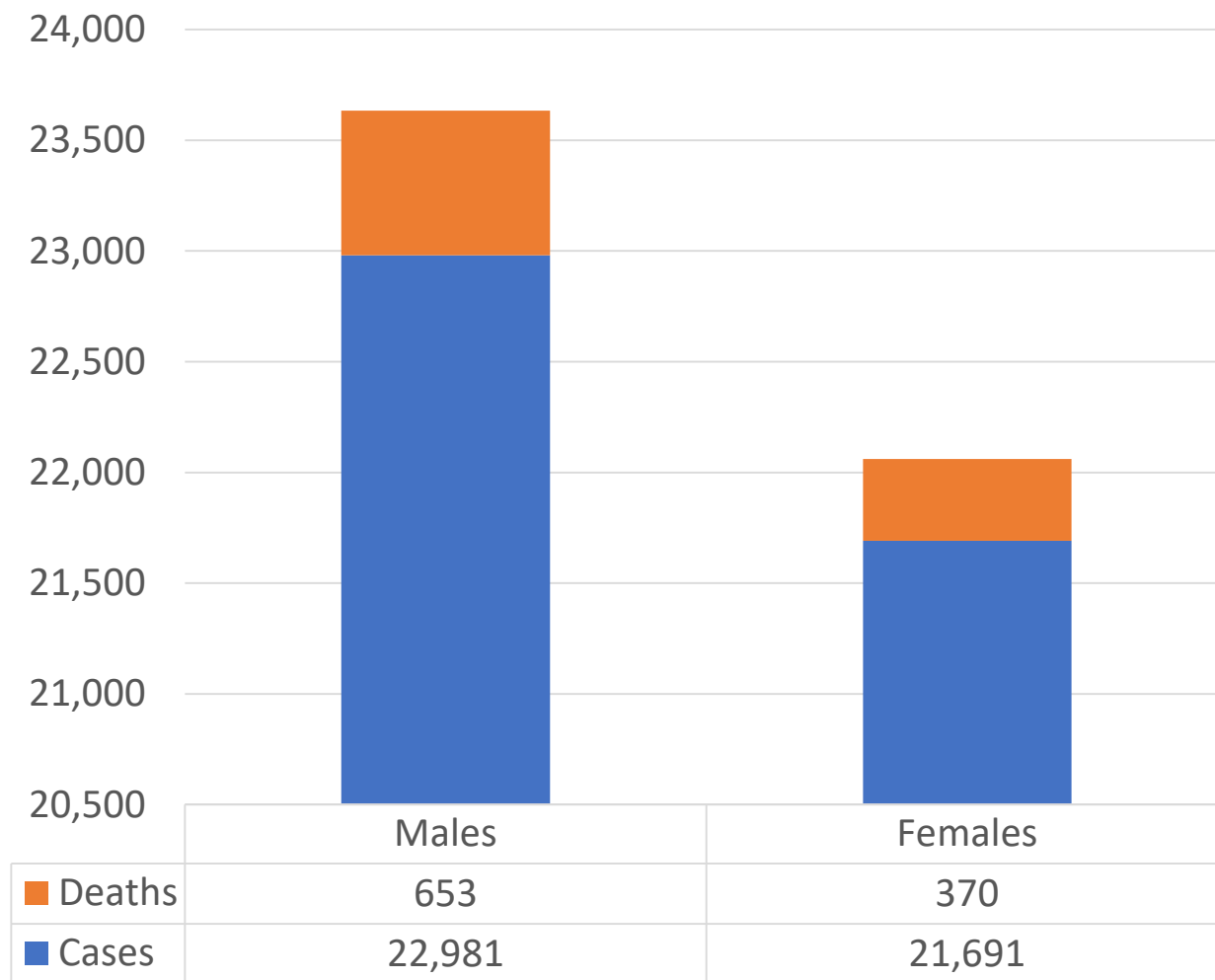
Overall CFR
2.29



■ Number of deaths by age	0	1	7	18	38	130	309	312	208
— Case fatality rate	0	0.18	0.19	0.24	0.44	1.30	3.60	7.96	14.77



Number of cases and deaths by sex to 11 February 2020, China



Male:female
ratio 1.06:1

Male CFR 2.8
Female CFR 1.7



Co-morbidity	Cases	Deaths	Case fatality rate
Hypertension	2,683	161	6.00
Diabetes	1,102	80	7.26
Cardiovascular disease	873	92	Significant risk 10.54
Chronic respiratory disease	511	32	6.26
Cancer	107	6	5.61
None	15,536	133	0.86
Missing data	23,690	617	2.60
Total	44,502	1,121	2.52



Disease severity	Cases	Deaths	Case fatality rate
Mild	36,160		
Severe	6,168		
Critical	2,087	1023	49.02 Significant risk
Missing data	257		
Total	44,672	1023	2.29



Characteristics	Severity of disease		Presence of outcome of interest		
	All patients (1099)	Non-severe (926)	Severe (173)	Yes (67)	No (1032)
Comorbidity					
Any (261)	261 (23.7)	194 (21.0)	67 (38.7)	39 (58.2)	222 (21.5)
Chronic obstructive pulmonary disease	12	6	6	7	5
Diabetes	81	53	28	18	63
Hypertension	163	124	41	24	141
Cornary heart disease	27	17	10	6	21
Cerebrovascular disease	15	11	4	4	11
Hepatitis B infection	23	22	1	1	22
Cancer	10	7	3	1	9
Chronic renal disease	8	5	3	2	6
Immunodeficiency	2	2	0	0	2



Death by time	Cases	Deaths	Case fatality rate
Anytime December 2019	104	15	14.42
1-10 January 2020	653	102	15.62
11-20 January	5,417	310	5.72
21-31 January	26,468	494	1.87
1-11 February	12,030	102	0.85
Total	44,672	1,023	2.29

Decreasing risk but could be lag time issue

Prevalence of co-morbidities in the COVID-19 infection in China: Meta-analysis of 8 studies

Co-morbidity	Prevalence of co-morbidity	Odds of severe cases having co-morbidities compared to non-severe
Hypertension	17%, 95% CI 14-22%	OR 2.36, 95% CI: 1.46-3.83
Diabetes	8%, 95% CI 6-11%	OR 2.07, 95% CI: 0.89-4.82
Cardiovascular disease	5%, 95% CI 4-7%	OR 3.42, 95% CI: 1.88-6.22
Chronic respiratory disease	2%, 95% CI 1-3%	OR 2.46, 95% CI: 1.76-3.44
Total number of cases		46,248

Incidence, clinical characteristics and prognostic factors of patients with COVID-19 in China: meta-analysis of 30 studies

Pooled incidence of **severity**: 20.2% (95% CI: 15.1-25.2%)

Predictors of severity were: **age** \geq 50 years (OR: 2.61; 95% CI: 2.29-2.98), male (OR: 1.35; 95% CI: 1.20-1.52), smoking (OR: 1.73; 95% CI: 1.15-2.63) and any **co-morbidity** (OR: 2.64; 95% CI: 2.1-3.31)

Co-morbidity risks: chronic kidney disease (OR: 6.017; 95% CI: 2.192-16.514), chronic obstructive pulmonary disease (OR: 5.323; 95% CI: 2.613-10.847) and cerebrovascular disease (OR: 3.219; 95% CI: 1.486-6.972)

53,000 cases

Mean age: 49.8 years (95% CI: 47.5-52.2)

