Rapid review of public health guidance on infection prevention and control measures for residential care facilities in the context of COVID-19

Updated 31 March 2020, first reviewed 30 March 2020

Version history

Version	Date	Specific updates
V1.0	30/03/2020	Date of first rapid review
V2.0	31/03/2020	Addition of guidance from Germany, the CDNA and Hong Kong Update of conclusion Addition of Table 2 Addition of section on restrictive measures pertaining to residential care facilities

Background

In Ireland, there have been several reported outbreaks of COVID-19 in residential care facilities[1] (RCFs). The HPSC currently has preliminary guidance for RCFs in the context of COVID-19[2], though further measures to protect residents of RCFs may be introduced in this context. This document seeks to outline measures taken or advised by other organisations and governments to protect residents and staff of RCFs.

We undertook a rapid review of public health guidance on COVID-19 to summarise the range of advice and recommendations that have been issued to protect residents and staff of RCFs. The focus is on measures that are over and above those outlined in the current HSPC guidance.[2]

Methods

The review was first undertaken on March 30 2020, in line with the Protocol for the identification and review of new and updated relevant COVID-19 public health guidance, published by HIQA. It has been updated as of 31 March 2020. A detailed account of the methods used in this review are provided in the protocol.

Results

Several countries and organisations have devised and implemented measures to protect residents and staff of residential care facilities and curtail the spread of COVID-19.

A number of protective measures have been undertaken in different health care settings to protect residents and staff of RCFs in the context of COVID-19 that are in excess to those currently in the HPSC guidance.[2] Table 1 provides an overview of the guidance from across different health care systems. The specific guidance in each health care setting to protect residents and staff of RCFs as identified in this rapid review are summarised separately below according to organisation/country and compared directly with the HPSC guidance.[2] Table 2 summarises the same guidance but grouped by theme rather than agency, for ease of comparison.

World Health Organisation

On 21st March, the WHO issued guidance[3] on infection prevention and control in long-term care facilities in the context of COVID-19. https://apps.who.int/iris/handle/10665/331508. The following is a detailed comparison of WHO guidance and HPSC guidance[2]:

Governance

The WHO advises having an infection prevention and control (IPC) focal point with responsibilities for leading and coordinating IPC activities. This focal point should be 'supported by an IPC team with delegated responsibilities and advised by a

multidisciplinary committee'. Other responsibilities include (1) Be the point of contact if there is a suspected case; (2) Provide relevant COVID-19 training to all employees; (3) Provide COVID-19 information sessions for residents; (4) regularly audit IPC practices; (5) Ensure hand/respiratory hygiene; (6) ensure annual influenza vaccination and pneumococcal conjugate vaccines to employees and staff.

The HPSC has no similar advice on governance.

Physical distancing

HPSC has some guidance on physical distancing. It is primarily in the context of dealing with a confirmed case of COVID-19 or a close contact of a confirmed case. It also specifies that group activities should be suspended (if possible) if a case is identified.

The WHO guidance suggests enforcing a minimum of 1m distance between all residents and requiring residents and employees to avoid touching (e.g., shaking hands, hugging, or kissing). In order to ensure the 1m distance the WHO advises

(1) staggering meals or serving residents their meals in their rooms.

(2) 'For group activities ensure physical distancing, if not feasible cancel group activities'.

Visitation

HPSC guidance only provides one scenario (case identified in facility) in which visiting should be restricted to exceptional circumstances (end-of-life).

The WHO guidance states that 'In areas where COVID-19 transmission has been documented, access to visitors in the long term care facilities should be restricted and avoided as much as possible.'

Monitoring and Screening

There is no explicit guidance on screening staff or visitors in the HPSC guidance. The only reference for staff is that they should 'self-monitor'. For residents, the only guidance on screening is that it should be carried out during transfers and admissions. The HPSC also recommends screening for infection of patients with confirmed COVID-19. There is also guidance in the context of an outbreak that the facility should 'Institute active daily surveillance for fever or respiratory symptoms including cough in residents and staff for 14 days after the date of onset of symptoms of the last resident COVID-19 case'. This does not include a staff COVID-19 case.

WHO recommends that 'All visitors should be screened for signs and symptoms of acute respiratory infection or significant risk for COVID-19'.

The WHO advises that long term care facilities should 'Assess each resident twice daily for the development of a fever (≥38C), cough or shortness of breath.' This advice is not exclusive to there being an outbreak in the facility.

The WHO advises that staff should report and stay at home if they have 'fever or any respiratory illness.' It is also suggested that facilities should 'Undertake temperature check for all employees at facility entrance'.

Suspected and confirmed cases

The HPSC provides similar guidance to the WHO on managing a suspected case. Although in the HSPC guidance, this is dispersed throughout the document as opposed to being provided as a single protocol.

Also, the WHO recommends 'that COVID-19 patients be cared for in a health facility, in particular patients with risk factors for severe disease which include, age over 60 and those with underlying comorbidities'.

The WHO also advises isolating the patient until they have two negative laboratory tests for COIVID-19 taken at least 24 hours apart after the resident's symptoms have resolved. Or, 'Where testing is not possible, the WHO recommends that confirmed patients remain isolated for an additional two weeks after symptoms resolve'.

The HPSC has conflicting advice: 'Residents [not clear if this is a close contact or confirmed case] are requested to avoid communal areas and stay in their room for their period of observation (until 14 days after exposure) and until Public Health advice confirms the resident can resume normal activity' and 'The resident [not clear if this is a close contact or confirmed case] should avoid communal areas for a minimum of 14 days after onset of illness and with five days free of fever'.

PPE

HPSC guidance is in line with WHO guidance on the use of PPE. One exception is that the WHO advises placing a 'medical mask' on residents who are suspected or confirmed cases and on others staying in the same room as the suspected/confirmed case.

