Independent Review COVID-19 outbreaks in Australian Residential Aged Care Facilities

- no time for complacency -

Conducted by:

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Acknowledgements

The reviewers gratefully acknowledge everyone who has contributed or participated in this Independent Review of COVID-19 Outbreaks in Australian Residential Aged Care Facilities. Building on previous reviews commissioned by the Commonwealth Department of Health, this review has adopted a broader perspective and remit, consistent with its Terms of Reference.

As reviewers, we have had the privilege of meeting with many people and hearing of their experiences firsthand. Participants in this review also included international experts, reflecting experience in other countries. Our review is richer for the insights, perspectives and contributions of all participants. Once again, we thank them all.

The relative success of Australia's COVID-19 response on a global scale has been marred by the tragic loss of life in residential aged care facilities, especially during the second wave in Victoria. At the time of writing, 685 people have died from COVID-19 in aged care homes, in Australia. We extend our sincere condolences to the families and friends who have lost their loved ones. We know that the health of many other residents declined during COVID-19 outbreaks or lockdowns, whether or not they became infected, and we trust that the worst effects are now behind them.

Through our review, we have witnessed firsthand and heard from many, of the enormous personal toll on those tasked with managing COVID-19 risk and outbreaks. This has impacted people who work in the aged care sector, from frontline staff to executives and board directors. It has also affected those who provide support, from government departments at the State, Territory and Commonwealth levels, industrial organisations, statutory and advocacy bodies. We also acknowledge and thank them for their leadership and commitment during such demanding, unprecedented events.

Finally, we acknowledge the invaluable support of the review secretariat team in the Commonwealth Department of Health. Whilst there have been some personnel changes since the beginning of the review, we are indebted to each and every one of them for their keen assistance and kind regard, in responding to our numerous requests related to the review's administration.

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Abbreviations

Abbreviations are used regularly throughout this report. Whilst the first mention of the abbreviation is explained, the following list summarises those most commonly used:

ACD Advance care directive

ACQSC Aged Care Quality and Safety Commission

ACSA Aged & Community Services Australia

ACSQHC Australian Commission on Safety and Quality in Health Care

ADF Australian Defence Force

AIHW Australian Institute of Health and Welfare

AUSMAT Australian Medical Assistance Teams

BAU Business as usual

CDC Centers for Disease Control and Prevention

CDNA Communicable Diseases Network of Australia

CFR Case fatality rate

COTA Council on the Ageing

DHHS Department of Health and Human Services (Victoria)

DoH Department of Health (Commonwealth)

IPC Infection prevention and control

LASA Leading Aged Services Australia

LHN Local Health Network (area health service or similar)

LTCF Long Term Care Facility

OMP Outbreak management plan

OPAN Older Persons Advocacy Network

PCA Personal care assistant

PHN Primary Health Network

PPE Personal protective equipment

RACF Residential aged care facility

RCAC Royal Commission into Aged Care Quality and Safety

VACRC Victorian Aged Care Response Centre

WHO World Health Organization

Executive Overview

This review was commissioned by the Commonwealth Department of Health to examine lessons learned from COVID-19 outbreaks in residential aged care facilities (RACFs) in Australia and to make recommendations for continued improvement. The report builds on previous reviews of COVID-19 outbreaks in individual RACFs in New South Wales and Victoria.

Notwithstanding Australia's relative success in managing COVID-19, we must honour the lives of those people who died during these outbreaks and do whatever we can to prevent a recurrence. Even residents who were not infected with COVID-19, often experienced significant declines in their health and wellbeing, due to social isolation and physical immobility during extended lockdowns. The emotional toll on residents' families and RACF staff has been immense. However, as this report outlines, the total number of COVID-19 cases in Australia and the overall case fatality rate, is substantially lower than the rest of the world. In the 37 member countries of the Organisation for Economic Co-operation and Development (OECD), Australia ranks second lowest with respect to cases per 100,000 people and third lowest in case fatality rates¹.

During this review, we have heard many examples of older people living in residential aged care being denied their right to access healthcare and we have pondered to what extent ageist attitudes influence decision-making in relation to their clinical care.

In formulating our report, we have drawn on our five key sources of data. We have scrutinised the current literature, drawn on the experience of international experts, surveyed RACF managers, held workshops with representatives of Approved Providers and conducted in-depth interviews with system leaders. Whilst we have some quantitative data from our survey and literature review, most of the data that inform this report are qualitative, based on the individual or collective experiences of stakeholders.

We have described the aged care system in Australia and outlined the regulatory role of the Aged Care Quality and Safety Commission. We have also touched on the Royal Commission into Aged Care Quality and Safety and in particular, its Special Report on COVID-19 in aged care.

Our key reflections, observations and findings are summarised in this report. We have captured our key findings in what we have described as the *nine lines of defence* against the risk of COVID-19 outbreaks. We have expressed them using the analogy of the *Swiss Cheese* model. In this model, each line of defence is represented by a slice of cheese, with randomly arranged holes. As the holes in adjacent slices of cheese line up, representing progressively failing defences, the risk of an uncontrolled outbreak increases.

 $^{{}^{1}\}underline{\text{https://www.who.int/publications/m/item/weekly-epidemiological-update-on-covid-19---27-april-2021}}$

The key lines of defence are:

- built environment and infrastructure;
- clinical care;
- effective interagency communication;
- emergency response;
- infection prevention and control;
- leadership, management & governance;
- planning and preparation;
- preventing social isolation; and
- Workforce and staff mental health.

We have also determined that when COVID-19 is prevalent in the community, the first case in a RACF is largely a matter of bad luck. It is often a staff member who is infected in the community and while asymptomatic but potentially infectious, unwittingly brings it into the home. Swift, decisive action, as soon as the index case is recognised, can often halt equally swift transmission.

Our online survey and interviews did not identify correlations between specific facility characteristics and the risk of an outbreak occurring or its magnitude. However, consistent with experience elsewhere, we confirmed that community transmission – for example in Victoria - was the most reliable predictor of RACF outbreaks.

It is clear that the nine lines of defence overlap and individually, all are critical to outbreak control. However, based on our findings, we place *leadership* as the most critical factor and an essential component of all other lines of defence.

Respondents to this review have drawn our attention to a number of outbreaks where effective leadership was the key to success. From our past reviews, we contrast this with our previous finding, that ineffective leadership was a major factor in some of the worst outbreaks. Many providers have conducted their own internal reviews with similar findings. But whilst leadership is crucial, each of the other lines of defence is also important and needs to be strengthened in its own right.

We have made 38 recommendations in this review and as outlined, they draw attention to system failures which have been exposed by COVID-19. The recommendations are aligned with each of the nine lines of defence and focused on building a stronger and more capable system. The recommendations are summarised later in this report.