55.5% male

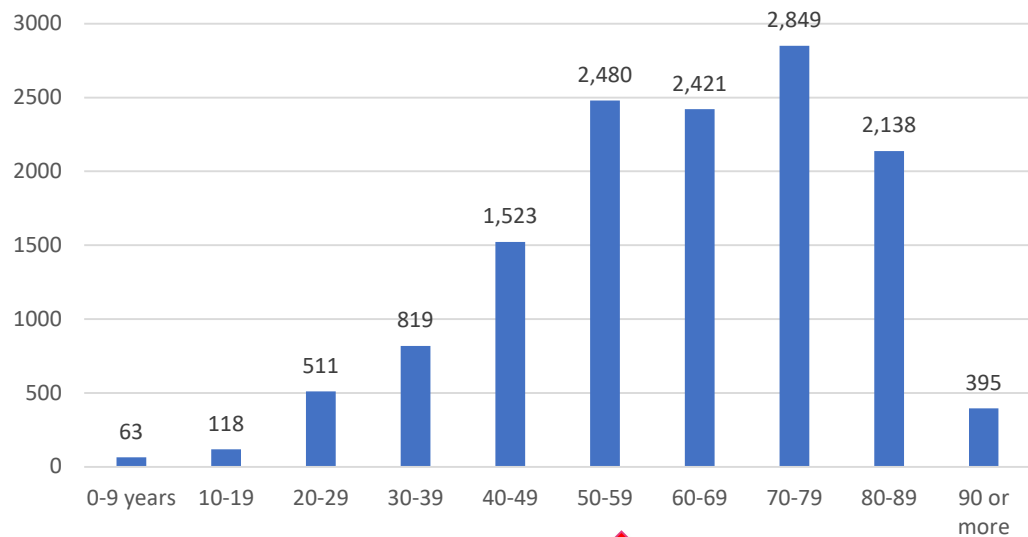
Pooled **mortality** 3.1% (95% CI: 1.9-4.2%)

Prognostic factors infection-related deaths were: **age** \geq 60 years (RR: 9.45, 95% CI: 8.09-11.04), **cardiovascular** disease (RR: 6.75; 95% CI: 5.40-8.43), **hypertension** (RR: 4.48; 95% CI: 3.69-5.45) and **diabetes** (RR: 4.43; 95% CI: 3.49-5.61) 53,000

Italy

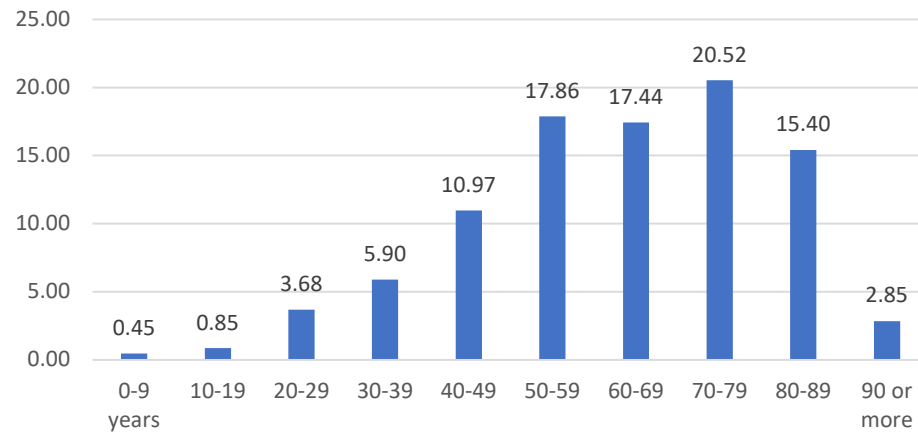


Number of cases by age up to 12 March 2020, Italy



Significant risk

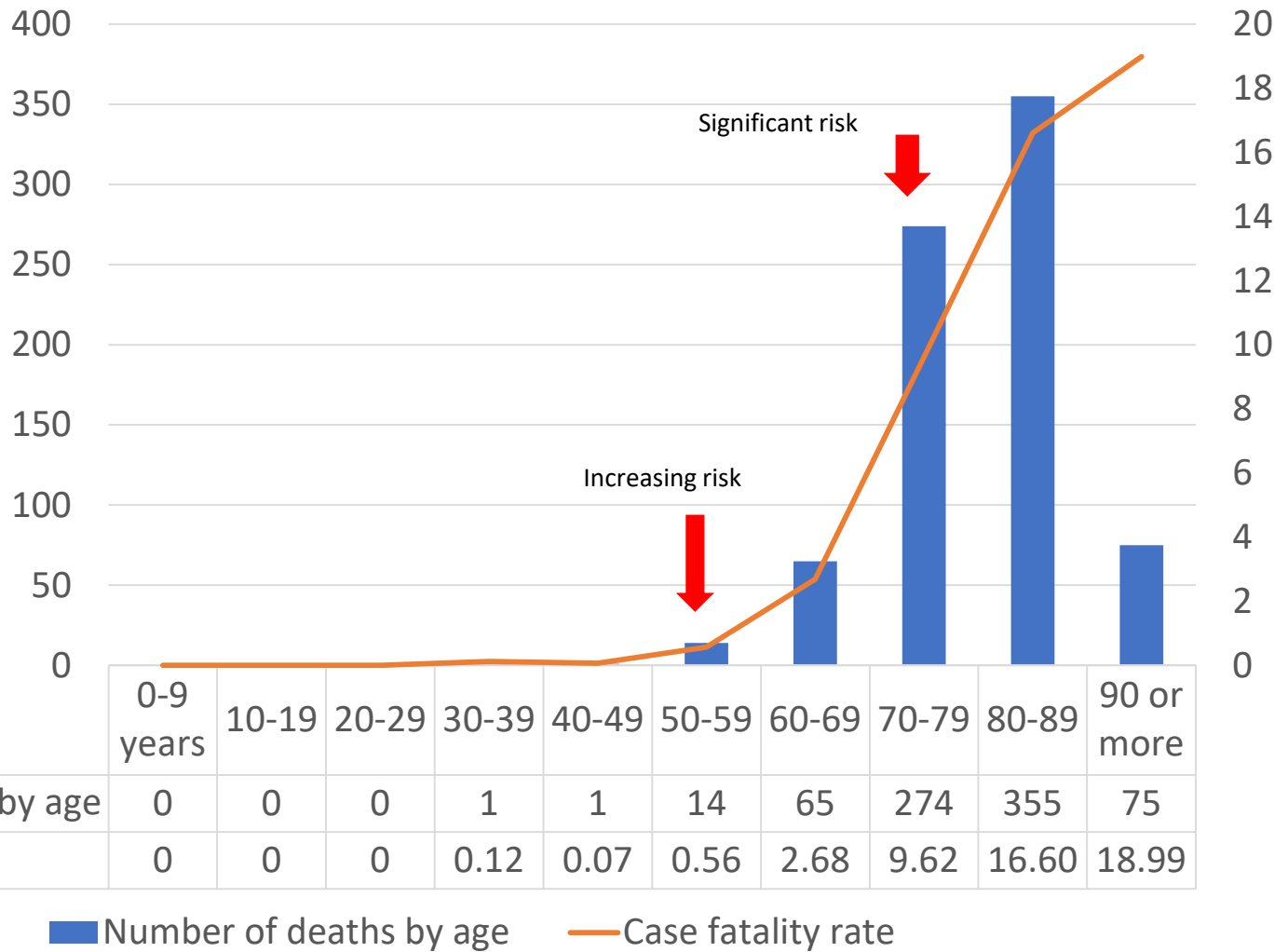
Age distribution of cases up to 12 March 2020, Italy