Environmental cleaning and disinfection

HPSC guidance is not as specific as the WHO guidance albeit largely similar. In particular, the WHO advises that frequently touched surfaces are cleaned 'at least twice daily and when soiled', and the HPSC guidance is to clean 'frequently touched surfaces', 'more frequently' than daily.

Transfer and restriction of movement

The HPSC guidance is more restrictive on accepting confirmed cases of COVID-19, advising them not to be transferred until they have had 'two consecutive' negative tests. The WHO advises accepting residents if they are medically stable and the facility has the capacity to care for them and isolate them. HPSC guidance is similar to WHO guidance in terms of accessing care: only access care if essential. One difference is that the WHO guidance advises that suspected or confirmed COVID-19 patients should wear a mask during transport.

Mental health and wellbeing

The HPSC guidance for residential care facilities does not include guidance on maintaining the mental health of residents and employees. The WHO advise that residents and staff should be given updated information about COVID-19 regularly. Also, for staff, it is advised that their wellbeing should be regularly and supportively monitored. The WHO advises that staff need 'rest and recuperation'. Resources are also provided by the WHO for mental health and psychological support.

Public Health England (PHE)

The latest version of PHE guidance[4] was published on the 19th of March. There were few measures that were different to the HPSC guidance[2] https://www.gov.uk/government/publications/covid-19-residential-care-supported-living-and-home-care-guidance/covid-19-guidance-on-residential-care-provision, these are:

Visitation

- PHE advises that all visits from friends and family should cease.
- PHE advises that other personnel can still enter but handwashing procedures should be implemented.

Health Protection Scotland (HPS)

The latest version of the HPS' guidance[5] for 'residential settings' was published on the 26th of March. https://hpspubsrepo.blob.core.windows.net/hps-website/nss/2980/documents/1_covid-19-guidance-for-social-or-community-care-and-residential-settings.pdf. The following are the differences between HPSC guidance[2] and HPS guidance:

Visitation

- HPS have more restrictive policies for 'contractors' suggesting that their presence in facilities should be 'kept to a minimum'.

Suspected and confirmed cases

- HPS states that use of agency staff in the care of suspected or confirmed COVID-19 cases should be avoided. Also, HPS states that 'staff with underlying health conditions that put them at increased risk of severe illness from COVID-19, including those who are immunosuppressed' should not provide care to suspected or confirmed COVID-19 cases.

Public Health Agency (PHA) of Northern Ireland

On the 17th of March PHA published guidance[6] for RCFs. https://www.publichealth.hscni.net/sites/default/files/2020-03/GUIDANCE%20FOR%20RESIDENTIAL%20CARE%20PROVIDERS%20-

%20COVID19.pdf There are very few measures in PHA guidance that are more restrictive than HPSC guidance[2].

Visitation

- Similar to the HPSC, PHA advise that all non-urgent professional visits, or those which are not related to statutory requirements, should cease for the foreseeable future.
- PHA also recommend that any through-premises deliveries cease.
- One area that the HPSC has not considered is pastoral care. PHA recommend that RCFs give careful consideration to the frequency and nature of pastoral and chaplain visits – although an important part of residents' well-being, any such visitors should be reminded of the need to minimise physical contact and to follow the advice on effective hygiene.

Centers for Disease Control and Prevention (CDC) in the US

In the US, the Centre for Disease Control have outlined several measures in their latest guidance[7] (last updated on the 21st of March) to protect residents of RCFs. https://www.cdc.gov/coronavirus/2019-ncov/healthcare-facilities/prevent-spread-in-long-term-care-facilities.html

Governance

The CDC advises that 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 respiratory infections.' The CDC also advised to make a plan for managing staffing shortages. CDC guidance places emphasis on implementing and informing staff about non-punitive sick leave policies.

Visitation

CDC is currently recommending to restrict all visitation except for end of life.

CDC provides guidance to 'restrict nonessential healthcare personnel (including consultant personnel) and volunteers for entering the building'. The HPSC does not provide guidance on non-essential healthcare personnel and volunteers.

Physical distancing

More restrictive than WHO on physical distancing – 'Cancel all group activities and communal dining'. CDC advises that if there are cases in the facility then encourage residents to remain in their room.

Monitoring and Screening

Similar to WHO guidance, the CDC recommends consistent screening of staff, specifically at the beginning of their shift, actively taking their temperature and

documenting other symptoms. They also, recommend monitoring residents at least once a day for symptoms.

PPE

CDC advice for staff is similar though there are some differences. CDC suggest that healthcare workers showing symptoms should immediately put on a facemask and leave the facility. The CDC suggests implementing universal use of facemasks for HCP while in the facility even if there are no documented cases in the facility. Also suggests considering having health care workers wear all recommended PPE (gown, gloves, eye protection, N95 respirator or, if not available, a facemask) for the care of all residents regardless of symptoms.

In relation to visitors, the CDC recommends that if there are any visitors they should wear a facemask. They also recommend that residents with an undiagnosed respiratory infection should wear a facemask if they leave their room. Also, if there are documented cases within a facility, then all residents (regardless of disease status) should wear a facemask if they leave their room.

Education and training

Emphasis in the CDC guideline on educating residents and family on COVID-19, visitor and physical distancing restrictions, and hand/respiratory hygiene.

Ministry of Health New Zealand

A comparison of Ministry of Health New Zealand for Disability and Aged Care Providers[8] and HPSC guidance[2] for residential care facilities in the context of COVID-19. https://www.health.govt.nz/our-work/diseases-and-conditions/covid-19-novel-coronavirus/covid-19-novel-coronavirus-information-specific-audiences/covid-19-disability-and-aged-care-providers

The Ministry of Health New Zealand had similar guidance in place for Residential Care Facilities as the HPSC guidance[2]. An update was published on 30 March 2020, measures included in this update that exceed the measures currently in Ireland are as follows:

Visitation

- All family visits except for families with residents receiving palliative care should stop. All allowed visits should be pre-arranged with staff.
- Non-urgent professional visits should stop. Essential health care associated visits, for example, chemotherapy, renal dialysis, vetted key support people for residents with dementia and volunteers to maintain essential services, are allowed but must be pre-arranged.
- External assessments for change in care level should be stopped. Team Managers, Case Managers or Registered Nurses should document changes and file for future recommendation.