This review has provided a rare opportunity for us to meet with and learn from a subset of the countless people who work tirelessly to improve the lives of our most vulnerable senior citizens who are often overlooked by the general community. We have done our best to reflect their experiences in our report. This is their story.

Setting the Scene

In early 2020, increasing numbers of cases of COVID-19 worldwide, led to the formal declaration of a pandemic by the World Health Organization (WHO)² on 11 March 2020.

The first cases of COVID-19 were identified in Wuhan, China in December 2019. At the time of the WHO declaration, there were more than 118,000 cases in 114 countries and more than 4,000 people had died. Thousands more were reported to be fighting for their lives in hospitals. At the WHO media briefing, when the pandemic was declared the WHO Director General said:

"Pandemic is not a word to use lightly or carelessly. It is a word that, if misused, can cause unreasonable fear, or unjustified acceptance that the fight is over, leading to unnecessary suffering and death ... we have never before seen a pandemic sparked by a coronavirus... And we have never before seen a pandemic that can be controlled, at the same time."

With the best information available to him, the Director-General was endeavouring to set the scene for what was to come. He went on to say:

"This is not just a public health crisis, it is a crisis that will touch every sector — so every sector and every individual must be involved in the fight. I have said from the beginning that countries must take a whole-of-government, whole-of-society approach, built around a comprehensive strategy to prevent infections, save lives and minimize impact. Let me summarize it in four key areas: First, prepare and be ready. Second, detect, protect and treat. Third, reduce transmission. Fourth, innovate and learn."

At the time, it was hard to predict the impact of the pandemic. Just over a year later, (April 2021) there have been more than 146 million cases (18,500 per million population) and 3 million deaths (392 per million) from COVID-19 worldwide.^{3,4} Australia's case numbers have been, proportionately, much lower - as of 25 April 2021, there have been 29,666 cases (1,160 per million) and 910 deaths (36 per million). Notwithstanding our relative success on the global stage, the tragic loss of life has prompted critical reflection and a focus on improving management and minimising the consequences of the pandemic. Only 7% (2051/29666) of all COVID-19 cases in Australia, have occurred in residents of aged care homes but these cases account for 75% (685/910) of all COVID-19 related deaths.⁵

The focus on continued reflection and learning was sharpened when the Royal Commission into Aged Care Quality and Safety (RCAC) announced on 28 April 2020⁶, that it was calling for submissions ahead of a special hearing into COVID-19 in aged care:

"The Royal Commission into Aged Care Quality and Safety is calling for submissions from the general public and organisations relating to the impact of the coronavirus (COVID-19) on the aged care sector. The COVID-19 pandemic has had a significant impact on all aspects of Australia's economy and society, including the delivery of aged care services."

² https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020

³ https://www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports

⁴ https://ourworldindata.org/grapher/covid-tests-cases-deaths-per-million?country=~OWID_WRL

⁵https://www.health.gov.au/news/health-alerts/novel-coronavirus-2019-ncov-health-alert/coronavirus-covid-19-current-situation-and-case-numbers#at-a-glance

⁶ https://www.health.gov.au/news/health-alerts/novel-coronavirus-2019-ncov-health-alert/coronavirus-covid-19-current-situation-and-case-numbers#at-a-glance

"The Commissioners would like to receive submissions from recipients of aged care services, families or supporters of recipients, aged care service providers, and those who work in aged care. The Commissioners understand, however, that some of these people and organisations may not yet be in a position to make a submission, because they are dealing with the impacts of COVID-19 upon the delivery of aged care services."

At the time of this call, there had been 24 outbreaks in RACFs, in Australia, which represented ~11% of all those which have occurred to the present date. The RCAC's special hearing was held in August 2020 and its Aged Care and COVID-19 Special Report published on 1 October 2020.

However, unbeknownst at the time of the announcement, the RCAC's special hearing, (10-13 August 2020), followed close in the wake of the peak of Victoria's second wave of COVID-19 community transmission, with its major implications for the residential care sector.

Figure 1⁷ illustrates the trajectory of the second wave of COVID-19 in Victoria. Daily cases peaked at 687 on 4 August and total active cases at 6,767, on 7 August 2020.



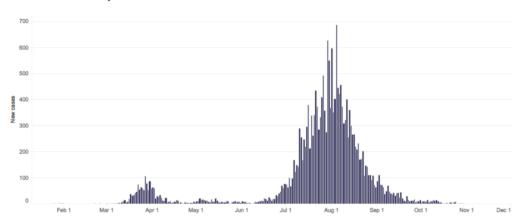


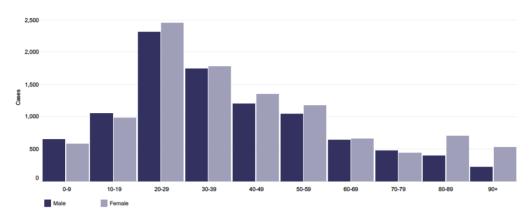
Figure 2⁸ shows the distribution of new COVID-19 cases across age groups, split between males and females. Although *mortality* rates are highest in residential care, *case* attack rates are highest among young and middle-aged adults aged 20 to 59 years

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⁷ https://www.dhhs.vic.gov.au/victorian-coronavirus-covid-19-data

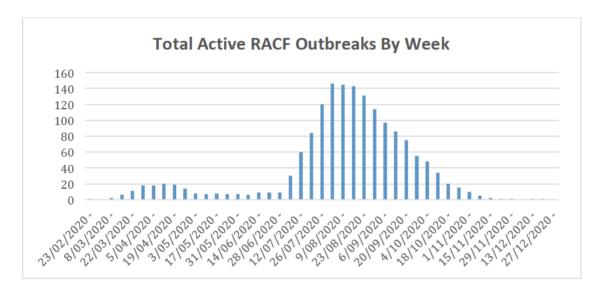
⁸ Ihid

Figure 2 New COVID-19 cases across age groups



Due to the significance of the outbreak in Victoria, this distribution pattern was also reflected in the national data. From an Australian perspective, the cumulative impact of multiple outbreaks stretched resources (for example: testing, contact-tracing, surge workforce capacity) across the nation. In the first week of August 2020, there were 146 outbreaks occurring simultaneously in residential care as shown in the **Figure 3**.

Figure 3 Total active RACF outbreaks by week



The large number of simultaneous outbreaks was also stretching the emotional limits for those charged with leading, supporting and delivering care to residents and there was enormous and often, deleterious impact on residents, their families and friends.

Notwithstanding their best efforts, staff reported feeling pressure beyond the workplace. Many were reluctant or even afraid to go to work, fearing for their own or their families' health. During this review, we heard of staff being spat on or insulted in the community and reluctant to wear their uniforms, which more easily identified them as aged care workers.