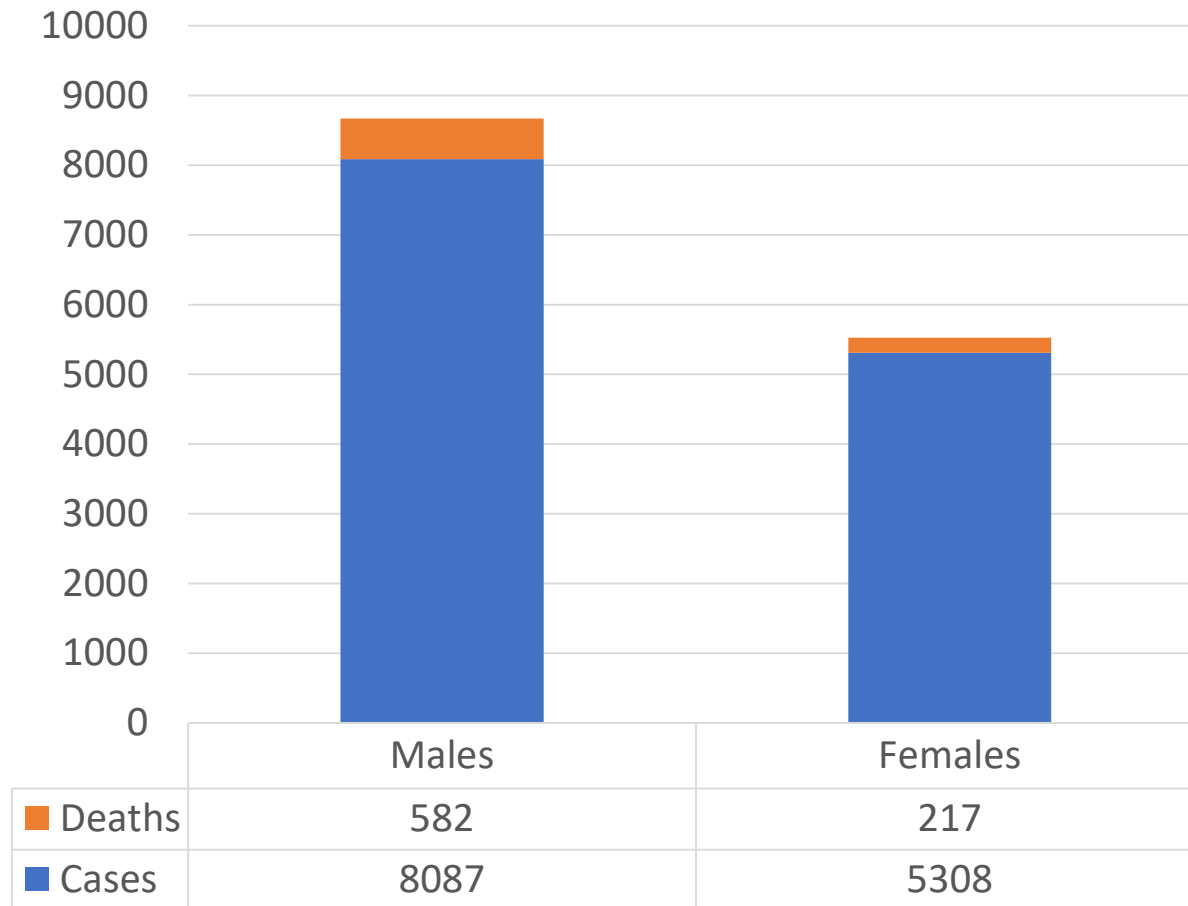
Number and percentage of deaths by age up to 12 March 2020, Italy

Overall CFR 5.8





Number of cases and deaths up to 12 March 2020 by gender, Italy



Male:female
ratio 1.5:1

Male CFR 7.2
Female CFR 4.1



Co-morbidities

- The mean age of those who died in Italy was **81 years**
- Of the patients who died, **14.1% were >90 years, 42.2% were aged 80–89 years, 32.4% were aged 70–79 years**, 8.4% were aged 60–69 years, and 2.8% were aged 50–59
- The male to female ratio is 80% to 20% with an older median age for women (83.4 years for women vs 79.9 years for men)
- More than **two-thirds of these patients had diabetes, cardiovascular diseases, or cancer, or were former smokers**
- The percentage of patients admitted to **intensive care units** reported from March 1 to March 11 was consistently between **9% and 11%** of patients who were actively infected

Korea

Epidemiologic characteristics of novel coronavirus disease, Korea

Characteristics	n (%)
Male	15 (53.6)
Female	13(46.3)
Age (in years)	
20-29	6 (21.4)
30-39	6 (21.4)
40-49	6 (21.4)
50-59	8 (28.6)
60-69	1 (3.6)
70-79	1 (3.6)

Shim et al. report that COVID-19 caused 6,284 cases and 42 (0.66%) deaths in South Korea as of March 8, 2020. The case fatality rate increased with **age**, from 0.1% among those 30-39 years to 6% among those ≥ 80 years

Singapore



Characteristics of first 100 cases in Singapore

Characteristic	Total
Age group (years)	
<30	17 (17.0)
30–39	28 (28.0)
40–49	20 (20.0)
50–59	24 (24.0)
≥60	11 (11.0)
Sex	
Male	60 (60.0)
Female	40 (40.0)

No other useful details available

ECDC reports that:

- The evidence from analyses of cases to date is that COVID-19 infection causes mild disease (i.e. non-pneumonia or mild pneumonia) in about 80% of cases and most cases recover, 14% develop more severe disease and 6% experience critical illness. Severe illness and death is more common among the elderly and those with other chronic underlying conditions, with these risk groups accounting for the majority of severe disease and fatalities to date. In the event of a disruption of healthcare services, the impact could be very high. In addition to the public health impact with substantial fatal outcomes in high-risk groups, COVID-19 outbreaks can cause huge economic and societal disruptions. <https://www.ecdc.europa.eu/en/current-risk-assessment-novel-coronavirus-situation>
- Data presented in this presentation support this summarisation

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- **Epidemiologic characteristics of early cases with 2019 novel coronavirus (2019-nCoV) disease in Republic of Korea(2020/02/09)** <http://forum.nhri.org.tw/forum/2020/02/13/epidemiologic-characteristics-of-early-cases-with-2019-novel-coronavirus-2019-ncov-disease-in-republic-of-korea20200209/>
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- Yixiang Ng et al. **Evaluation of the Effectiveness of Surveillance and Containment Measures for the First 100 Patients with COVID-19 in Singapore — January 2–February 29, 2020** Early Release / March 13, 2020 / 69
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HRB Evidence Centre Evidence Search: COVID-19 and Nursing Homes

Date: 24 March 2020

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Authors:

Jean Long

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Date : 24 March 2020

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Disclaimer

This evidence search was produced by the Health Research Board in response to specific questions from the Department of Health. It is not necessarily a comprehensive review of all literature relating to the topic area. It is reproduced for general information and third parties rely upon it at their own risk.

The following resources have been compiled by the HRB Evidence Centre in response to a request for evidence on the impact of COVID-19 on nursing homes, including infection and mortality rates, supports to respond and manage outbreaks and treatment approaches.

1 Ireland (TILDA) demographics

TILDA report to inform demographics for over 50s in Ireland for COVID-19 crisis (2020)
https://tilda.tcd.ie/publications/research-briefs/pdf/Report_DemographicsOver50s.pdf

TILDA is a Longitudinal Study on Ageing

In summary, of those **over 70 years** 124938 are frail, 63610 are living alone; 22554 are frail and living alone; and 27164 are pre frail and living alone.

Numbers **over 50 years** with Hypertension 749845,
Asthma 185002,
Diabetes Mellitus 182833,
Cancer past or present 167500,
Chronic lung disease such as chronic bronchitis or emphysema 123383,
3 or more comorbidities 706624.

Numbers prescribed possible at-risk medications for ACE2 upregulation: ACE inhibitors 247923; ARB (angiotensin II Antagonist) 218126; Ibuprofen 15188. We find that **126,300** people aged over 50 live alone, **36,000** of whom are living with an ADL functional disability, and **57,800** are aged over 70 years. In total 16%, equivalent to **234,200** have no children. For the majority of those who do have children their children live either in the same house (26.1%) or in the same county (44.5%).

Overall 9% receive help from a family caregiver, the equivalent of **75,800** people. The majority of these were aged over 70 years (**54,500**). Overall 31.5% of the population aged over 50 provide childcare for their grandchildren and the mean number of hours in the last month was 2.5 hours (Interquartile range 1-4) although 9% provided more than 40 hours in the past month. This equates to **352,100** people with **93,000** providing more than 40 hours in the past month.