Governance

- All surveillance and certification audits and mandatory training programmes should stop.

Suspected and confirmed cases

- For residents, isolate on premises if admission to hospital is not required.
- For staff, isolate at home, or on premises if possible.
- If the above are not possible, contact regional public health to identify alternative quarantine options.

Australia (New South Wales Government)

A comparison of New South Wales COVID-19 (Coronavirus) – Guidance for residential aged care facilities[9] (last updated 27 March) and HPSC guidance[2] for residential care facilities in the context of COVID-19. https://www.health.nsw.gov.au/Infectious/diseases/Pages/coronavirus-racf-guidance.aspx

Visitation

The New South Wales guidance includes details on how visits should happen when they are allowed, as follows:

- Limit essential visits to a short duration.
- Conduct essential visits in the resident's room, outdoors, or in a specific area designated by the residential care facility, rather than communal areas where the risk of transmission to other residents is greater.
- Measures such as phone or video calls should be made available to all residents to enable continuation of communication with family members.

Transfer and restriction of movement

- No new residents with COVID-19 compatible symptoms should be permitted to enter the facility.

Monitoring and Screening

- Residents being admitted or re-admitted from other health facilities and communities should be actively screened for the symptoms of COVID-19.

Environmental cleaning and disinfection

Facilities must ensure that the following are available at the entrance of the facility and in each resident's room:

- Adequate hand washing facilities and alcohol based hand rub
- Tissues
- Lined disposal receptacles (in comparison with "hands free waste bins" in HSPC guidance).

Governance

- Develop a plan for rapid notification for staff, families, carers, and your local public health unit

Communicable Disease Network Australian (CDNA)

The CDNA adapted Influenza Outbreaks in Residential Care Facilities (RCF) in Australia for COVID-19[10], published 13 March 2020. They note that while the guideline focuses on RCF, the principles are applicable to other residential facilities for people with physical and mental disabilities, other community based health facilities (e.g. Drug and alcohol services, community mental health), detention and correctional centers, military barracks, boarding schools, hostels and any other setting where residents sleep, eat and live either temporarily or on an ongoing basis.

https://www.health.gov.au/sites/default/files/documents/2020/03/coronavirus-covid-19-guidelines-for-outbreaks-in-residential-care-facilities.pdf

The following are measures recommended by CDNA[10] that exceed the current HPSC guidance[2]:

Suspected and confirmed cases

As 'elderly patients often have non-classic respiratory symptoms; RCF should consider testing any resident with any new respiratory symptom'.

If COVID-19 is suspected, have a low threshold for requesting medical review and testing.

Isolate suspected and confirmed cases in a single room. If a single room is not available, give highest priority to single room placement to residents with excessive cough and sputum production.

Governance

Prepare an outbreak management plan and identify a dedicated staff member to plan, co-ordinate and manage logistics.

Education and Training

Education for staff, residents and their families is vital to inform their behaviour and help manage the potential occurrence for ongoing transmission in an outbreak setting.

All staff (including casual, domestic, hospitality and volunteer workers) need to understand the infection control guidelines and be competent in implementing these measures during an outbreak.

Monitoring and Screening

Self-screening for staff, volunteers and visitors (including visiting workers).

Monitor residents and employees for fever or acute respiratory symptoms.

RCF should establish systems to monitor staff and residents for COVID-19 with a high level of vigilance and have a low threshold for investigation.

Hygiene

RCFs must ensure that adequate hand washing facilities and alcohol based hand rub, as well as tissues and lined disposal receptacles are available for visitors to use; at the entrance of the facility and in each resident's room.

PPE

If residents with fever or acute respiratory symptoms must leave the room for medically necessary procedures, have them wear a facemask (if tolerated).

For care of residents with undiagnosed respiratory infection use standard, contact, and droplet precautions with eye protection unless a procedure requires airborne precautions.

Make PPE, including facemasks, eye protection, gowns, and gloves, available immediately outside of the resident room.

Position a disposal receptacle near the exit inside any resident room to make it easy for employees to discard PPE.

Post signs on the door or wall outside of the resident room clearly describing the type of precautions needed and required PPE.

Environmental cleaning and disinfection

Equipment and items in patient areas should be kept to a minimum. Ideally, reusable resident care equipment should be dedicated for the use of an individual resident. If it must be shared, it must be cleaned and disinfected between each resident use.

Visitation

Ensure visitors who do attend the RCF to visit an ill resident are recorded on a register, visit only the ill resident and wear PPE as directed by staff.

Transfer and restriction of movement

In some circumstances, it may be feasible to transfer residents who are not symptomatic, to other settings (e.g. family care) for the duration of the outbreak.

Allocate specific RCF staff to the care of residents in isolation. A register of staff members caring for patients with COVID-19 should be maintained by the RCF. The RCF must ensure that staff members: do not move between their allocated room/ section and other areas of the facility, or care for other residents.

During an outbreak of COVID-19, wherever possible, healthcare workers should not move between wings or units of the facility to provide care for other residents. This is particularly important if not all wings/units are affected by the outbreak. It is preferable to cohort staff to areas for the duration of the outbreak.