We heard from providers that it was often not clear who was 'in charge' during an outbreak. We note that this uncertainty has resolved somewhat over the past twelve months, but some providers told us they are still fearful of potential consequences, if they are assertive in dealing with government agencies, in the context of ongoing operational scrutiny.

We heard repeatedly of ageist overtones in communications from healthcare staff who were often surprised by and critical of aged care providers not being able to provide hospital-like care. This was ironic considering the stated focus of residential care on providing a home-like environment, consistent with the philosophy of aged care delivery.

We were told about residents not being able to access hospital care in a timely manner, if at all, and others being turned away from hospitals after referral. This meant that the RACF was obliged to care for increasingly vulnerable and sometimes very ill residents with inadequate resources.

However, we also heard of many examples where successful collaboration between RACFs and health services, delivered better care for residents and staff went far beyond the call of duty to assist residents and their families when they needed it most. There were also numerous instances when government departments and agencies responded rapidly and worked hard to support those delivering care on the frontline.

We also learned that providers often accessed international resources, such as an online contact-tracing course available through Johns Hopkins University. Peak advocacy bodies also actively engaged with their international networks, to access up-to-date global information to help better support providers and residents.

Many residents in RACFs in Australia have suffered during the pandemic and their experiences have been inconsistent. Our aim, in this review, is to synthesise lessons learned and make recommendations for ongoing improvement. It is incumbent upon individuals, organisations and governments involved in aged care, to deliver improved high quality, safe, person-centred care and more consistent experiences and outcomes for residents.

It is also important that we look forward, rather than attempting to apportion blame. During the pandemic, there have been repeated references to the 'blame game' in the media. Across four reviews, we have conducted almost 140 in-depth interviews, engaged with around 250 individuals (including residents and family members) and read numerous written submissions. It is clear to us that, more than anything, the overwhelming desire is not to blame but rather, to learn from the past. As we commented in our last review, blame does not drive improvement. In its Special Report, the RCAC also rejected blame: (1)p3

"Now is not the time for blame. There is too much at stake. We are left in no doubt that people, governments and government departments have worked tirelessly to avert, contain and respond to this human tragedy. However, the nation needs to know what lessons have been and can still be learnt...what is being done, and what will be done, to protect those people receiving aged care services—those who this virus has affected disproportionately and whose entitlement to high quality care ... falls within the scope of our commission".

We agree. As American author, Patrick Lencioni said, "Remember teamwork begins by building trust. And the only way to do that is to overcome our need for invulnerability." (2)

Throughout this report, we have tried to speak for the people who shared their experiences with us. Whilst many people we approached embraced the opportunity to tell their story, some were wary of speaking to us, afraid that they or their employer, would be identified, with adverse consequences. Some participants in our earlier reviews and in other reviews

had similar concerns. In his Independent Review into the COVID-19 outbreak in North-West (Tasmania), Greg Melick AO SC noted9:

"Despite appropriate assurances from the Premier and DoH Secretary, a significant majority of those who wished to make submissions requested anonymity for fear of retribution. Evidence of the actions of some managers suggests that those fears are not unfounded."

Accordingly, we made a commitment not to identify participants or their organisations in this review, unless they gave specific permission to do so.

As this report is being finalised, weekly global COVID-19 case and death rates are rising again, reversing a downward trend in January and February 2021 as shown in the Figure 4.10 However, case rates in Australia remain low and some states and territories have recorded no community transmission over long periods of time. At the same time, Australia's vaccination programme has commenced, bringing renewed hope for 'the beginning of the end'.

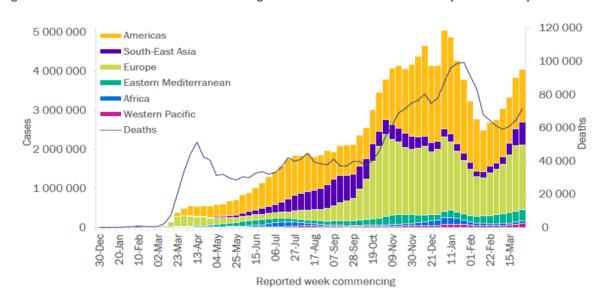


Figure 4 Cases and deaths in different WHO regions based on WHO Global Weekly Situation Report

Following the advice from the WHO Director-General, we note that the quest for learning must go on and with many countries currently experiencing an increase in confirmed COVID-19 cases and increasing numbers of deaths, it is clear that there is no time for complacency.

A cautionary note on infection prevention and control (IPC)

IPC practices are context specific. Operating theatre staff practice IPC differently from general ward, aged care home or mental health unit staff. In early 2020, there was an increased focus on IPC, especially hand hygiene, in RACFs and the community, and exponential increase in public commentary and expectations, as COVID-19 prevalence increased. Experience shows that embedding even a single aspect of IPC such as hand

⁹ http://www.dpac.tas.gov.au/ data/assets/pdf file/0004/564853/North-West Outbreak Report Final.pdf https://www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports

hygiene in frontline practice is not straightforward, as illustrated by the Australian National Hand Hygiene initiative (NHHI).

Since the NHHI began in 2009, healthcare worker hand hygiene compliance has been audited regularly in acute hospital settings, using nationally consistent methods and the results published by the Australian Commission on Safety and Quality in Health Care (ACSQHC). 11,12 Between 2009-2020, overall compliance increased from 64% to 88%, which is excellent by global standards. However, it varies between different healthcare occupational groups and different hospitals and took more than 10 years' time-consuming effort and significant cost to reach this level of compliance. Even in the relatively disciplined, well-resourced hospital environment, it was challenging to achieve and sustain improvement in just this one aspect of IPC. Appropriate use of personal protective equipment (PPE) is much more complex. It is highly relevant to COVID-19 but significantly more difficult to implement consistently, even in hospitals, let alone in the much less regimented RACF environment.

The challenge and complexity of firmly implanting an 'IPC mindset' into the RACF setting is only just beginning but an important step towards a safer environment for residents and staff.

 $^{^{11}\,\}underline{\text{https://www.safetyandquality.gov.au/publications-and-resources/resource-library/national-hand-hygiene-initiative-user-manual}$

 $^{^{12}\}underline{\text{https://doi1e3eo0i66y.cloudfront.net/static-resources/national report/2a0333e6-c411-4bd0-af78-00960ae3492b/index.html?dd8713e1}$

The Review

Professor Lyn Gilbert AO and Adjunct Professor Alan Lilly were commissioned by the Commonwealth Department of Health (DoH) to undertake this Independent Review, which began in December 2020. Previous reviews¹³ of COVID-19 outbreaks at Dorothy Henderson Lodge and Newmarch House, in New South Wales and Epping Gardens and St Basil's Home for the Aged, in Victoria, had been undertaken, between April and November, 2020.