2 Rates of infection /impacts on nursing homes

2.1 Mortality rates for Covid-19

Please see accompanying HRB document *Covid 19 update on 24 March 2020 2*

Global

Global Covid-19 Case Fatality Rates (23 March 2020)

The Centre for Evidence Based Medicine (Oxford) has published the following case fatality rates based on data taken from worldometers.info
<https://www.cebm.net/global-covid-19-case-fatality-rates/>

Note: Case fatality rate is the number of reported deaths per number of reported cases. Between countries, case Fatality rates vary significantly, and over time, which suggests considerable

uncertainty over the exact case fatality rates. Estimating Case fatality rates in the early stage of outbreaks is subject to considerable uncertainties, the estimates are likely to change as more data emerges.

CHINA

The CFR was 2.3% (1023 deaths/44 672 confirmed cases).

Reported CFRs by age were

Age (deaths/cases)	CFR (95% CI)
≤ 9 years (0/416)	0%
10 to 19 years (1/549)	0.18% (0.03 to 1.02%)
20 to 49 years (63/19790)	0.32% (0.25% to 0.41%)
50 to 59 years (130/10,008)	1.3% (1.1% to 1.5%)
60 to 69. years (309/8583)	3.6% (3.2% to 4.0%)
70 to 79 years (312/3918)	8.0% (7.2% to 8.9%)
≥80 years (208/1408)	14.8% (13.0% to 16.7%)

Patients with comorbid conditions had much higher CFR rates

Condition*	CFR
Cardiovascular disease	10.5%
Diabetes	7.3%
Chronic respiratory disease	6.3%
Hypertension	6.0%
Cancer	5.6%
No comorbidities	0.9%

*Critical cases had a CFR of 49.0%, no deaths occurred among those with mild or even severe symptoms.

- Critical cases were classified as those that exhibited respiratory failure, septic shock, and/or multiple organ dysfunction/failure.
- Severe characterized by dyspnea, respiratory rate ≥30/minute, oxygen saturation ≤93%, PaO₂/FiO₂ ratio <300, and/or lung infiltrates >50% within 24–48 hours

2.2 Impact

The impact of the COVID-19 outbreak in nursing homes has been reported in the media, in particular in North America.

USA

COVID-19 in a Long-Term Care Facility — King County, Washington, February 27–March 9, 2020

<https://assets.documentcloud.org/documents/6812675/CDC-Life-Care-Center-of-Kirkland.pdf>

On February 28, 2020, a case of coronavirus disease (COVID-19) was identified in a woman resident of a long-term care skilled nursing facility (facility A) in King County, Washington.* Epidemiologic investigation of facility A identified 129 cases of COVID-19 associated with facility A,

As of March 9, a total of 129 COVID-19 cases were confirmed among facility residents (81 of approximately 130), staff members, including health care personnel (34), and visitors (14). Health care personnel with confirmed COVID-19 included the following occupations: physical therapist, occupational therapist assistant, environmental care worker, nurse, certified nursing assistant, health information officer, physician, and case manager. Overall, 111 (86%) cases occurred among residents of King County (81 facility A residents, 17 staff members, and 13 visitors) and 18 (14%) among residents of Snohomish County (directly north of King County) (17 staff members and one visitor).

Overall, 56.8% of facility A residents, 35.7% of visitors, and 5.9% of staff members with COVID-19 were hospitalized. Preliminary case fatality rates among residents and visitors as of March 9 were 27.2% and 7.1%, respectively; no deaths occurred among staff members. The most common chronic underlying conditions among facility residents were hypertension (69.1%), cardiac disease (56.8%), renal disease (43.2%), diabetes (37.0%), obesity (33.3%), and pulmonary disease (32.1%). Six residents and one visitor had hypertension as their only chronic underlying condition.

Related Media reporting:

Nursing home at epicentre

<https://www.mcknights.com/news/cms-guidance-bans-most-visitors-communal-dining-at-nursing-homes-over-covid-19/>

The nation's first, and to date worst, outbreak of the dangerous bug took place at a nursing home in Kirkland, WA. The death toll hit 25 there as of Friday, when the nationwide death toll was at 41, according to the Centers for Disease Control and Prevention. Approximately 50 employees at the Kirkland facility had tested positive for coronavirus.

Nursing home staff spread coronavirus to other facilities, CDC investigation finds

<https://www.latimes.com/world-nation/story/2020-03-18/coronavirus-spread-nursing-homes>

Federal regulators find Kirkland nursing home failed to quickly respond to coronavirus outbreak (23 March 2020)

<https://www.seattletimes.com/seattle-news/federal-regulators-find-kirkland-nursing-home-failed-to-quickly-respond-to-coronavirus-outbreak/>

In preliminary findings released Monday, the Centers for Medicare and Medicaid Services (CMS) identified three areas of serious noncompliance at Life Care Center of Kirkland: failure to rapidly identify and manage sick residents, failure to notify the state Department of Health about an increase in respiratory infections and the lack of a sufficient backup plan after the nursing home's primary clinician fell ill.

3 Measures/supports adopted by health and social care agencies

3.1 CDC

Preparing for COVID-19: Long-term Care Facilities, Nursing Homes

<https://www.cdc.gov/coronavirus/2019-ncov/healthcare-facilities/prevent-spread-in-long-term-care-facilities.html>

A new respiratory disease – coronavirus disease 2019 (COVID-19) – is spreading globally and there have been instances of COVID-19 community spread in the United States. The general strategies CDC recommends to prevent the spread of COVID-19 in LTCF are the same strategies these facilities use every day to detect and prevent the spread of other respiratory viruses like influenza.

COVID-19 Preparedness Checklist for Nursing Homes and other Long-Term Care Settings

https://www.cdc.gov/coronavirus/2019-ncov/downloads/novel-coronavirus-2019-Nursing-Homes-Preparedness-Checklist_3_13.pdf

Nursing homes and other long-term care facilities can take steps to assess and improve their preparedness for responding to coronavirus disease 2019 (COVID-19). This checklist should be used as one tool to develop a comprehensive COVID-19 response plan, including plans for:

- Rapid identification and management of ill residents
- Considerations for visitors and consultant staff
- Supplies and resources
- Sick leave policies and other occupational health considerations
- Education and training
- Surge capacity for staffing, equipment and supplies, and postmortem care

The checklist identifies key areas that long-term care facilities should consider in their COVID-19 planning. Long-term care facilities can use this tool to self-assess the strengths and weaknesses of current preparedness efforts. This checklist does not describe mandatory requirements or standards; rather, it highlights important areas to review to prepare for the possibility of residents with COVID-19.

Interim Additional Guidance for Infection Prevention and Control for Patients with Suspected or Confirmed COVID-19 in Nursing Homes

<https://www.cdc.gov/coronavirus/2019-ncov/healthcare-facilities/prevent-spread-in-long-term-care-facilities.html#interim-guidance>

Summary of Changes to the Guidance:

Updated guidance to recommend that nursing homes:

- Restrict all visitation except for certain compassionate care situations, such as end of life situations
- Restrict all volunteers and non-essential healthcare personnel (HCP), including non-essential healthcare personnel (e.g., barbers)
- Cancel all group activities and communal dining
- Implement active screening of residents and HCP for fever and respiratory symptoms

COVID-19 is being increasingly reported in communities across the United States. It is likely that SARS-CoV-2 will be identified in more communities, including areas where cases have not yet been reported. As such, nursing homes should assume it could already be in their community and move to restrict all visitors and unnecessary HCP from the facility; cancel group activities and communal dining; and implement active screening of residents and HCP for fever and respiratory symptoms.

Background

Given their congregate nature and residents served (e.g., older adults often with underlying chronic medical conditions), nursing home populations are at the highest risk of being affected by COVID-19. If infected with SARS-CoV-2, the virus that causes COVID-19, residents are at increased risk of serious illness.

