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

Updated 16 April 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
V3.0	16/04/20202	Updated to include differences in guidance since the initial review. Review expanded to include information on guidance for residential care facilities with no known cases of COVID-19.

Background

In Ireland, there have been several reported outbreaks of COVID-19 in residential care facilities[1] (RCFs). The Health Protection Surveillance Centre (HPSC) has published interim guidance for these facilities RCFs on the prevention and management of COVID-19 cases and outbreaks. Guidance has also been issued elsewhere to protect RCFs, which are vulnerable to outbreaks, and their residents, who are at a higher risk of adverse outcomes from COVID-19. 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. Specific focus was given to identifying measures that could be considered over and above those outlined in the HPSC guidance, which was updated on 7 April 2020.[2] In addition to this, the review focussed on identifying whether any enhanced infection prevention and control measures, such as universal testing for example, are being taken elsewhere to protect RCFs that have no known cases of COVID-19.

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 16 April 2020. A detailed account of the methods used in this review are provided in the protocol to support HPSC COVID-19 public health guidance, published on www.hiqa.ie.

Results

Since the HPSC updated its guidance on the prevention and management of COVID-19 cases and outbreaks in RCFs and similar units, much of the advice and recommendations have fallen broadly in line with the advice and recommendations issued in other settings. However, a number of protective measures that are in excess to those in the updated HPSC guidance[2] have been observed in different health care systems. Table 1 provides an overview of the guidance from across different health care systems. The specific guidance 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.

Review of protective measures

World Health Organization

On 21 March 2020, the World Health Organization (WHO) issued guidance[3] on infection prevention and control in long-term care facilities in the context of COVID-19. 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 advises RCFs to 'Identify a lead for COVID-19 preparedness and response in the RCF'.[2] However, there is little discussion of the lead's responsibilities other than to 'To oversee development, implementation and review of policies and procedures'. HPSC guidance does not discuss the audit of IPC practices. HPSC[2] guidance does not discuss influenza or pneumococcal vaccinations.

Physical distancing

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

HPSC guidance[2] has a number of detailed restrictions on physical distancing which include the WHO guidance above. One difference is that the HPSC guidance[2] stipulates 'a distance of 1 to 2 metres'.

Visitation

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.'

HPSC restrictions on visitation[2] are similar to those advised by the WHO.

Monitoring and Screening

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'.

The HPSC has similar guidance[2] for the monitoring of residents for symptoms and screening of staff. HPSC guidance[2] does not advise active screening of visitors.

Suspected and confirmed cases

The HPSC[2] provides similar guidance to the WHO on managing a suspected case.

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 HPSC[2] states that 'If the clinical condition does not require hospitalisation, they should not be transferred from the facility on infection prevention and control grounds.'

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's advice[2] differs, stating that 'Residents with confirmed COVID-19 infection should remain in isolation on contact and droplet precautions until 14 days after the first date of onset of symptoms and they are fever free for the last 5 days.'

PPE

HPSC guidance[2] is in line with WHO guidance on 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[2] on environmental cleaning and disinfection is similar to WHO guidance.[3]

Transfer and restriction of movement

The HPSC guidance[2] 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[2] is similar to WHO guidance[3] in terms of accessing care: only access care if essential. One difference is that the WHO guidance[3] advises that suspected or confirmed COVID-19 patients should wear a mask during transport.

Mental health and wellbeing

The HPSC guidance for RCFs[2] does not include guidance on maintaining the mental health of residents and employees. Also, for staff, it is advised that their wellbeing should be regularly and supportively monitored. The WHO[3] 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 2 April 2020. The following measures were different to the HPSC guidance:[2]

Suspected or Confirmed Cases

- PHE[4] advise to prioritise testing 'where an outbreak has occurred in a residential or care setting'.
- PHE[4] advise that 'people with dementia and cognitive impairment may be less able to report symptoms because of communication difficulties, and therefore staff should be alert to the presence of signs as well as symptoms of the virus.'
- If an outbreak is suspected the PHE Health Protection team will test up to five residents but consider it unnecessary to test other residents as 'this would not change subsequent management of the outbreak.'
- PHE[4] advise consulting a patient's advanced care plan and to consult with the patent and their family if a patient shows symptoms.