The reviewers' professional profiles are outlined in Appendix I.

Terms of Reference

This review had three key objectives as outlined in the Terms of Reference:

- to build on existing literature about COVID-19, including earlier reviews into outbreaks in RACFs, to increase the resilience of the sector to prepare for and manage future outbreaks;
- to identify critical factors that enable RACFs to successfully respond to an outbreak;
 and
- to **recommend** to Governments how preparedness for and responsiveness to potential future outbreaks may be monitored and evaluated.

Scope

Based on the Terms of Reference, the scope of the review was to "... examine lessons learned from the management of outbreaks and identify critical factors which could increase the likelihood of rapid detection and timely remediation or response from providers, with the support of relevant government agencies, if required, in managing future COVID-19 or other infectious disease outbreaks."

Consideration of the following factors was specified, in the Terms of Reference, as being out of scope except as they may arise incidentally during the course of the review:

- personal health details of residents, their families and staff; and
- financial matters relating to the COVID-19 outbreak.

Approach

With the broader remit of these Terms of Reference, which also included a review of smaller, well-controlled outbreaks and indeed, of facilities in which no outbreak occurred, the reviewers took a multi-modal approach with five distinct elements:

- a comprehensive literature review of COVID-19 in residential aged care;
- an online survey across all Australian RACFs;
- four two-hour online workshops with representatives of Approved Providers;
- a large number of in-depth interviews with key system leaders and experts on the Australian experience of COVID-19; and

 $^{^{13}\,\}underline{\text{https://www.health.gov.au/resources/collections/coronavirus-covid-19-independent-reviews-of-outbreaks-in-aged-care-facilities}$

• in-depth interviews with four international experts on experience of COVID-19 in other countries.

Importantly, this review builds on information drawn from discussions and written submissions from family members and discussions with residents, during previous reviews. Thus, we have developed a well-rounded perspective on the effects of COVID-19 in the residential aged care sector. Where relevant, findings from previous reviews have been incorporated into this report to reflect the reviewers' broader engagement.

Each of the five distinct elements of the approach to this review is discussed below.

Literature Review

A literature review was undertaken to underpin this national review. An enormous amount has been learnt about COVID-19, globally, in the short time since it first emerged in China, in late 2019. COVID-19 was first recognised as a cause of severe pneumonia, acute respiratory distress syndrome and multisystem disease but it soon became apparent that SARS-CoV-2 infection is often clinically mild or asymptomatic. It occurs at all ages, but severe COVID-19 is uncommon in young children, a fact which distinguishes is from influenza. A significant proportion of people who develop COVID-19 will continue to have symptoms of varying severity and/or shed viral ribonucleic acid (RNA), intermittently, often for many weeks.

The literature review was focused on but not limited to, the effects of COVID-19 in older people and the epidemiology of SARS-CoV-2 infections, particularly within RACFs. It was not a systematic review. Selected portions of the review are included in relevant sections of this report. The references cited are intended to be representative of literature available at the time of writing (April 2021), which has been increasing exponentially in the past 15 months. New articles appear daily, even in the relatively specialised field of aged care. Searches of Medline and Google Scholar, based on individual section topics, were performed and updated regularly. As far as possible, they are from peer-reviewed journals, but they also include pre-prints, grey literature and government or institutional documents, judged to be relevant and of sufficiently high quality to warrant inclusion.

Online Survey

A survey was designed in conjunction with the University of Sydney. The DoH's database, of all Commonwealth-subsidised RACFs, was used to email a representative of each facility, inviting them to participate in the online survey, to which a link was provided in the email. The survey was open between 2-17 March 2021. There were 681 responses, of which 330 were incomplete or unreliable and were excluded. Data from 351 validated responses were analysed by the Sydney Health Literacy Lab, Sydney School of Public Health, led by Director, Professor Kirsten McCaffery.

Data provided by survey participants were compared with Australian Institute of Health and Welfare (AIHW) data on residential aged care in Australia¹⁴. This comparison showed that RACFs represented by survey respondents were representative of RACFs in Australia, generally, with respect to geographic location (State or Territory; metro, rural or remote), and funding basis (private, not-for-profit or public sector). Of RACFs represented in the

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¹⁴ https://www.aihw.gov.au/about-our-data/our-data-collections/residential-aged-care

survey, 9.4% had experienced COVID-19 outbreaks. This is a little more than the proportion (7.9%) of all facilities in Australia which had experienced outbreaks.

Selected responses include: 74.4% of respondents had a nursing qualification and of these, 95.8% were registered nurses (RN) and 4.2% enrolled nurses (EN); 42.5% of RACFs represented were stand-alone facilities and 57.5% were part of a group.

Exploratory analyses were conducted to identify organisational factors potentially associated with an outbreak (officially defined as at least one COVID-19 case).

Variables examined included:

- time when outbreak management plan (OMP) was developed;
- whether the OMP was tested or practised;
- number of registered places in the RACF;
- number of shared facilities (bedrooms and bathrooms);
- proportion of staff who completed online IPC training;
- proportion of staff who completing face-to-face IPC training;
- location of RACF state or territory; metropolitan, regional, rural or remote;
- ownership structure and type of RACF.

Given the prevalence of outbreaks in Victoria during 2020, further analyses were conducted using the same variables in a subset of data from Victorian RACFs.

These data provided insights into outbreak preparedness and management in the aged care sector. Some findings were explored to identify factors associated with RACFs where outbreaks occurred. However, given the relatively small number of outbreaks in the facilities surveyed (33 of 351), there were few statistically significant associations with outbreaks. Unsurprisingly, location in Victoria was strongly associated with having an outbreak (adjusted risk ratio [aRR] 12.5; p<.001). In facilities where fewer than 90% of staff had completed face-to-face training, the risk of experiencing an outbreak was significantly higher, than in those where more than 90% of staff had completed it (aRR: 2.20; p=.007).

Selected survey results have been incorporated into this report where relevant to our observations or to the literature cited in this report.

Online Workshops

Four online workshops were conducted for this review. They were designed in conjunction with Dr Joy Humphreys, an independent consultant and expert in group facilitation and psychodynamics. Dr Humphreys also facilitated the workshops. The workshops created a forum for representatives of Approved Providers to give feedback directly to the review team, based on their experience of managing COVID-19 outbreak risk and/or one or more COVID-19 outbreaks in their RACFs.