Germany (Robert Koch Institute)

A comparison of Prevention and Management of COVID-19 Diseases in stationary and out-patient geriatric nursing care, Robert Koch Institute, Germany[11] and HSPC guidance for residential care[2].
https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/Altenpflegeheime.html; https://www.der-paritaetische.de/fachinfos/migration-und-flucht/empfehlungen-zu-covid-19-coronavirus/

Few measures differed from existing HPSC guidance[2], those that did are:

PPE

All personnel to wear PPE while caring for vulnerable people, PPE equipment to be placed immediately at the entrance to living quarters. Bins for disposal of single use equipment located on the inside of all doors.

Governance

Individual facility pandemic plans to be developed, these should include organisation of a 'responsible body'.

Mental Health and wellbeing

General information should be given to employees, residents and their visitors, about the efforts being made to protect the residents.

Center for Health Protection and Department of Health, Hong Kong

Guidelines for Residential Care Homes for the Elderly or Persons with Disabilities for the Prevention of Coronavirus disease (COVID-19)[12], last updated 31 March 2020. The following details the advice over and above the HSPC guidance[2].

https://www.chp.gov.hk/files/pdf/advice_to_rche_rchd_on_prevention_of_nid_eng.pdf

Physical Distancing

Residents are advised against leaving their room and mixing activities with other residents. It is recommended that they have meals in their room and use a designated toilet.

PEE

All staff should wear a surgical mask while at work.

Residents are advised to put on a surgical mask when they need to leave the room and clear a pathway for transfer.

Cleaning staff are advised to wear appropriate personal protective equipment which includes: Surgical mask, Latex gloves, Disposable gown, Eye protection (goggles/face shield) and Cap (optional).

Visitation

Visits by family members, friends, or community members are not allowed unless for compassionate reasons.

Virtual visits for example using Zoom or Facetime are suggested.

Visiting professional services, should cease or be provided on a limited scale.

Some professional services, such as occupational therapy services for people with dementia, may be able to be delivered via IT methods.

Only one visitor at a time should be allowed.

A record of visits should be maintained.

Environmental cleaning and disinfection

When cleaning bodily fluids of suspected or confirmed cases:

- Staff should use forceps to hold the strong absorbent disposable towels to wipe away the blood, secretions, vomitus or excreta in preliminary cleaning.
- After the procedure, all the wastes and cleansing tools (e.g. forceps, cloth, mop head) should be disposed of.

Clean and disinfect frequently touched surfaces, furniture, commonly shared items and floor at least twice daily.

When a case is confirmed, perform terminal disinfection for the whole institution.

Ventilation

Maintain good indoor ventilation.

Windows of room should be opened. Window and louver should be installed on different walls for better ventilation.

Switch on fans or exhaust fans to enhance airflow.

Keep air-conditioners well maintained.

Clean the dust-filters of air-conditioners regularly.

Screening

Check the body temperature of all clients/residents on a daily basis

Staff should check their own temperature before coming to work.

Check the temperature of all visitors.

Suspected and confirmed cases

Residents should wear a mask if leaving their room during quarantine.

A pathway should be cleared for transfer and the pathway and surrounding area disinfected afterwards.

The number of staff dealing with residents in quarantine should be minimised.

Any visits should be from outside the room.

Residents or staff under quarantine should wear a surgical mask for 28 days.

Restrictive Measures

South Korea

https://ltccovid.org/2020/03/26/report-the-south-korean-approach-to-managing-covid-19-outbreaks-in-residential-care-settings-and-to-maintaining-community-based-care-services/

South Korea have implemented large scale restrictive measures for nursing homes[13], as follows:

In Gyungsang-do, the region with the second highest recorded rate of COVID-19 cases in South Korea, recently 564 RCF were quarantined for two weeks, staff were restricted to the facilities.

The Korea Centers for Disease Control and Prevention also tested every patient in care homes and nursing hospitals in Dae-gu to prevent the spread of COVID-19.

Residents who test positive for COVID-19 are moved to special quarantine/treatment centres

Spain

https://ltccovid.org/2020/03/29/report-from-spain-moving-care-home-residents-to-hotels-in-barcelona-to-reduce-risk-of-covid19-contagion/; https://ltccovid.org/2020/03/29/tackling-covid-19-outbreaks-and-staff-shortages-in-care-homes-deploying-rapid-response-teams/

In an attempt to shield care home residents from infection, 150 care home residents without symptoms are being moved into hotel accommodation in Barcelona.[14]

Places for residents without symptoms, whose family chose to care for them at home and remove them temporarily from the RCF, have been guaranteed places after the outbreak.[15]

New legislation has been passed that enables regional governments to take over the running of RCFs (including private sector) that become overwhelmed[15].

HPSC guidelines on cocooning

On the 27th of March, the HPSC issued guidance on 'cocooning'[16]. There are aspects of this guidance that need to be incorporated into the HPSC's guidance for RCF's.[2]

The list of vulnerable groups in the cocooning document is different to the list in the guidance for residential care facilities. Cocooning advice recommends avoiding any gatherings. HPSC advice for RCFs does not consider this in terms of communal activities and meals. The cocooning document places more emphasis on people having essential care only, this is not focussed on in the HPSC RCF document.

Conclusion

A variety of protective measures are currently being taken to protect residents of RCFs in Ireland. Other countries and organisations have additional guidance and measures, over and above those currently in place in Ireland. These include guidance on governance, physical distancing, visitation, screening, dealing with suspected and confirmed cases, restriction of movement, environmental cleaning and disinfection, protecting mental health, use of PPE, provision of education and training and ventilation. Some countries have also put in place large scale restrictive measures temporarily.

The findings from this rapid review were accurate as of 31 March 18.00 GMT; however, it is important to note that the measures identified above may change as the situation and response to COVID-19 evolves.