These recommendations supplement CDC's [Interim Infection Prevention and Control Recommendations for Patients with Confirmed Coronavirus Disease 2019 \(COVID-19\) or Persons Under Investigation for COVID-19 in Healthcare Settings](#). These recommendations are specific for nursing homes, including skilled nursing facilities. Much of this information could also be applied in assisted living facilities. This information complements, but does not replace, the general [infection prevention and control recommendations](#) for COVID-19.

This guidance is based on the currently available information about COVID-19. It will be refined and updated as more information becomes available and as response needs change in the United States. It is important to understand transmission dynamics in your community to inform strategies to prevent introduction or spread of COVID-19 in your facility. Consultation with public health authorities can help you better understand if transmission of COVID-19 is occurring in your community.

Things facilities should do now:

Educate Residents, Healthcare Personnel, and Visitors

- Share the [latest information about COVID-2019](#).
- Review CDC's [Interim Infection Prevention and Control Recommendations for Patients with Confirmed Coronavirus Disease 2019 \(COVID-19\) or Persons Under Investigation for COVID-19 in Healthcare Settings](#).
- Educate and train HCP.
 - Reinforce sick leave policies. Remind HCP not to report to work when ill.
 - Reinforce adherence to infection prevention and control measures, including hand hygiene and selection and use of personal protective

equipment (PPE). Have HCP demonstrate competency with putting on and removing PPE.

- Educate both facility-based and consultant personnel (e.g., wound care, podiatry, barber) and volunteers. Including consultants is important because they often provide care in multiple facilities and can be exposed to or serve as a source of pathogen transmission.
- Educate residents and families including:
 - information about COVID-19
 - actions the facility is taking to protect them and their loved ones, including visitor restrictions
 - actions residents and families can take to protect themselves in the facility

Provide Supplies for Recommended Infection Prevention and Control Practices

Evaluate and Manage HCP with Symptoms of Respiratory Illness

Policies and Procedures for Visitors

Evaluate and Manage Residents with Symptoms of Respiratory Infection

- Ask residents to report if they feel feverish or have symptoms of respiratory infection.
- Actively monitor all residents upon admission and at least daily for fever and respiratory symptoms (shortness of breath, new or change in cough, and sore throat).
 - If positive for fever or symptoms, implement recommended IPC practices.
- The health department should be notified about residents with severe respiratory infection, or a cluster (e.g., ≥ 3 residents or HCP with new-onset respiratory symptoms over 72 hours) of residents or HCP with symptoms of respiratory infections.
 - See [State-Based Prevention Activities](#) for contact information for the healthcare-associated infections program in each state health department.
 - CDC has [resources for performing respiratory infection surveillance in long-term care facilities pdf icon](#)[PDF – 246 KB] during an outbreak.
- In general, when caring for residents with **undiagnosed respiratory infection** use Standard, Contact, and Droplet Precautions with eye protection **unless the suspected diagnosis requires Airborne Precautions** (e.g., tuberculosis). This includes restricting residents with respiratory infection to their rooms. If they leave the room, residents should wear a facemask (if tolerated) or use tissues to cover their mouth and nose.
 - Continue to assess the need for Transmission-Based Precautions as more information about the resident’s suspected diagnosis becomes available.

If COVID-19 is suspected, based on evaluation of the resident or prevalence of COVID-19 in the community,

- Residents with known or suspected COVID-19 do not need to be placed into an airborne infection isolation room (AIIR) but should ideally be placed in a private room with their own bathroom.
- Room sharing might be necessary if there are multiple residents with known or suspected COVID-19 in the facility. As roommates of symptomatic residents might already be exposed, it is generally not recommended to separate them in this scenario. Public health authorities can assist with decisions about resident placement.
- Facilities should notify the health department immediately and follow the [Interim Infection Prevention and Control Recommendations for Patients with COVID-19 or Persons Under Investigation for COVID-19 in Healthcare Settings](#), which includes detailed information regarding recommended PPE.
- If a resident requires a higher level of care or the facility cannot fully implement all recommended precautions, the resident should be transferred to another facility that is capable of implementation. Transport personnel and the receiving facility should be notified about the suspected diagnosis prior to transfer.
 - While awaiting transfer, symptomatic residents should wear a facemask (if tolerated) and be separated from others (e.g., kept in their room with the door closed). Appropriate PPE should be used by healthcare personnel when coming in contact with the resident.

Additional Measures

- Cancel communal dining and all group activities, such as internal and external activities.
- Remind residents to practice social distancing and perform frequent hand hygiene.
- Create a plan for cohorting residents with symptoms of respiratory infection, including dedicating HCP to work only on affected units.

In addition to the actions described above, these are things facilities should do when there are cases in their community but none in their facility.

Healthcare Personnel Monitoring and Restrictions

- Consider implementing universal use of facemasks for HCP while in the facility.

In addition to the actions described above, these are things facilities should do when there are cases in their facility or sustained transmission in the community.

Healthcare Personnel Monitoring and Restrictions:

- Implement universal use of facemask for HCP while in the facility.
- Consider having HCP wear all recommended PPE (gown, gloves, eye protection, N95 respirator or, if not available, a facemask) for the care of all residents,

regardless of presence of symptoms. Implement protocols for extended use of eye protection and facemasks.

Resident Monitoring and Restrictions:

- Encourage residents to remain in their room. If there are cases in the facility, restrict residents (to the extent possible) to their rooms except for medically necessary purposes.
 - If they leave their room, residents should wear a facemask, perform hand hygiene, limit their movement in the facility, and perform social distancing (stay at least 6 feet away from others).
- Implement protocols for cohorting ill residents with dedicated HCP.

3.2 CMS Centers for Medicare & Medicaid Services (USA)

Guidance for Infection Control and Prevention of Coronavirus Disease 2019 (COVID-19) in nursing homes (REVISED) 13 March 2020

<https://www.cms.gov/files/document/qso-20-14-nh-revised.pdf>

For ALL facilities nationwide:

Facilities should restrict visitation of all visitors and non-essential health care personnel, except for certain compassionate care situations, such as an end-of-life situation. In those cases, visitors will be limited to a specific room only. Facilities are expected to notify potential visitors to defer visitation until further notice (through signage, calls, letters, etc.).

...Additional guidance:

1. Cancel communal dining and all group activities, such as internal and external group activities.
2. Implement active screening of residents and staff for fever and respiratory symptoms.
3. Remind residents to practice social distancing and perform frequent hand hygiene.
4. Screen all staff at the beginning of their shift for fever and respiratory symptoms. Actively take their temperature and document absence of shortness of breath, new or change in cough, and sore throat. If they are ill, have them put on a facemask and self-isolate at home.
5. For individuals allowed in the facility (e.g., in end-of-life situations), provide instruction, before visitors enter the facility and residents' rooms, provide instruction on hand hygiene, limiting surfaces touched, and use of PPE according to current facility policy while in the resident's room. Individuals with fevers, other symptoms of COVID-19, or unable to demonstrate proper use of infection control techniques should be restricted from entry. Facilities should communicate through multiple means to inform individuals and nonessential health care personnel of the visitation

restrictions, such as through signage at entrances/exits, letters, emails, phone calls, and recorded messages for receiving calls.

6. Facilities should identify staff that work at multiple facilities (e.g., agency staff, regional or corporate staff, etc.) and actively screen and restrict them appropriately to ensure they do not place individuals in the facility at risk for COVID-19...Cont.

CMS announces shift to broadly expand telehealth Medicare coverage to nursing home beneficiaries, others as COVID-19 strategy 17 March 2020

<https://www.mcknights.com/news/breaking-cms-announces-major-shift-to-expand-telehealth-medicare-coverage-to-nursing-home-beneficiaries-others-as-covid-19-strategy/>

CMS is widening Medicare’s telehealth benefits under the 1135 waiver authority and the Coronavirus Preparedness and Response Supplemental Appropriations Act. Until today, there had been coverage only for rural providers, existing patients and a few others.