There was broad participation across public, private and not-for-profit sectors, including small and large providers. Whilst 50 places were allocated for each workshop (and quickly filled as registrations opened), the average attendance rate across all workshops was 34%, with a total of 68 participants. As the workshops coincided with the start of the COVID-19 vaccination roll-out across the aged care sector, there were many competing demands on providers' time. In the event, smaller numbers of participants in each workshop also allowed more in-depth discussion than would have been possible with larger numbers.

Participants were clearly eager to share their experiences, hear from colleagues and tell their own stories.

The workshops took place in March 2021 and were promoted through the DoH's regular electronic communications to Approved Providers. At each workshop, participants were given a short presentation about the review. Through a combination of small group and plenary sessions, they explored a series of reflective questions, designed to identify enablers and barriers to success and improvements required, to ensure a consistent and robust approach to COVID-19 management in RACFs, in future. The findings are summarised, briefly.

Many providers spoke of successful partnerships with jurisdictional local health authorities and primary health networks (PHNs). They reported higher levels of collaboration and camaraderie than ever achieved before COVID-19 and were hopeful that this would continue into the future. In many cases, it was also reported that this led to increased confidence and knowledge, system evolution and improved outcomes for residents. In some cases, providers with broader residential offerings, such as retirement village living, were quick to apply aged care sector learnings into other operating environments.

Providers also reported becoming more resilient themselves and many offered additional support programmes to staff overseeing and delivering care. Such programmes included enhanced access to Employee Assistance Programs and additional leave provisions to encourage staff to stay at home if they were unwell. Feedback indicated that there had been increased uptake of these services. Providers believed that the key to improved management was to be proactive, including initiating discussions with staff who held second jobs with other residential care providers. Given that many staff held second jobs to meet minimum living standards, staff, themselves, were often concerned about whether they would be compensated if they were unable to work (due to being a close contact or restricted due to the implementation of single-site work arrangements).

Following outbreaks in the sector, some providers reported that they had revised their OMPs to make them much more specific to each individual facility. Scenario testing of OMPs was invaluable and provided unique insights leading to further improvements.

Many participants also reported taking steps to improve staff IPC training and proficiency. However, several commented that staff were regularly challenged and confused by different, often contradictory IPC advice from different support teams, including Aspen Medical, the Australian Defence Force (ADF), Australian Medical Assistance Teams (AUSMAT) or local health services. Participants mentioned that different jurisdictional and agency teams had different approaches to providing assistance. Some were very supportive but others were unhelpful and disrespectful to experienced aged care staff. The establishment of local incident management teams was helpful in managing outbreaks successfully. Through this 'command and control' approach, specific roles were designated to senior staff, which freed-up frontline staff to deliver care to residents.

Learning and communicating via videoconferencing platforms, such as Zoom, Webex, MS Teams and the like, were well received by providers and staff. They were easy to access and effective in communicating with families and exchanging information between providers and government agencies. Providers regarded them as a transformative way to communicate, more regularly with residents and their families, especially during outbreaks, including seeking feedback about some aspects of facility management. Participants also

discussed the impact of residents' prolonged social isolation from families, friends and each other and the challenge of finding a balance between managing the risk of COVID-19 and the serious ill-effects of social isolation, cognitive decline and deconditioning.

Providers told us how important it is to have timely access to information, such as government directives, public health advice and other updates, on a regular basis. However, they also pointed out that sometimes the fine balance was lost, between the right amount vs too much - sometimes contradictory - information.

Across all workshops, common themes emerged about what is needed to improve outcomes for residents, when preparing for or managing COVID-19 outbreaks. These included:

- A single, easily accessible 'source of truth' that provides reliable, timely and regularly updated advice - providers reported being overwhelmed with information and unsure about the hierarchy to be applied when interpreting and implementing guidelines;
- A single point of contact and oversight during an outbreak providers reported being inundated with calls and queries, which often distracted them from implementing timely changes and improvements on the frontline of care delivery;
- Site-based assessments, during outbreaks, should be limited to those that are absolutely necessary to ensure the provision of safe and effective care – providers reported having numerous, IPC-related assessment visits that often produced contradictory instructions, diverted critical time and created unnecessary, duplicative work;
- Greater respect and autonomy for Approved Providers many participants reported that numerous agencies and surge workforce staff were deployed to assist but, while they tried to be helpful, they often overlooked providers' and staff's experience in aged care, while many agency and surge workers had little or none;
- Support for the cost of managing the pandemic providers were particularly concerned about the risk of insolvency given the significant financial burden of additional staff, PPE supplies, safe hotel accommodation for staff and single-site working arrangements (staff also feel vulnerable due to their own personal circumstances);
- Improved access to family and social support and healthcare (including hospital care) for residents providers reported obstacles to transfer of COVID-19 positive residents to hospital; they advocated, particularly, for better options for residents with dementia.

Interviews with System Leaders & Experts

We conducted a series of interviews with system leaders, based on a broad representation of the aged care sector, focusing on where outbreaks had or had not occurred. Some providers with RACFs in different parts of the country could provide feedback in both contexts. Interviewees represented a range of organisations (including health departments, public health units and advocacy, industrial and statutory bodies), individual experts and consultants. We conducted 39 interviews (and received one written submission) involving 58 participants. A full list of participants and their organisations is included at Appendix II.

Interviews with International Experts

Based on published literature and our knowledge of overseas experience of COVID-19 in residential care, we approached four international experts, who had detailed knowledge of

COVID-19 in residential care (or equivalent services,) in their own country or region. All agreed to be interviewed:

Interviewee	Organisation	Country or Region
Assistant Professor Kevin Brown	University of Toronto	Canada
Ms Adelina Comas-Herrera	London School of Economics	England
Professor Terry Lum	University of Hong Kong	Hong Kong
Ms Emma Prestidge	Ministry of Health	New Zealand

Data from the International Long Term Care Policy Network, indicates a range of COVID-19-related mortality rates (February 2021), as a percentage of all care home beds/residents: Australia 0.33%; Canada 2.61%; England 6.91%; Hong Kong 0.04%; New Zealand 0.04%. (3)

Discussion with international experts broadened our perspective and highlighted cultural differences in approaches to managing COVID-19 risk and outbreaks. Canada and Hong Kong have been influenced by their experience of managing severe acute respiratory syndrome (SARS) in 2003-4, with different outcomes for COVID-19. Short professional profiles of these International Experts are shown in Appendix III.

Residential Aged Care in Australia.

An overview

In considering the implications of COVID-19, it is important to briefly consider the framework and operations of residential aged care, in Australia.

According to the AIHW's Report on the Operation of the Aged Care Act 1997¹⁵, 2019-20, there are 845 Approved Providers, authorised to deliver residential aged care services in Australia. They have specific responsibilities¹⁶ under the Aged Care Act, 1997, relating to: (i) the quality of care they provide (ii) the user rights of people receiving care and (iii) being accountable for the care provided.