Governance

- PHE[4] discuss the COVID-19 restrictions in the context of the mental health capacity act. The HPSC guidance[2] does not discuss personal capacity in the context of COVID-19 restrictions.

Occupational Health

- PHE[4] advise that there should be an 'individual risk assessment based on staff circumstances, for example staff who are vulnerable should be carefully assessed when assigning duties'.

Health Protection Scotland (HPS)

The latest version of the HPS' guidance[5] for 'residential settings' was published on the 2 April 2020. The following are the differences between HPSC guidance[2] and HPS guidance:

Suspected and confirmed cases

- HPS[5] states that use of agency staff in the care of suspected or confirmed COVID-19 cases should be avoided. The HPSC does not discuss agency staff but does advise that staff should not work across multiple settings.

Occupational Health

- Also, HPS[5] 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. The HPSC[2] does not provide advice on staff who are at increased risk of severe illness from COVID-19.

Public Health Agency (PHA) of Northern Ireland

On 17 March 2020 PHA published guidance[6] for RCFs. There are no measures in PHA guidance that are more restrictive than HPSC guidance.[2]

Governance

PHA[6] discuss the COVID-19 restrictions in the context of the mental health capacity act. The HPSC guidance does not discuss personal capacity in the context of COVID-19 restrictions.

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] (updated on 21 March 2020) to protect residents of RCFs. CDC guidance is primarily less restrictive, however there are some exceptions:

Governance

CDC guidance[7] places emphasis on implementing and informing staff about non-punitive sick leave policies. The HPSC does not have guidance on sick-leave policies.

PPE

CDC[7] suggest that health care workers showing symptoms should immediately put on a face mask and leave the facility. The CDC suggests implementing universal use of face masks for HCW 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. The HPSC does not recommend wearing these items of PPE in all circumstances.

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

should wear a face mask if they leave their room. The HPSC only recommends the use of face masks in possible/confirmed cases when using shared space.

Ministry of Health New Zealand

The Ministry of Health New Zealand had similar guidance[8] in place for RCFs 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 allowed visits (palliative care only) should be pre-arranged with staff.
- 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.

Governance

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

Transfer and restriction of movement

- Consideration of one-way discharge from aged residential care (ARC) to family bubble in exceptional circumstances.
- New Zealand guidance allows for the transfer of confirmed cases to RCFs 'once isolation management and processes have been confirmed'

Suspected and confirmed cases

- For staff, isolate at home, or on premises if possible.
- If the above is 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 2020) and HPSC guidance[2] for RCFs in the context of COVID-19.

Visitation

- The New South Wales guidance[9] is less restrictive than HPSC guidance on visitation. However, it does advise that visitors should be requested to state their current health status before entry.
- Also, it advises to conduct essential visits in the resident's room, outdoors, or in a specific area designated by the RCF, rather than communal areas where the risk of transmission to other residents is greater.

Transfer and restriction of movement

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

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 RCFs 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.

The follow 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.

Monitoring and Screening

Self-screening for visitors.

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.

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.

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.

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.

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]

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 on the inside of all doors.

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]

PPE

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.

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

Visitation

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

Any visits should be from outside the room.

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.

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.
- 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.
- Any visits should be from outside the room.
- Residents or staff under quarantine should wear a surgical mask for 28 days.

The Society for Post-Acute and Long-Term Care Medicine (AMDA)

Interim recommendations for post-acute & long-term care facilities were updated by the Society for Post-Acute and Long-Term Care Medicine on the 5 March.[13] Guidance was mostly in line with HPSC guidance. The following details the advice over and above the HSPC guidance:[2]

PPE

- In areas of community transmission, it is recommended that 'staff caring for residents use gloves and surgical masks in the care for every resident.'
- There is advice on rationing and reuse of PPE, particularly for N95 respirators. HPSC guidance does not discuss rationing and reuse of PPE in detail.