Now, clinicians will be able to consult with patients in nursing homes or numerous other locations without stressing crowded waiting rooms or increasing risk with face-to-face visits.

Clinicians will be paid for a wider range of telehealth services for beneficiaries “residing across the country,” including in their homes, dating back to March 6, CMS said.

“A range of healthcare providers, such as doctors, nurse practitioners, clinical psychologists and licensed clinical social workers will be able to offer telehealth to Medicare beneficiaries,” Verma said. “Beneficiaries will be able to receive telehealth services in any healthcare facility including a physician’s office, hospital, nursing home or rural health clinic, as well as from their homes.”

CMS Sends Guidance to Programs of All-Inclusive Care for the Elderly (PACE) Organizations (17 March 2020)

<https://www.cms.gov/newsroom/press-releases/cms-sends-guidance-programs-all-inclusive-care-elderly-pace-organizations>

<https://www.cms.gov/files/document/covid-19-pace-memo-3-17-20.pdf>

Today, the Centers for Medicare & Medicaid Services (CMS) issued guidance to all Programs of All-Inclusive Care for the Elderly (PACE) Organizations (POs) to protect the health and safety of Americans in response to the 2019 Novel Coronavirus (COVID-19) pandemic. PACE is a Medicare and [Medicaid](#) program that helps people meet their healthcare needs in the community instead of going to a nursing home or other care facility. CMS is putting out COVID-19 guidance to all types of healthcare providers and facilities. PACE is the latest area of focus because these organizations serve older adults

who often have serious chronic medical conditions and therefore are at higher risk of serious illness from the virus.

“Today we announced guidance to PACE Organizations to keep the beneficiaries who use these services healthy and safe,” said CMS Administrator Seema Verma. “It is critically important to ensure that those most at risk of serious illness from COVID-19 are protected in every care setting, including the seniors who rely on PACE Centers as healthcare providers in their daily lives.”

CMS and states are responsible for protecting beneficiaries who receive healthcare services through POs. Today’s guidance aims to help control and prevent the spread of infection. In particular, the new guidance reminds all POs to establish, implement, and maintain a documented infection control plan and frequently monitor for potential symptoms of respiratory infection. POs experiencing an increased number of respiratory illnesses among participants, caregivers and/or healthcare and PACE personnel should immediately contact their state and local health officials for further guidance. The memo also states that PO personnel should be given and trained on the use of [recommended personal protective equipment \(PPE\)](#). Cont.

3.3 ECDC

Guidance for health system contingency planning during widespread transmission of SARS-CoV-2 with high impact on healthcare services (17 March 2020)

<https://www.ecdc.europa.eu/sites/default/files/documents/COVID-19-guidance-health-systems-contingency-planning.pdf>

Long-term care facilities:

- Limit the number of visitors and ensure that only essential visits take place.
- Provide information on hand hygiene, respiratory hygiene, and cough etiquette to all people accessing the facility
- Ensure tissues, waste bins, and hand sanitizers are available at strategic points throughout the facility.
- Limit patient transport and patient movement of suspected COVID-19 patients, e.g. try to keep suspected cases in their room.
- Confirmed COVID-19 cases should be separated from other patients and ideally be transferred to a separate facility, regardless of the severity of the disease, until fully recovered.
- Appoint designated staff to care for COVID-19 patients.
- Train all staff in the signs and symptoms of COVID-19, and advise them to stay home if they or any close family members develop COVID-19 symptoms.
- Monitor newly arrived patients/residents for COVID-19 symptoms.

3.4 WHO

Infection prevention and control guidance for long-term care facilities in the context of COVID-19: interim guidance (21 March 2020)

<https://apps.who.int/iris/handle/10665/331508>

Long-term care facilities (LTCFs), such as nursing homes and rehabilitative centers, are facilities that care for people who suffer from physical or mental disability, some of who are of advanced age. The people living in LTCF are vulnerable populations who are at a higher risk for adverse outcome and for infection due to living in close proximity to others. Thus, LTCFs must take special precautions to protect their residents, employees, and visitors. Note that infection prevention and control (IPC) activities may affect the mental health and wellbeing of residents and staff, especially the use of PPE and restriction of visitors and group activities. For further information on resilience during the time of COVID, see Mental health and psychosocial considerations during COVID-19 outbreak. This interim guidance is for LTCF managers and corresponding IPC focal persons in LTCF. The objective of this document is to provide guidance on IPC in LTCFs in the context of COVID-19 to 1) prevent COVID-19-virus from entering the facility,

2) prevent COVID-19 from spreading within the facility, and

3) prevent COVID-19 from spreading to outside the facility. WHO will update these recommendations as new information becomes available. All technical guidance for COVID-19 is available online.

Response

The response to COVID-19 in LTCFs settings is based on early recognition, isolation, care, and source control (prevention of onward spread for an infected person).

Early recognition

Early identification, isolation and care of COVID-19 cases is essential to limit the spread of the disease in the LTCFs.

Prospective surveillance for COVID-19 among residents and staff should be established:

- Assess health status of any new residents at admission to determine if the resident has signs of a respiratory illness including fever 2 and cough or shortness of breath
- Assess each resident twice daily for the development of a fever ($\geq 38^{\circ}\text{C}$), cough or shortness of breath.
- Immediately report residents with fever or respiratory symptoms to the IPC focal point and to clinical staff.

Prospective surveillance for employees should be established:

- Ask employees to report and stay at home if they have fever or any respiratory illness.
- Follow up on employees with unexplained absences to determine their health status.
- Undertake temperature check for all employees at facility entrance.
- Immediately remove from service any employee who is visibly ill at work and refer them to their health care provider.

-
- Monitor employees and their contact with residents, especially those with COVID-19; use the [WHO risk assessment tool](#) to identify employees who have been at high risk of exposure to COVID-19.

Prospective surveillance for visitors should be established:

- All visitors should be screened before being allowed to see residents, including for fever, respiratory illness and if they have had recent contact with someone infected with COVID-19.
- Visitors with fever or any respiratory illness should be denied access to the facility.
- Visitors with significant risk factors for COVID-19 (close contact to a confirmed case, recent travel to an area with community transmission [applies only to those areas that do not have current community transmission]) should be denied access to the facility.

Infection prevention and control during health care when COVID-19 is suspected. Interim guidance (19 March 2020)

<https://apps.who.int/iris/rest/bitstreams/1272420/retrieve>

Background

This is the first edition of guidance on infection prevention and control (IPC) strategies for use when COVID-19 is suspected. It has been adapted from WHO's Infection prevention and control during health care for probable or confirmed cases of Middle East respiratory syndrome coronavirus (MERS-CoV) infection,¹ based on current knowledge of the situation and experience with severe acute respiratory syndrome (SARS) and MERS.² WHO will update these recommendations as new information becomes available.

This guidance is intended for health care workers (HCWs), health care managers, and IPC teams at the facility level but it is also relevant for national and district/provincial levels.

World Health Organization. [Infection prevention and control of epidemic- and pandemic-prone acute respiratory diseases in health care.](#)

3.5 UK

COVID-19: guidance on residential care provision (updated 19 March 2020)

<https://www.gov.uk/government/publications/covid-19-residential-care-supported-living-and-home-care-guidance/covid-19-guidance-on-residential-care-provision>

This guidance sets out key messages to support planning and preparation in the event of an outbreak or widespread transmission of COVID-19.

It is aimed at local authorities, clinical commissioning groups (CCGs) and registered providers of accommodation for people who need personal or nursing care. This includes registered residential care and nursing homes for people with learning disabilities, mental health and/or other disabilities...

If a resident has symptoms of COVID-19

Care homes are not expected to have dedicated isolation facilities for people living in the home but should implement isolation precautions when someone in the home displays symptoms of COVID-19 in the same way that they would operate if an individual had influenza. If isolation is needed, a resident's own room can be used. Ideally the room should be a single bedroom with en suite facilities.