These services are provided to residents, who must be assessed as requiring such services prior to admission to a RACF. As of 30 June 2019, there were 2,722 facilities registered to deliver residential care, with 217,145 individual care places. Occupancy across the sector was recorded at 88.3% of available places. In 2019-20, the average ages of male and female residents, on admission, were 82.5 and 84.8 years respectively, whilst the average length of stay in a RACF was nearly three years at 35.3 months.

Residential aged care services provide 24-hour care and accommodation for older people who are unable to continue living independently in their own homes and need assistance with everyday tasks. A person who is assessed as eligible to receive residential aged care may be admitted to any residential aged care home of their choice, provided the home has an available place, agrees to admit them and is able to meet the care needs of that person.

Under the *Quality of Care Principles 2014*, Approved Providers are required to provide a range of care and services to residents, whenever they need them. The type of care and services provided include:

- hotel-like services (bedding, furniture, toiletries, cleaning, meals);
- personal care (assisting with hygiene, dressing, assisting with toileting);
- clinical care (wound management, administering medication, nursing services);
- social care (recreational activities, emotional support).

All care and services must be delivered in accordance with the resident's care needs and clearly outlined in their resident agreement and care plan.

Residential care in Australia is delivered by a mix of Approved Providers from not-for-profit (55%), private (41%) and government (4%) organisations. Care and service delivery is monitored by the Aged Care Quality and Safety Commission (ACQSC) and performance assessed against Aged Care Quality Standards. The ACQSC is established under the *Aged Care Quality and Safety Commission Act 2018*, which enables the responsible Minister to make rules to give effect to the Act.

The funding for residential aged care is a mix of government and individual contributions, based on the level of care required by the resident and their individual capacity to pay.

 $[\]frac{15}{\text{https://www.gen-agedcaredata.gov.au/resources/reports-and-publications/2020/november/2019\%E2\%80\%9320-report-on-the-operation-of-the-aged-care-aged$

 $^{^{16} \, \}underline{\text{https://www.health.gov.au/news/announcements/2019-20-report-on-the-operation-of-the-aged-care-act-1997}$

Accommodation charges are also means-tested, and residents need to contribute to these costs where they have the individual capacity to pay.

Preparedness and regulation in managing COVID-19 risk

Through its role as regulator, the ACQSC provides guidance to the residential aged care sector, using a range of methods including written materials, online webinars and workshops. In order to assist with enhancing preparedness for an effective response to the COVID-19 pandemic, it hosts an online COVID-19 library of specific resources to support the sector, which is updated on a regular basis and cross-references information provided by the DoH. In setting the scene for what would become one of Australia's greatest challenges in managing COVID-19, on 2 March 2020, the Aged Care Quality and Safety Commissioner, wrote to all aged care providers, saying:

"While the number of cases of COVID-19 is currently small in Australia, it is possible that this situation could change at any time, and providers of all services need to give a high priority to planning and being prepared for this scenario. I refer you to the important advice on this matter issued to aged care providers by Australia's Chief Medical Officer, Professor Brendan Murphy on 26 February 2020 ... the Aged Care Quality and Safety Commission (the Commission) is currently giving close attention to ensuring providers' compliance with the relevant requirements under the Aged Care Quality Standards and Aged Care Act through its assessment and monitoring activities. All aged care service providers should pay close attention to requirements ... at this critical time and be vigilant in maintaining the highest possible standards for minimisation of infection-related risks. Providers are urged to undertake a self-assessment against the Quality Standards taking into account the requirements under Standard 3 and Standard 8 and ensure that your services have in place arrangements for:

- assessment and management of risk associated with infectious outbreaks if infection is suspected or identified
- ensuring adequate care of the infected individual
- protection measures for consumers, staff and, for residential aged care services, visitors to the service
- notification advice to consumers, families, carers and relevant authorities."

In its regulatory capacity, the ACQSC has a "proportionate risk-based regulatory response to COVID-19".

The stepped approach to regulatory intervention is depicted in a 'regulatory pyramid' that describes the proportionate approach and is consistent with the ACQSC's Regulatory Strategy, which has been the basis for its regulatory interventions since COVID-19 outbreaks were first experienced in the residential aged care sector.

This is shown in Figure 5.

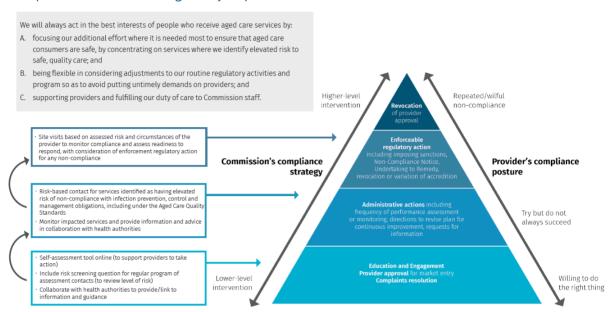
Figure 5 Aged Care Quality and Safety Commission regulatory pyramid





Aged Care Quality and Safety Commission

Proportionate risk-based regulatory response to COVID-19



The ACQSC has also provided and shared information on learnings throughout the pandemic. In November 2020, it released a new resource 'Outbreak management planning in aged care'. This document was designed as an over-arching framework which incorporates references to other key documents and departments, relevant to preparing for and managing an outbreak effectively. As an example of continuous improvement and learning, the introduction concluded:

"This document draws on the collective experience of providers, older people receiving care and their families, staff and governments to identify the key considerations and practical actions you can take to ensure your service is best placed to prevent and manage an outbreak."

Following the COVID-19 second wave in Victoria, the ACQSC further engaged with a number of Approved Providers which had experienced outbreaks. Through this process of engagement, it sought to gather, synthesise and reflect back to the sector, the lessons learned from managing through those outbreaks. The ACQSC subsequently released its report "We saw the best in people" – Lessons learned by aged care providers experiencing outbreaks of COVID-19 in Victoria, Australia. (4). The report's themes echo those of our previous reviews of COVID-19 outbreaks in RACFs. It also provides guidance on returning to a 'COVID-normal'.

The regulatory work of the ACQSC is ongoing. It has issued more than 20 Notices to Agree during the course of the pandemic. In previous reviews we noted that, whilst a Notice to

 $^{^{17}\,\}underline{\text{https://www.agedcarequality.gov.au/resources/outbreak-management-planning-aged-care}}$

Agree seems an unlikely driver, it was sometimes a catalyst for improvement, based on 'enforceable regulatory actions' outlined in the 'regulatory pyramid' (Figure 5).

National COVID-19 Aged Care Plan

The National COVID-19 Aged Care Plan¹⁸ is published by the DoH. Its latest update builds on the experience of Commonwealth, state and territory governments, progressively responding to managing COVID-19 risk and outbreaks in aged care since the beginning of the pandemic.