Visitation

- In areas of community transmission it is recommended that screening of all visitors is conducted.

Restrictive Measures

South Korea

South Korea have implemented large scale restrictive measures for nursing homes,[14] as follows:

In Gyungsang-do, the region with the second highest recorded rate of COVID-19 cases in South Korea, 564 RCFs were quarantined for two weeks and 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

In an attempt to shield care home residents from infection, 150 care home residents without symptoms are being moved into hotel accommodation in Barcelona.[15]

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.[16]

New legislation has been passed that enables regional governments to take over the running of RCFs (including private sector) that become overwhelmed.[16]

Slovenia

To prevent the spread of COVID-19 in care homes confirmed cases are transferred to other facilities or in some exceptional cases transferred to families.[17]

HPSC guidelines on cocooning

On the 27 March 2020, the HPSC issued guidance on 'cocooning'.[18] There are aspects of this guidance that need to be incorporated into the HPSC's guidance for RCFs.[2]

The list of vulnerable groups in the cocooning document is different to the list in the guidance for RCFs.

Review of enhanced measures to protect RCFs with no known cases of COVID-19

This review was undertaken to identify any enhanced infection prevention and control measures, such as universal testing of staff and residents of RCFs that are being taken elsewhere to protect RCFs with no known cases of COVID-19. In line with the protocol, we searched a number of international resources, including a range of ministries of health and public health agencies. We expanded this search to include information from public health bodies in other countries, and also conducted a grey literature search to identify any additional information that may not have been captured in the international resources.

Outside of the general advice issued by the different public health agencies and ministries of health on protecting RCFs against outbreaks (detailed above), there has been very little guidance issued on protecting facilities with no known cases of COVID-19.

In the US, the CDC has advised that if COVID-19 is circulating in the community, but there are no known cases in a RCF, that all staff should wear face masks.[19]

In Germany, the Robert Koch Institute has advised that if a test result is pending and there are no known cases of COVID-19 in a RCF, the necessary hygiene measures should be taken immediately, and the resident with suspected COVID-19 should be cared for in their room with all communal activities restricted.[20] However, these measures are no different from the routine infection prevention and control measures that have been issued by the HPSC for managing and preventing the spread of COVID-19 in RCFs in Ireland.

There has been no specific guidance on measures to protect RCFs with no known cases of COVID-19 in any of the other international resources searched. However, there has been anecdotal evidence that enhanced measures are being taken elsewhere to protect staff and residents in these facilities, for example in relation to testing. Blanket, or universal, testing is reportedly being implemented in some settings. Israel's Health Ministry, for example, has said that it will test all staff and residents if someone in the facility has been diagnosed with COVID-19.[21] In Quebec, Canada, there have been reports that all staff and residents in RCFs are to be systematically tested for COVID-19.[22] In Ontario, Canada, health officials have released a "testing strategy" which will see testing increased in a number of priority groups, including RCFs. However, universal, or systematic, testing, will not be implemented for these groups as testing is reportedly not required in residents without symptoms of COVID-19.[22]

Universal or systematic testing has not been advised by the HPSC, to date, or any other international public health body, to the best of our knowledge. Similar to the HPSC, PHE has advised that testing will be offered to anyone showing symptoms of COVID-19.[23] It has also advised that if more than one resident is symptomatic, testing

for up to five residents will be offered to confirm the existence of an outbreak. PHE has said that testing all cases is not required as it would not change the subsequent management of the outbreak in the facility.[23] However, enhanced measures, such as increased testing, may be imminent in the UK in light of the increasing number of deaths in these facilities. The UK government has reportedly pledged to increase testing to protect residents who are already vulnerable to severe illness and mortality from COVID-19.[24]