Table 1 Summary of guidance in excess of HPSC guidance, by country or setting

Country / setting	Protective measures

Australia (New South Wales Government)[9]	• Limit essential visits to a short duration
	• Conduct essential visits in the resident's room, outdoors, or in a specific area designated by the residential care facility, rather than communal areas where the risk of transmission to other residents is greater.
	• Measures such as phone or video calls should be made available to all residents to enable continuation of communication with family members
	• No new residents with COVID-19 compatible symptoms should be permitted to enter the facility.
	• Residents being admitted or re-admitted from other health facilities and communities should be actively screened for the symptoms of COVID-19.
	• Facilities must ensure that the following are available at the entrance of the facility and in each resident's room:
	  ○ adequate hand washing facilities and alcohol based hand rub
	  ○ tissues
	  ○ lined disposal receptacles (in comparison with "hands free waste bins" in HSPC guidance).
	  ○ Develop a plan for rapid notification for staff, families, carers, and your local public health unit

CDC, United States[7]	• 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 respiratory infections.' • Make a plan for managing staffing shortage • Restrict nonessential healthcare personnel (including consultant personnel) and volunteers for entering the building' • Implement and inform staff about non-punitive sick leave policies. • Restrict all visitation except for end of life. • Cancel all group activities and communal dining • If there are cases in the facility then encourage residents to remain in their room. • Consistently screen of staff, specifically at the beginning of their shift, actively taking their temperature and documenting other symptoms • Monitor residents at least once a day for symptoms • Healthcare workers showing symptoms should immediately put on a facemask and leave the facility • Consider universal use of facemasks for HCP while in the facility even if there are no documented cases in the facility • Consider having HCW's wear all recommended PPE (gown, gloves, eye protection, N95 respirator or, if not available, a facemask) for the care of all residents regardless of symptoms. • If there are any visitors they should wear a facemask • Residents with an undiagnosed respiratory infection should wear a facemask if they leave their room

	• If there are documented cases then all residents (regardless of disease status) should wear a facemask if they leave their room • Educate residents and family on COVID-19, visitor and physical distancing restrictions, and hand/respiratory hygiene.
ECDC[17]	• 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
Germany (Robert Koch Institute)[11]	• All personnel to wear PPE while caring for vulnerable people, PPE equipment to be placed immediately at the entrance to living quarters. Bins for disposal of single use equipment on the inside of all doors. • Individual facility pandemic plans to be developed, these should include organisation of a 'responsible body'.
HPS[5]	• Contractors' presence in facilities should be 'kept to a minimum'. • Use of agency staff in the care of suspected or confirmed COVID-19 cases should be avoided • 'Staff with underlying health conditions that put them at increased risk of severe illness from COVID-19, including those who are immunosuppressed' should not provide care to suspected or confirmed COVID-19 cases.
New Zealand Ministry of Health[8]	• All family visits except for families with residents receiving palliative care should stop. All allowed visits should be pre-arranged with staff. • Non-urgent professional visits should stop. Essential health care associated visits, for example, chemo, renal dialysis, vetted key support people for residents with dementia and volunteers to maintain essential services, are allowed but must be pre-arranged. • External assessments for change in care level should be stopped. Team Managers, Case Managers or Registered Nurses should document changes and file for future recommendation. • All surveillance and certification audits and mandatory training programmes should stop • For residents, isolate on premises if admission to hospital is not required. • For staff, isolate at home, or on premises if possible. • If the above are not possible, contact regional public health to identify alternative quarantine options.
PHA[6]	• All non-urgent professional visits, or those which are not related to statutory requirements, should cease for the foreseeable future • Ensure that any through-premises deliveries cease • Give careful consideration to the frequency and nature of pastoral and chaplain visits – although an important part of residents' well-being, any such visitors should be reminded of the need to minimise physical contact and to follow the advice on effective hygiene
PHE[4]	• All visits from friends and family should cease • Other personnel can still enter but handwashing procedures should be implemented. • People who smoke also have a possible higher risk of serious illness from COVID-19-infection.
WHO[3]	• WHO advises having an infection prevention and control focal point with responsibilities for leading and coordinating IPC activities

	• Enforce a minimum of 1m distance between all residents and require residents and employees to avoid touching (e.g., shaking hands, hugging, or kissing).
	• To ensure the 1m distance the WHO advises
	  ➢ staggering meals or serving residents their meals in their rooms and
	  ➢ 'For group activities ensure physical distancing, if not feasible cancel group activities'.
	• 'In areas where COVID-19 transmission has been documented, access to visitors in the LTCFs should be restricted and avoided as much as possible.'
	• All visitors should be screened for signs and symptoms of acute respiratory infection or significant risk for COVID-19'.
	• LTCF's should 'Assess each resident twice daily for the development of a fever (≥38C), cough or shortness of breath.' This advice is not exclusive to their being an outbreak in the facility.
	• Staff should report and stay at home if they have 'fever or any respiratory illness'.
	• Facilities should 'Undertake temperature check for all employees at facility entrance.'
	• Place a 'medical mask' on resident who are suspected or confirmed cases and on others staying in the same room as the suspected/confirmed case.
	• COVID-19 patients should be cared for in a health facility, in particular patients with risk factors for severe disease which include age over 60 and those with underlying comorbidities'
	• Isolate the patient until they have two negative laboratory tests for COIVID-19 taken at least 24 hours apart after the resident's symptoms have resolved. Or, 'Where testing is not possible, WHO recommends that confirmed patients remain isolated for an additional two weeks after symptoms resolve.'
	• WHO advises that staff need 'rest and recuperation'

CDNA[10]	• As 'elderly patients often have non-classic respiratory symptoms; RCF should consider testing any resident with any new respiratory symptom'. • If COVID-19 is suspected, have a low threshold for requesting medical review and testing. • Isolate suspected and confirmed cases in a single room. If a single room is not available, give highest priority to single room placement to residents with excessive cough and sputum production. • Prepare an outbreak management plan and identify a dedicated staff member to plan, co-ordinate and manage logistics. • Education for staff, residents and their families is vital to inform their behaviour and help manage the potential occurrence for ongoing transmission in an outbreak setting. • All staff (including casual, domestic, hospitality and volunteer workers) need to understand the infection control guidelines and be competent in implementing these measures during an outbreak. • Self-screening for staff, volunteers and visitors (including visiting workers). • Monitor residents and employees for fever or acute respiratory symptoms. • RCF should establish systems to monitor staff and residents for COVID-19 with a high level of vigilance and have a low threshold for investigation.