The plan is specific to the aged care sector and implemented in conjunction with the Australian Health Sector Emergency Response Plan for Novel Coronavirus. The latest iteration was completed in consultation with the Australian Health Protection Principal Committee Aged Care Advisory Group (AHPPC ACAG). It is underpinned by the following principles:

- all Australians should be able to access healthcare and live with dignity, regardless of their age or where they live;
- Australians receiving aged care services have the same right to be protected from the risk of transmission of COVID-19 as others in the community;
- Australians receiving aged care services have the same right to maintain their mental health and wellbeing as others in the community;
- older people, their families, carers, the aged care workforce and the aged care sector are informed and understand what to do during the pandemic and how to access supports available to them; and
- the aged care workforce is respected and supported to deliver safe care to older Australians.

Whilst there is little disagreement about the need to adopt these principles, successive reviews have shown that bringing them to life has been challenging. The National COVID-19 Aged Care Plan recognises the intricacies of implementing a national strategy in a context where state and territory governments have a constitutional responsibility for public health. Notwithstanding an active approach to improving and refining the plan, the current review has heard from many participants that a lack of clarity at its intersection with jurisdictional operations, has been a source of frustration and an unnecessary distraction.

Effective outcomes will require improved collaboration between jurisdictions. The plan articulates broad roles and responsibilities for the Commonwealth, states and territories (including joint responsibilities) and those of aged care providers across the four domains of prevention, preparedness, response and recovery. Importantly, it also provides for the establishment of Aged Care Response Centres, based on the model which was successfully implemented during the second wave in Victoria. Central to the plan are definitions of "hotspots" and "escalation tiers", which are used by the Commonwealth to prioritise support, such as access to the surge workforce or the national stockpile of PPE. Escalation tiers also provide an overview of specific, actionable interventions which are required at each tier level.

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 $^{^{18}\,\}underline{\text{https://www.health.gov.au/resources/publications/updated-national-covid-19-aged-care-plan-7th-editional-covid-19-aged-care-plan-19-age$

Finally, the plan articulates the role of the Australian Government in communicating with the aged care sector and notes the respective roles, amongst others, of the DoH and the ACQSC, in distribution of regular guidance to aged care providers. It notes that, under existing arrangements, expert advice can be sought from AHPPC subcommittees - Communicable Diseases Network Australia (CDNA) and the Infection Control Expert Group (ICEG).

Royal Commission into Aged Care Quality and Safety

On 16th September 2018, Prime Minister Scott Morrison announced that the government would establish a Royal Commission to review the quality of care provided in residential and home aged care services. The Royal Commission into Aged Care Quality and Safety (RCAC) was subsequently constituted and held its preliminary hearing in Adelaide on 18 January 2019 and its final hearing on 23 October 2020. Its final report was delivered on 26 February 2021.

In light of COVID-19, the RCAC held a special hearing in August 2020 to investigate Australia's response to the pandemic in aged care, the hearing's scope and purpose included¹⁹:

- the role and responsibilities of State, Territory and Federal governments in responding to such crises in aged care services;
- what should be done and by whom in the future to support the aged care sector to respond to pandemics, infectious disease outbreaks or other emergencies;
- the balance between managing risks posed by a future pandemic or infectious disease outbreak and maintaining the overall health and wellbeing of aged care recipients including their mental health and quality of life;
- the measures taken by the health and aged care sectors to respond to the pandemic including transporting infected residents to hospital;
- the impact of those measures on older Australians receiving aged care services, their families and their carers;
- challenges faced by the aged care sector including those relating to management,
 workforce and access to personal protective equipment; and
- any other related matters.

The RCAC heard from 27 witnesses over the course of three days and published its *Aged Care and COVID-19: Special Report* on 1 October 2020, (1) with six recommendations. The first was that the Australian Government should report to Parliament by no later than 1 December 2020 on the implementation of the remaining recommendations and the others addressed:

- improving access for families and friends to their loved ones and restoring connections for residents;
- improving access for residents to allied health and mental health support;
- developing a national aged care advisory body and national COVID-19 plan;
- improving the management of infection control with dedicated roles within residential aged care facilities and with support from infection control experts.

¹⁹ https://agedcare.royalcommission.gov.au/hearings-and-workshops/sydney-hearing-2



 $^{^{20}\,\}text{https://www.health.gov.au/resources/publications/australian-government-implementation-progress-report-on-the-royal-commission-into-aged-care-quality-and-safety-report-aged-care-and-covid-19-a-special-report}$

COVID-19 in Residential Aged Care

The number of people infected by a single COVID-19 infected person depends, among other things, on the transmissibility of the virus, susceptibility of the exposed population and the frequency and nature of contacts between people. It depends on the setting - number of people, activities, type and duration of contact, crowding, whether indoor or outdoor - and whether the source case is symptomatic (eg coughing) or engaging in behaviours that increase respiratory secretions, (eg shouting, strenuous exercise) and the stage of infection.

RACF staff move between community and workplace and contacts, between them and residents, are frequent and close. By virtue of age and comorbidities, many residents are highly susceptible to infection. Outbreaks in RACFs can be widespread before the first case is recognised, if the index case is asymptomatic or has mild or atypical symptoms.

COVID-19 outbreaks have occurred in RACFs in all Australian states except the Australian Capital Territory and Northern Territory. Confirmed cases in residential aged care, represented just 7% (2051/29,666) of all cases in Australia but were responsible for 75% of COVID-19 related deaths (685/910). The case fatality rate (CFR), overall, was 3% (910/29,666) but 33% (685/2051) among RACF residents. By contrast, just 10% (8/81) of Commonwealth aged care service recipients, living in their own homes, have died from COVID-19.²¹

Case attack rates & CFRs - RACF residents vs general community - Australia, April 2021.