There have been reports of other enhanced measures being taken elsewhere to protect staff and residents in RCFs, particularly in relation to visitation. Following the Ministry of Health's strict advice in Singapore on safe distancing, announced on 20 March 2020, some RCFs have banned all face-to-face visitations for 30 days, starting 1 April 2020.[25] In Australia, from 1 May 2020, entry to RCFs will be prohibited for anyone that has not received the 2020 influenza vaccine.[26] In Chile, access to RCFs has been restricted to essential personnel since 16 March 2020, with all other visits prohibited.[27]

A number of other enhanced measures are reportedly being taken to protect RCFs, although these are not explicitly limited to RCFs with no known cases of COVID-19. In Ontario, Canada, staff in RCFs have been banned from working in more than one facility to prevent the spread of COVID-19.[22] In some RCFs in Canada, where there are a mix of private, semi-private, and ward-type rooms, healthy residents are being allocated private rooms, while those with COVID-19 are being reallocated to shared rooms with other ill residents. Previously, residents with COVID-19 were being isolated in private rooms.[28]

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, screening, dealing with suspected and confirmed cases, restriction of movement, 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.

To date, there has been very little international guidance issued on enhanced measures to protect RCFs with no known cases of COVID-19, outside of the general advice on infection prevention and control. The CDC in the US has advised that if there is community transmission of COVID-19, and there are no known cases of the virus in a RCF that all staff should wear face masks to prevent the spread of COVID-19 in these settings. There has been some anecdotal evidence that blanket testing is being implemented in some settings as an enhanced measure to protect RCFs from COVID-19 outbreaks. However, blanket testing, or systematic testing of priority groups, has not yet been recommended by any public health body or ministry of health, to the best of our knowledge.

The findings from this rapid review were accurate as of 15 April 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 Restrictive measures that differ from HPSC guidance organised by country/agency

Country / setting	Protective measures
Australia (New South Wales Government)[9]	• No new residents with COVID-19 compatible symptoms should be permitted to enter the facility • Conduct essential visits in the resident's room, outdoors, or in a specific area designated by the RCF, rather than communal areas where the risk of transmission to other residents is greater. • Develop a plan for rapid notification for staff, families, carers, and your local public health unit
CDC, United States[7]	• Implement and inform staff about non-punitive sick leave policies. • Healthcare workers showing symptoms should immediately put on a face mask 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
ECDC[29]	• 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
HPS[5]	• 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 allowed visits should be pre-arranged with staff. • 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. • All surveillance and certification audits and mandatory training programmes should stop. • 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. • Consideration of one-way discharge from ARC to family bubble in exceptional circumstances.
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 • New Zealand guidance allows for the transfer of confirmed cases to RCFs 'once isolation management and processes have been confirmed'

~~PHE~~[4]PHE[(4)]	• Prioritise testing 'where an outbreak has occurred in a residential or care setting'. • 'People with dementia and cognitive impairment may be less able to report symptoms because of communication difficulties, and therefore staff should be alert to the presence of signs as well as symptoms of the virus.' • If an outbreak is suspected the PHE Health Protection team will test up to five residents but consider it unnecessary to test other residents as 'this would not change subsequent management of the outbreak.' • Consult a patient's advanced care plan and consult with the patent and their family if a patient shows symptoms. • PHE discuss the COVID-19 restrictions in the context of the mental health capacity act. • There should be an 'individual risk assessment based on staff circumstances, for example staff who are vulnerable should be carefully assessed when assigning duties'.
WHO[(3)]	• All visitors should be screened for signs and symptoms of acute respiratory infection or significant risk for COVID-19', if not feasible cancel group activities'. • Staff should report and stay at home if they have 'fever or any respiratory illness'. • 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. • 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 visitors. • 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 • 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. • 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. • 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.
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.
Center for Health Protection and Department of Health, Hong Kong[12]	• 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. • Only one visitor at a time should be allowed. • A record of visits should be maintained. • 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. • When a case is confirmed, perform terminal disinfection for the whole institution. • 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. • 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. • Any visits should be from outside the room. • Residents or staff under quarantine should wear a surgical mask for 28 days.
The Society for Post-Acute and Long-Term Care Medicine[13]	• In areas of community transmission it is recommended that screening of all visitors is conducted. • In areas of community transmission, it is recommended that 'staff caring for residents use gloves and surgical masks in the care for every resident.' • There is advice on rationing and reuse of PPE, particularly for N95 respirators.