	• RCFs must ensure that adequate hand washing facilities and alcohol based hand rub, as well as tissues and lined disposal receptacles are available for visitors to use; at the entrance of the facility and in each resident's room. • If residents with fever or acute respiratory symptoms must leave the room for medically necessary procedures, have them wear a facemask (if tolerated). • For care of residents with undiagnosed respiratory infection use standard, contact, and droplet precautions with eye protection unless a procedure requires airborne precautions. • Make PPE, including facemasks, eye protection, gowns, and gloves, available immediately outside of the resident room. • Position a disposal receptacle near the exit inside any resident room to make it easy for employees to discard PPE. • Post signs on the door or wall outside of the resident room clearly describing the type of precautions needed and required PPE. • Equipment and items in patient areas should be kept to a minimum. Ideally, reusable resident care equipment should be dedicated for the use of an individual resident. If it must be shared, it must be cleaned and disinfected between each resident use. • Ensure visitors who do attend the RCF to visit an ill resident are recorded on a register, visit only the ill resident and wear PPE as directed by staff. • In some circumstances, it may be feasible to transfer residents who are not symptomatic, to other settings (e.g. family care) for the duration of the outbreak. • Allocate specific RCF staff to the care of residents in isolation. A register of staff members caring for patients with COVID-19 should be maintained by the RCF. The RCF must ensure that staff members: do not move between their allocated room/ section and other areas of the facility, or care for other residents. • During an outbreak of COVID-19, wherever possible, healthcare workers should not move between wings or units of the facility to provide care for other residents. This is particularly important if not all wings/units are affected by the outbreak. It is preferable to cohort staff to areas for the duration of the outbreak.
Germany (RKI)[11]	• All personnel to wear PPE while caring for vulnerable people, PPE equipment to be placed immediately at the entrance to living quarters. Bins for disposal of single use equipment on the inside of all doors. • Individual facility pandemic plans to be developed, these should include organisation of a 'responsible body'. • General information should be given to employees, residents and their visitors, about the efforts being made to protect the residents.
Center for Health Protection and Department of	• Residents are advised against leaving their room and mixing activities with other residents. It is recommended that they have meals in their room and use a designated toilet. • All staff should wear surgical mask while at work. • Residents are advised to put on a surgical mask when they need to leave the room and clear a pathway for transfer.

Health, Hong Kong[12]	• Visits by family members, friends, or community members are not allowed unless for compassionate reasons. • Virtual visits for example using Zoom or Facetime are suggested. • Visiting professional services, should cease or be provided on a limited scale. • Some professional services, such as occupational therapy services for people with dementia, may be able to be delivered via IT methods. • Only one visitor at a time should be allowed. • A record of visits should be maintained. • Cleaning staff are advised to wear appropriate personal protective equipment which includes: Surgical mask, Latex gloves, Disposable gown, Eye protection (goggles/face shield) and Cap (optional). • When cleaning bodily fluids of suspected or confirmed cases: o Staff should use forceps to hold the strong absorbent disposable towels to wipe away the blood, secretions, vomitus or excreta in preliminary cleaning. o After the procedure, all the wastes and cleansing tools (e.g. forceps, cloth, mop head) should be disposed of. o Clean and disinfect frequently touched surfaces, furniture, commonly shared items and floor at least twice daily. o When a case is confirmed, perform terminal disinfection for the whole institution. • Maintain Good Indoor Ventilation. o Windows of room should be opened. Window and louver should be installed on different walls for better ventilation. o Switch on fans or exhaust fans to enhance airflow. o Keep air-conditioners well maintained. o Clean the dust-filters of air-conditioners regularly. • Check the body temperature of all clients/residents on a daily basis • Staff should check their own temperature before coming to work. • Check the temperature of all visitors. • Residents should wear a mask if leaving their room during quarantine. • A pathway should be cleared for transfer and the pathway and surrounding area disinfected afterwards. • The number of staff dealing with residents in quarantine should be minimised. • Any visits should be from outside the room. • Residents or staff under quarantine should wear a surgical mask for 28 days.

Abbreviations: CDC – Centers for Disease Control and Prevention; CDNA – Communicable Disease Network Australia; HPS – Health Protection Scotland; PHA – Public Health Agency of Northern Ireland; PHE – Public Health England; RKI – Robert Koch Institute, Germany; WHO – World Health Organisation