3.6 Australia (New South Wales)

COVID-19 (Coronavirus) – Guidance for residential care facilities

<https://www.health.nsw.gov.au/Infectious/diseases/Pages/coronavirus-racf-guidance.aspx>

The international COVID-19 situation is evolving rapidly, with local transmission reported in NSW.

Residents of residential aged care facilities are at increased risk of COVID-19 infection and are more vulnerable to serious complications if they do become infected.

Residential aged care facilities are responsible for establishing emergency plans in the event of disease outbreaks or broader community epidemics. Many facilities will have existing plans focused on influenza and gastroenteritis, and these can be built upon to prepare for COVID-19.

Key factors to consider when adapting emergency plans for COVID-19

- Procedures to follow if an outbreak is suspected, including a method for seeking medical assessment and diagnosis.
- Protocols to rapidly implement enhanced infection control measures¹.
- Ensuring adequate and appropriate care is provided to the infected individual including isolation of the patient.
- Maintaining adequate supplies of surgical gloves, masks, gowns and hand sanitiser.
- Rapid notification for staff, families, carers, and your local public health unit.

General advice to prevent an outbreak of COVID-19 and other respiratory outbreaks (e.g. influenza)

- Discourage symptomatic visitors, even if minimal symptoms, from attending while unwell through communications and signage, and consider designating a single entrance for families and visitors.
- Exclude sick staff members.
- Encourage regular handwashing for residents, staff and visitors and provide hand sanitisers where this can be done safely.
- Facilities should not have organized groups of children attend the facility at this time.
- Monitor symptoms within the facility (residents and staff) and arrange testing as appropriate.

- Contact your public health unit immediately on 1300 066 055 if three or more cases of ILI occur within 3 days, or if there is suspicion of COVID-19 transmission.
- Promote the annual flu vaccine for residents and provide vaccine for staff.

Specific prevention advice for COVID-19 related to travellers and contacts

Staff and visitors who have travelled overseas or who have had contact with a confirmed case **must not attend the facility** for 14 days from the time they returned from overseas or last had contact with a case.

1. Consult the CEC infection prevention and control information sheet for technical assistance: [Clinical Excellence Commission: Coronavirus COVID-19](#).

COVID-19: Advice for aged care facilities

Residents of residential aged care facilities are at increased risk of COVID-19 infection and are more vulnerable to serious complications if they do become infected.

Staff and visitors who have travelled overseas or who have had contact with a confirmed case must not attend the facility for 14 days from the time they returned from overseas or last had contact with a case.

Fact sheets

- [Information for residential care facility staff](#)
- [Information for families of residential care facility residents](#)

3.7 Germany

Robert-Koch-Institut (RKI): Prevention and Management of COVID-19 Diseases in stationary and out-patient geriatric nursing care

https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/Altenpflegeheime.html

[Translation from German]

Highly contagious viral infections of the respiratory tracts are particularly dangerous to older people. It is advised that the general health measures inside nursing homes to dealing with outbreaks of viral infections should be adhered to, in order to prevent an uncontrollable outbreak.

(RKI advises old people's homes to take the same measures with COVID-19 as it would with any other type of viral outbreak, as outlined by the following documents):

→ Checkliste für Gesundheitsämter und/oder Pflegeeinrichtungen. (PDF) **(Checklist for Health Board officials) [See below]**

→ KRINKO-Empfehlungen zur Infektionsprävention (PDF) **(Recommendations for preventing the spread of infectious diseases.)**

→ Empfehlungen des Paritätischen Gesundheitsverbandes. (Weblink) **(Union of Nurses, Doctors, Pharmacists and other health workers.)**

In addition to the hygiene plans in place the RKI suggest the following measures to prevent a spread of COVID-19:

<ul style="list-style-type: none"> • While continuing care for vulnerable patients during a pandemic, the care workers should always wear masks that cover mouth and nose in order to protect the patient
<ul style="list-style-type: none"> • Should a patient show any mild symptoms of any respiratory illness, COVID-19 should be deemed a likely possibility → Patient should be tested for COVID-19
<ul style="list-style-type: none"> • Any health care employees who show signs of a respiratory illness should stay at home.
<ul style="list-style-type: none"> • Patients who have recently been transferred from home to a care facility should be checked for any symptoms of a respiratory illness. <p>If YES: Should be presented to Doctor. Doctor makes the decision whether or not the patient be admitted to the home at this time or not.</p>
<ul style="list-style-type: none"> • Signs should be posted visibly throughout the care facility to advise visitors who may have a respiratory illness or any symptoms that may conclude to one, not to enter the premises
<ul style="list-style-type: none"> • Visiting hours and additional visiting rules should be communicated with the Health Board (Gesundheitsamt).
<ul style="list-style-type: none"> • Residents who show symptoms or have any feverish illnesses should be confined to their room and all treatment should take place in their room.
<ul style="list-style-type: none"> • Employees, residents and visitors should be informed what is being done to prevent the spread of the illness and safeguard the residents
<ul style="list-style-type: none"> • Hand-sanitizer and single-use tissues should be provided in all areas of the care facility as well as in the living areas of the residents.
<ul style="list-style-type: none"> • Residents who show symptoms of a respiratory infection or feverish illnesses should be treated by staff using protective gear at all times, when in contact with the patients.
<ul style="list-style-type: none"> • Location of where to find and instructions on how to use protective gear should be displayed visibly on the wards and the living areas.
<ul style="list-style-type: none"> • Bins should be supplied in multiple areas throughout the care facility and at all exit points
<ul style="list-style-type: none"> • Employee health should be monitored at all times
<ul style="list-style-type: none"> • In case of transfer of patient to another care facility or hospital, the presence of COVID-19 should be communicated while arranging transport and accommodation.

Checkliste für Gesundheitsämter und/oder Pflegeeinrichtungen. (PDF) (Checklist for Health Board officials) (2013)

[Translation]

Date of report to Health Board: ____/____/____ (Name of Health Board):

Name and adress of person responisble (Name of affected Facility): Betroffene Pflegeeinrichtung (Name und adress of Facility):

Affected wards/stations/departments:

Start list of affected Personnel and residents!

Have you got an outbreak of respiratory infections? That includes a large amount of people who have suddenly developed symptoms such as coughing, sneezing, sore throats, fever, etc.? Old People may not necessarily show feverish symptoms but rather be mentally confused.		Yes <input type="checkbox"/> No <input type="checkbox"/>
In Progress: <input checked="" type="checkbox"/>	Measures Taken:	Date implemented?
	Inform relevant bodies: 1. Board of the Nursing facility 2. Inform staff in all areas that an outbreak of an infectious disease has ocured 3. Inform Residents General Practioners 4. Contact Laboratory 5. Inform other departments within the healthcare facility 6. Inform all visitors (Signs, Bulletins,etc.)	

	Perform active surveillanc on Residents and staff 1. Measures body temperature., examine respiratory symptoms. 2. Preform quick tests (or regular tests) on at least 5 residents of the same ward within 48 hours.	
	Implement Hygiene protocols 1. Contact Hygiene specialists 2. Increase hand hygiene 3. Use of single-use gloves 4. Use of masks 5. Use of single-use garments 6. Preform intensive sanitation of surfaces (Frequent checks as well)	
	Implement Infection 1. Isolate infected patients 2. Group infected patients or those in close proximity into isolation together. 3. Assign staff to fixed positions within the care facility. Stop staff roatation.	