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

Table 2 Restrictive measures that differ from HPSC guidance organised by theme

Measure	Agency	Details
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]	• 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
	CDNA, Australia[10]	• Prepare an outbreak management plan and identify a dedicated staff member to plan, co-ordinate and manage logistics.
	PHA[6]	• PHA discuss the COVID-19 restrictions in the context of the mental health capacity act.
	PHE[4]	• PHE discuss the COVID-19 restrictions in the context of the mental health capacity act.
Environmental cleaning and disinfection	CDNA, Australia[10]	• Equipment and items in patient areas should be kept to a minimum.
	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.* • When a case is confirmed, perform terminal disinfection for the whole institution.
Suspected and confirmed cases	CDC, United States[7]	• Healthcare workers showing symptoms should immediately put on a facemask and leave the facility
	ECDC[29]	• 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 staff, isolate at home, or on premises if possible. • If the above is 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.
	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. • Any visits should be from outside the room. • Residents or staff under quarantine should wear a surgical mask for 28 days.
	PHE[4]	• Prioritise testing 'where an outbreak has occurred in a residential or care setting'. • 'People with dementia and cognitive impairment may be less able to report symptoms because of communication difficulties, and therefore staff should be alert to the presence of signs as well as symptoms of the virus.' • If an outbreak is suspected the PHE Health Protection team will test up t five residents but consider it unnecessary to test other residents as 'this would not change subsequent management of the outbreak.' • Consult a patient's advanced care plan and consult with the patent and their family if a patient shows symptoms.
Occupational Health	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
	PHE[4]	• There should be an 'individual risk assessment based on staff circumstances, for example staff who are vulnerable should be carefully assessed when assigning duties'.
Monitoring and Screening	WHO[3]	• All visitors should be screened for signs and symptoms of acute respiratory infection or significant risk for COVID-19'.
	CDNA, Australia[10]	• Self-screening for visitors • 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]	• 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).
	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.
	The Society for Post-Acute and Long-Term Care Medicine[13]	• In areas of community transmission, it is recommended that 'staff caring for residents use gloves and surgical masks in the care for every resident.' • There is advice on rationing and reuse of PPE, particularly for N95 respirators.
	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. • 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.
	WHO[3]	• Suspected or confirmed COVID-19 patients should wear a mask during transport.
	New Zealand Ministry of Health[8]	• Consideration of one-way discharge from ARC to family bubble in exceptional circumstances. • New Zealand guidance allows for the transfer of confirmed cases to RCFs 'once isolation management and processes have been confirmed'
Visitation (family and friends)	New Zealand Ministry of Health[8]	• All allowed visits should be pre-arranged with staff.
	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.
	The Society for Post-Acute and Long-Term Care Medicine[13]	• In areas of community transmission it is recommended that screening of all visitors is conducted.
	Hong Kong (Centre for Health Protection & Dept of Health)[12]	• Only one visitor at a time should be allowed. • A record of visits should be maintained.
Visitation (non-essential staff)	HPS[5]	• Use of agency staff in the care of suspected or confirmed COVID-19 cases should be avoided
	New Zealand Ministry of Health[8]	• 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.
	The Society for Post-Acute and Long-Term Care Medicine[13]	• In areas of community transmission it is recommended that screening of all visitors is conducted.
	Australia (New South Wales Government)[9]	• Conduct essential visits in the resident's room, outdoors, or in a specific area designated by the RCF, rather than communal areas where the risk of transmission to other residents is greater.
	Hong Kong (Centre for Health Protection & Dept of Health)[12]	• Only one visitor at a time should be allowed. • A record of visits should be maintained.

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

Mental health and wellbeing	WHO[3]	• WHO advises that staff need 'rest and recuperation'
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.

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