Last updated 31/03/2020 18.00 GMT

Table 2

Measure	Agency	Details
Education and Training	CDC, United States[7]	• Educate residents and family on COVID-19, visitor and physical distancing restrictions, and hand/respiratory hygiene.
	CDNA, Australia[10]	• Education for staff, residents and their families is vital to inform their behaviour and help manage the potential occurrence for ongoing transmission in an outbreak setting. • All staff (including casual, domestic, hospitality and volunteer workers) need to understand the infection control guidelines and be competent in implementing these measures during an outbreak.
Governance	New South Wales Government[9]	• Develop a plan for rapid notification for staff, families, carers, and your local public health unit
	CDC, United States[7]	• 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 respiratory infections.' • Make a plan for managing staffing shortage • Implement and inform staff about non-punitive sick leave policies.
	New Zealand Ministry of Health[8]	• All surveillance and certification audits and mandatory training programmes should stop
	WHO[3]	• WHO advises having an infection prevention and control focal point with responsibilities for leading and coordinating IPC activities
	CDNA, Australia[10]	• Prepare an outbreak management plan and identify a dedicated staff member to plan, co-ordinate and manage logistics.
	Germany (RKI)[11]	• Individual facility pandemic plans to be developed, these should include organisation of a 'responsible body'.
Physical distancing	CDC, United States[7]	• Cancel all group activities and communal dining'
	WHO[3]	• Enforce a minimum of 1m distance between all residents and require residents and employees to avoid touching (e.g., shaking hands, hugging, or kissing). • To ensure the 1m distance the WHO advises ➢ staggering meals or serving residents their meals in their rooms and ➢ 'For group activities ensure physical distancing, if not feasible cancel group activities'.
	Hong Kong (Centre for Health Protection & Dept of Health)[12]	• Residents are recommended to avoid leaving their room and mixing activities with other residents, such as having meal in their room and using a designated toilet.
Hygiene	New South Wales Government[9]	• Facilities must ensure that the following are available at the entrance of the facility and in each resident's room: ➢ Adequate hand washing facilities and alcohol based hand rub ➢ Tissues ➢ Lined disposal receptacles (in comparison with "hands free waste bins" in HSPC guidance).
	CDNA, Australia[10]	• RCFs must ensure that adequate hand washing facilities and alcohol based hand rub, as well as tissues and lined disposal receptacles are available for visitors to use; at the entrance of the facility and in each resident's room.
Environmental cleaning and disinfection	CDNA, Australia[10]	• Equipment and items in patient areas should be kept to a minimum. Ideally, reusable resident care equipment should be dedicated for the use of an individual resident. If it must be shared, it must be cleaned and disinfected between each resident use.

	WHO[3]	• Frequently touched surfaces are cleaned 'at least twice daily and when soiled
	Hong Kong (Centre for Health Protection & Dept of Health)[12]	When cleaning bodily fluids of suspected or confirmed cases: • Staff should use forceps to hold the strong absorbent disposable towels to wipe away the blood, secretions, vomitus or excreta in preliminary cleaning. • After the procedure, all the wastes and cleansing tools (e.g. forceps, cloth, mop head) should be disposed of. • Clean and disinfect frequently touched surfaces, furniture, commonly shared items and floor at least twice daily. • When a case is confirmed, perform terminal disinfection for the whole institution.
Suspected and confirmed cases	CDC, United States[7]	• If there are cases in the facility then encourage residents to remain in their room. • Healthcare workers showing symptoms should immediately put on a facemask and leave the facility
	ECDC[17]	• 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
	New Zealand Ministry of Health[8]	• For residents, isolate on premises if admission to hospital is not required. • For staff, isolate at home, or on premises if possible. • If the above are not possible, contact regional public health to identify alternative quarantine options.
	WHO[3]	• COVID-19 patients should be cared for in a health facility, in particular patients with risk factors for severe disease which include age over 60 and those with underlying comorbidities' • Isolate the patient until they have two negative laboratory tests for COIVID-19 taken at least 24 hours apart after the resident's symptoms have resolved. Or, 'Where testing is not possible, WHO recommends that confirmed patients remain isolated for an additional two weeks after symptoms resolve.'
	CDNA, Australia[10]	• As 'elderly patients often have non-classic respiratory symptoms; RCF should consider testing any resident with any new respiratory symptom'. • If COVID-19 is suspected, have a low threshold for requesting medical review and testing. • Isolate suspected and confirmed cases in a single room. If a single room is not available, give highest priority to single room placement to residents with excessive cough and sputum production. • Allocate specific RCF staff to the care of residents in isolation. A register of staff members caring for patients with COVID-19 should be maintained. The RCF must ensure that staff members: do not move between their allocated room/ section and other areas of the facility, or care for other residents.
	HPS[5]	• 'Staff with underlying health conditions that put them at increased risk of severe illness from COVID-19, including those who are immunosuppressed' should not provide care to suspected or confirmed COVID-19 cases
	Hong Kong (Centre for Health Protection & Dept of Health)[12]	• Residents should wear a mask if leaving their room during quarantine. • A pathway should be cleared for transfer and the pathway and surrounding area disinfected afterwards. • The number of staff dealing with residents in quarantine should be minimised. • Any visits should be from outside the room. • Residents or staff under quarantine should wear a surgical mask for 28 days.
Monitoring and Screening	New South Wales Government[9]	• Residents being admitted or re-admitted from other health facilities and communities should be actively screened for the symptoms of COVID-19.
	CDC, United States[7]	• Consistently screen of staff, specifically at the beginning of their shift, actively taking their temperature and documenting other symptoms. • Monitor residents at least once a day for symptoms.