	<p>4. Keep Staff who show signs of infection at home</p> <p>5. Keep a log on which staff member has been assigned to care for which resident on a daily basis.</p> <p>6. Ask visitors if they are experiencing any symptoms: If Yes: Keep out of facility</p> <p>7. Cancel all internal events and activities unless necessary.</p> <p>8. Reduce the amount of new arrivals and transfers to an absolute minimum.</p>	
	<p>Educate Staff</p> <p>1. All care staff and cleaning staff are to be educated by hygiene specialists in necessary steps to prevent spread of infection.</p> <p>2. Actively educate visitors in (new) hygiene rules.</p>	
	<p>In case of Influenza: Preform antiviral prophylaxis</p> <p>1. With all asymptomatic residents</p> <p>2. With all staff members</p>	

Robert Koch-Institut, Fachgebiet Respiratorisch übertragbare Erkrankungen Nähere Informationen: siehe Epidemiologisches Bulletin 39/2013

September 2013

3.8 Additional current Literature

Garnier-Crussard et al (2020) Novel Coronavirus (COVID-19) Epidemic: What Are the Risks for Older Patients? J Am Geriatr Soc. 2020 Mar 12. doi: 10.1111/jgs.16407. [Epub ahead of print] <https://onlinelibrary.wiley.com/doi/epdf/10.1111/jgs.16407>

The consequences of possible epidemics in long-term care facilities could be severe on a population of older adults who are by definition frail and immunologically naïve towards this virus, even if the risk is of course for the moment mainly theoretical. Therefore, it seems essential to limit the risk of spreading the virus in facilities caring for older patients at all costs. This could mean drastic quarantine measures for staff members who have stayed in high-risk areas or have been in close contact with possible cases. If any suspected case of COVID-19 infection occurs, transfer to a specialized facility as soon as possible is crucial since long-term care facilities are not adequately equipped to effectively manage case containment.

Clinical management of COVID-19 should be guided by the World Health Organization and the Centers for Disease Control and Prevention. There is no specific recommendation for older adults.

Mendelson (2020) Could enhanced influenza and pneumococcal vaccination programs help limit the potential damage from SARS-CoV-2 to fragile health systems of southern hemisphere countries this winter?[pre-proof] (18 March 2020)
<https://www.sciencedirect.com/science/article/pii/S1201971220301491?via%3Dihub>

How does one reconcile the cost of an expanded influenza and pneumococcal vaccination program in LMICs with current uncertainty as to how hard SARS-CoV-2 will hit these countries in the southern hemisphere this winter? Is it enough to invoke the precautionary principle and commit increased national funds to vaccination efforts? Should emergency funding be met by external agencies and channeled through Gavi, the Vaccine Alliance or a similar body? In the face of a possible overwhelming southern hemisphere pandemic limiting the strain placed on health systems by reducing influenza and pneumococcal infections in all countries, deserves consideration. We have few tools to lessen the effect of SARS-CoV-2 on health systems, and in times such as these, extraordinary measures may be needed to meet what may turn out to be equally extraordinary needs.

4 Treatment Approaches

4.1 HSE

Specific Antiviral Therapy in the Clinical Management of Acute Respiratory Infection with SARS-CoV-2 (COVID-19). (13 March 2020)

<https://www.hse.ie/eng/about/who/acute-hospitals-division/drugs-management-programme/guidelines/specific-antiviral-therapy-in-the-clinical-management-of-acute-respiratory-infection-with-sars-cov-2-covid-19.pdf>

4.2 CDC

Interim Infection Prevention and Control Recommendations for Patients with Suspected or Confirmed Coronavirus Disease 2019 (COVID-19) in Healthcare Settings

https://www.cdc.gov/coronavirus/2019-ncov/infection-control/control-recommendations.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fhcp%2Finfection-control.html

4.3 CEBM

Rapidly managing pneumonia in older people during a pandemic (20 March 2020)

<https://www.cebm.net/rapidly-managing-pneumonia-in-older-people-during-a-pandemic/>

The current COVID-19 pandemic has highlighted the risk faced by older adults, who are more susceptible to complications, including acute respiratory distress syndrome, usually as a result of pneumonia. Comorbidities, impaired immunity and frailty, including a reduced ability to cough and to clear secretions from the lungs, can all contribute to this complication. Older people are therefore more likely to develop severe pneumonia, suffer from respiratory failure, and die.

Patients in nursing homes appear to fare even worse, as they often have several comorbidities and poor nutritional status and are often physically inactive. [5] In-hospital mortality is significantly higher, even after adjusting for age and sex.

Rapid diagnosis of community-acquired pneumonia for clinicians (20 March 2020)

<https://www.cebm.net/rapid-diagnosis-strategy-of-community-acquired-pneumonia-for-clinician/>

Based on the best available evidence, a restricted strategy may be suitable for diagnosing pneumonia in the community. Such a strategy may be particularly suitable during the current Covid-19 pandemic where resources may be stretched.

4.4 WHO

WHO- Clinical Management of severe acute respiratory infection when novel coronavirus is suspected [Interim guidance] (13 March 2020)

[https://www.who.int/publications-detail/clinical-management-of-severe-acute-respiratory-infection-when-novel-coronavirus-\(ncov\)-infection-is-suspected](https://www.who.int/publications-detail/clinical-management-of-severe-acute-respiratory-infection-when-novel-coronavirus-(ncov)-infection-is-suspected)

4.5 CDC

Interim Infection Prevention and Control Recommendations for Patients with Suspected or Confirmed Coronavirus Disease 2019 (COVID-19) in Healthcare Settings

https://www.cdc.gov/coronavirus/2019-ncov/infection-control/control-recommendations.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fhcp%2Finfection-control.html

4.6 China

A rapid advice guideline for the diagnosis and treatment of 2019 novel coronavirus (2019-nCoV) infected pneumonia (standard version) (6 Feb 2020)

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7003341/>

In December 2019, a new type viral pneumonia cases occurred in Wuhan, Hubei Province; and then named “2019 novel coronavirus (2019-nCoV)” by the World Health Organization (WHO) on 12 January 2020. For it is a never been experienced respiratory disease before and with infection ability widely and quickly, it attracted the world’s attention but without treatment and control manual. For the request from frontline clinicians and public health professionals of 2019-nCoV infected pneumonia management, an evidence-based guideline urgently needs to be developed. Therefore, we drafted this guideline according to the rapid advice guidelines methodology and general rules of WHO guideline development; we also added the first-hand management data of Zhongnan Hospital of Wuhan University. This guideline includes the guideline methodology, epidemiological characteristics, disease screening and population prevention, diagnosis, treatment and control (including traditional Chinese Medicine), nosocomial infection prevention and control, and disease nursing of the 2019-nCoV. Moreover, we also provide a whole process of a successful treatment case of the severe 2019-nCoV infected pneumonia and experience and lessons of hospital rescue for 2019-nCoV infections. This rapid advice guideline is suitable for the first frontline doctors and nurses, managers of hospitals and healthcare sections, community residents, public health persons, relevant researchers, and all person who are interested in the 2019-nCoV.

4.7 Additional current literature

Armitage & Nellums. COVID-19 and the consequences of isolating the elderly (19 March 2020)

[https://www.thelancet.com/journals/lanpub/article/PIIS2468-2667\(20\)30061-X/fulltext](https://www.thelancet.com/journals/lanpub/article/PIIS2468-2667(20)30061-X/fulltext)

As countries are affected by coronavirus disease 2019 (COVID-19), the elderly population will soon be told to self-isolate for “a very long time” in the UK, and elsewhere.¹ This attempt to shield the over-70s, and thereby protect over-burdened health systems, comes as worldwide countries enforce lockdowns, curfews, and social isolation to mitigate the spread of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).

However, it is well known that social isolation among older adults is a “serious public health concern” because of their heightened risk of cardiovascular, autoimmune, neurocognitive, and mental health problems.² Santini and colleagues³ recently demonstrated that social disconnection puts older adults at greater risk of depression and anxiety.

If health ministers instruct elderly people to remain home, have groceries and vital medications delivered, and avoid social contact with family and friends, urgent action is needed to mitigate the mental and physical health consequences.

Self-isolation will disproportionately affect elderly individuals whose only social contact is out of the home, such as at daycare venues, community centres, and places of worship. Those who do not have close family or friends, and rely on the support of voluntary services or social care, could be placed at additional risk, along with those who are already lonely, isolated, or secluded.