	WHO[3]	• All visitors should be screened for signs and symptoms of acute respiratory infection or significant risk for COVID-19'. • Long term care facilities should 'Assess each resident twice daily for the development of a fever (≥38C), cough or shortness of breath.' This advice is not exclusive to their being an outbreak in the facility. • Staff should report and stay at home if they have 'fever or any respiratory illness'. • Facilities should 'Undertake temperature check for all employees at facility entrance.'
	CDNA, Australia[10]	• Self-screening for staff, volunteers and visitors (including visiting workers) • Monitor residents and employees for fever or acute respiratory symptoms • RCF should establish systems to monitor staff and residents for COVID-19 with a high level of vigilance and have a low threshold for investigation
	Hong Kong (Centre for Health Protection & Dept of Health)[12]	• Check the body temperature of all clients/residents on a daily basis. • Staff should check their own temperature before coming to work. • Check the temperature of all visitors.
PPE	CDC, United States[7]	• Healthcare workers showing symptoms should immediately put on a facemask and leave the facility • Consider universal use of facemasks for HCP while in the facility even if there are no documented cases in the facility • Consider having HCW's wear all recommended PPE (gown, gloves, eye protection, N95 respirator or, if not available, a facemask) for the care of all residents regardless of symptoms. • If there are any visitors they should wear a facemask • Residents with an undiagnosed respiratory infection should wear a facemask if they leave their room • If there are documented cases then all residents (regardless of disease status) should wear a facemask if they leave their room
	WHO[3]	• Place a 'medical mask' on resident who are suspected or confirmed cases and on others staying in the same room as the suspected/confirmed case.
	Hong Kong (Centre for Health Protection & Dept of Health)[12]	• All staff should wear surgical mask while at work. • Residents are advised to put on a surgical mask when need to leave the room and a pathway for transfer should be cleared (residents are recommended not to leave their rooms irrespective of symptoms). • Cleaning staff are advised to wear appropriate personal protective equipment which includes: Surgical mask, Latex gloves, Disposable gown, Eye protection (goggles/face shield) and Cap (optional).
	Germany (RKI)[11]	• All personnel to wear PPE while caring for vulnerable people, PPE equipment to be placed immediately at the entrance to living quarters. Bins for disposal of single use equipment on the inside of all doors.
	CDNA, Australia[10]	• If residents with fever or acute respiratory symptoms must leave the room for medically necessary procedures, have them wear a facemask (if tolerated). • For care of residents with undiagnosed respiratory infection use standard, contact, and droplet precautions with eye protection unless a procedure requires airborne precautions. • Make PPE, including facemasks, eye protection, gowns, and gloves, available immediately outside of the resident room. • Position a disposal receptacle near the exit inside any resident room to make it easy for employees to discard PPE. • Post signs on the door or wall outside of the resident room clearly describing the type of precautions needed and required PPE.

Transfer and restrictions on movement	New South Wales Government[9]	• No new residents with COVID-19 compatible symptoms should be permitted to enter the facility.
	CDNA, Australia[10]	• In some circumstances, it may be feasible to transfer residents who are not symptomatic, to other settings (e.g. family care) for the duration of the outbreak. • During an outbreak of COVID-19, wherever possible, healthcare workers should not move between wings or units of the facility to provide care for other residents. This is particularly important if not all wings/units are affected by the outbreak. It is preferable to cohort staff to areas for the duration of the outbreak.
	WHO[3]	• Suspected or confirmed COVID-19 patients should wear a mask during transport.
Visitation (family and friends)	New South Wales Government[9]	• Limit essential visits to a short duration and conducting them in the resident's room, outdoors, or in a specific area designated by the residential care facility, rather than communal areas • Introduce measures such as phone or video calls should be made available to all residents to enable continuation of communication with family members
	CDC, United States[7]	• Restrict all visitation except for end of life.
	New Zealand Ministry of Health[8]	• All family visits except for families with residents receiving palliative care should stop. All allowed visits should be pre-arranged with staff.
	PHE[4]	• All visits from friends and family should cease
	WHO[3]	• 'In areas where COVID-19 transmission has been documented, access to visitors in the LTCFs should be restricted and avoided as much as possible.'
	CDNA, Australia[10]	• Ensure visitors who do attend the RCF to visit an ill resident are recorded on a register, visit only the ill resident and wear PPE as directed by staff.
	Hong Kong (Centre for Health Protection & Dept of Health)[12]	• Visits by family members, friends, or community members are not allowed unless for compassionate reasons. • Virtual visits for example using Zoom or Facetime are suggested. • Only one visitor at a time should be allowed. • A record of visits should be maintained.
Visitation (non-essential staff)	CDC, United States[7]	• Restrict nonessential healthcare personnel (including consultant personnel) and volunteers for entering the building'
	HPS[5]	• Contractors' presence in facilities should be 'kept to a minimum'. • Use of agency staff in the care of suspected or confirmed COVID-19 cases should be avoided
	New Zealand Ministry of Health[8]	• Non-urgent professional visits should stop. Essential health care associated visits, for example, chemo, renal dialysis, vetted key support people for residents with dementia and volunteers to maintain essential services, are allowed but must be pre-arranged. • External assessments for change in care level should be stopped. Team Managers, Case Managers or Registered Nurses should document changes and file for future recommendation.
	PHA[6]	• All non-urgent professional visits, or those which are not related to statutory requirements, should cease for the foreseeable future • Ensure that any through-premises deliveries cease • Give careful consideration to the frequency and nature of pastoral and chaplain visits – although an important part of residents' well-being, any such visitors should be reminded of the need to minimise physical contact and to follow the advice on effective hygiene
	PHE[4]	• Personnel can still enter but handwashing procedures should be implemented.

	Hong Kong (Centre for Health Protection & Dept of Health)[12]	• Visiting professional services, should ceased or be provided on a limited scale. • Some professional services, such as occupational therapy services for people with dementia, may be able to be delivered via IT enhanced methods. • Only one visitor at a time should be allowed. • A record of visits should be maintained.
Mental health and wellbeing	WHO[3]	• WHO advises that staff need 'rest and recuperation'
	Germany (RKI)[11]	• General information should be given to employees, residents and their visitors, about the efforts being made to protect the residents.
Ventilation	Hong Kong (Centre for Health Protection & Dept of Health)[12]	• Maintain good indoor ventilation • Windows of room should be opened, window and louver should be installed on different walls for better ventilation • Switch on fans or exhaust fans to enhance air flow. • Keep air-conditioners well maintained. • Clean the dust-filters of air-conditioners regularly.

Abbreviations: CDC – Centers for Disease Control and Prevention; CDNA – Communicable Disease Network Australia; HPS – Health Protection Scotland; PHA – Public Health Agency of Northern Ireland; PHE – Public Health England; RKI – Robert Koch Institute, Germany; WHO – World Health Organisation

Last updated 31/03/2020 18.00 GMT

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