Population	No.	COVID-19 cases (approx. cases per 100,000)	COVID-19 related deaths (%) (approx. deaths per 100,000)
Australia	~25.5m	29,666 (116)	909 (3.1%) (3.6)
RACF residents	~220,000 (30 June 2019)	2051 (924)	685 (33.4%) (309)

Based on data provided by different countries, the International Long Term Care Policy Network (3) estimated COVID-19 mortality rates, as proportions of the total aged care population. Notwithstanding differences in data collection methods, there is wide variation from 0.01% in South Korea, to 9.4% in Belgium (Australia, 0.33%) - in COVID-19 mortality rates among aged care residents, as shown in **Figure 6.**

Independent Review: COVID-19 outbreaks in Australian Residential Aged Care Facilities

²¹ https://www.health.gov.au/news/health-alerts/novel-coronavirus-2019-ncov-health-alert/coronavirus-covid-19-current-situation-and-case-numbers

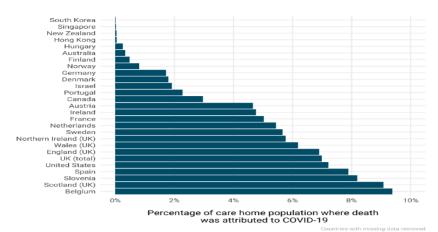


Figure 6 International COVID-19 mortality rates among aged care residents

Of 221 COVID-19 outbreaks in Australian RACFs, 94 were limited to a single case (resident or staff) and almost 160 outbreaks were limited to five or fewer cases. There was no correlation between RACF size and whether or not an outbreak occurred, as shown in **Figure 7.**

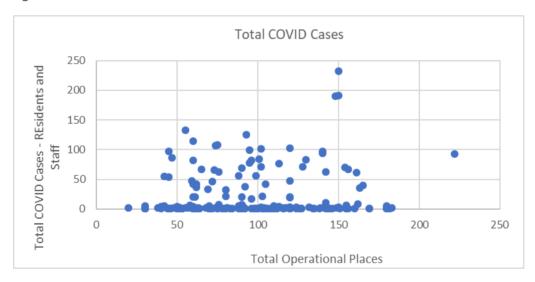


Figure 7 Total COVID cases Residential and Staff

Community transmission is the strongest predictor of an outbreak.

Once COVID-19 is introduced into a RACF, there are wide variations in case attack and mortality rates. In one of the earliest outbreaks reported, in the USA, 78% of 130 residents were infected and 34% of them died (26% of all residents).(5) In four Australian outbreaks reviewed previously, attack rates varied from 21% to 86%, CFRs from 36% to 48% and resident mortality from 8% to 38%.(6-8) In Canada, 31% (190 of 618) of nursing homes surveyed, reported at least one COVID-19 case, with a case attack rate across all homes (including those with no cases) of 7%; CFR and resident mortality rate were 28% and 2%, respectively, with wide variations between homes, depending on crowding index.(9)

In a global context, Australia's experience with COVID-19, even in aged care, is relatively favourable but there is no time for complacency. There is an urgent need to remedy the systemic failures and strengthen drivers of improvement to ensure that the tragic experience of COVID-19 outbreaks in our aged care communities is never repeated.

The Swiss Cheese Model

Mitigating the effects of COVID-19 in residential aged care

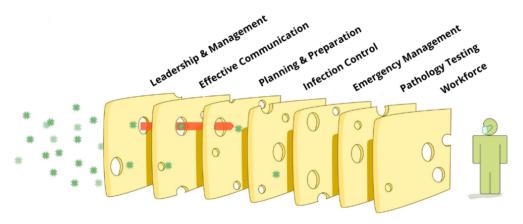
In our earlier review of COVID-19 outbreaks (8), we used the *Swiss Cheese* model to describe the key lines of defence in managing COVID-19 outbreaks.

The Swiss Cheese model²² of accident causation, proposed by James Reason, is used to understand failures in healthcare and other safety-focused environments. It likens human system defences to slices of Swiss Cheese arranged vertically, parallel to each other. Reason hypothesised that most accidents can be traced to one or more levels of potential failure: organisational, unsafe supervision, preconditions for unsafe acts and unsafe acts themselves.

Figure 8 Key lines of defence illustrated in the Swiss Cheese model

Understanding the Swiss Cheese model applied to COVID-19 outbreaks

- recognising that no single intervention can limit spread on its own -



Each intervention (layer of cheese) has imperfections (holes)

- multiple layers improve likelihood of success -

Adapted from the work of Ian M Mackay, 12 Oct 2020

Why apply the Swiss Cheese model to COVID-19 outbreaks?

In the *Swiss Cheese* model, an organisation's defences against failure are modelled as a series of barriers, represented as slices of cheese. The holes in the cheese represent weaknesses in individual parts of the system, varying in size and position between slices. The system fails when holes in the slices momentarily align, permitting 'a trajectory of accident opportunity', so that a hazard passes through holes in all of the defences, leading to an accident.

In that context, serious COVID-19 outbreaks are "the accident". In this review, we tested the model extensively in interviews, workshops and an online survey and generally confirmed

²² https://www.skybrary.aero/index.php/James Reason HF Model

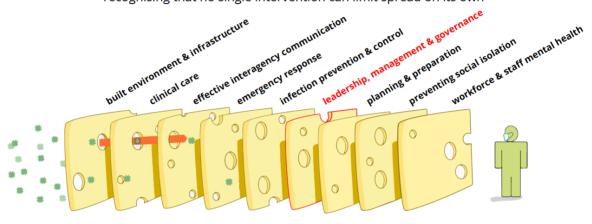
the key lines of defence. However, this review has captured a broader scope than previous ones and as a result, we have modified and added to the metaphorical slices or key lines of defence.

Whilst all slices are important, our reviews have consistently identified *leadership & management* as the highest ranked and the key to all others.

Figure 9 Updated key lines of defence illustrated in the Swiss Cheese model

Understanding the Swiss Cheese model applied to COVID-19 outbreaks

- recognising that no single intervention can limit spread on its own -



Each intervention (layer of cheese) has imperfections (holes)

Gilbert & Lilly April 2021 Adapted from the work of lan M Mackay, 12 Oct 2020

- multiple layers improve likelihood of success -

NB: Order of slices is alphabetical. Slices are interdependent and order does not denote level of importance.

In the following report sections, each 'slice' is described in two main sections – a brief synopsis of the published literature and a summary of the major findings of our current review. Each line of defence is briefly described in the following table.

Line of Defence	Is primarily concerned with
built environment & infrastructure	the physical environment in which residents live
clinical care	access to primary, secondary and tertiary healthcare
effective interagency communication	communications between agencies involved in COVID-19 control
emergency response	the multidisciplinary response to managing an outbreak
infection prevention & control	skills, attributes and knowledge required to prevent infection
leadership, management & governance	the day-to-day oversight of the delivery of care
planning & preparation	putting in place measures to prevent or manage an outbreak
preventing social isolation	reducing impacts of visitor restrictions on residents

Line of Defence	Is primarily concerned with
workforce & staff mental health	the provision of a healthy workforce

Built environment and infrastructure

RACF design for resident quality of life and safe care

"Compared with age-related declines, the built environment is more modifiable and should be used to support infection control". (10)

The effectiveness of IPC precautions is affected by the setting in which they are implemented. Ideally, features of the built environment that facilitate IPC would be incorporated into the initial design and construction of a RACF but they are absent in many older buildings. Nevertheless, even in an outbreak setting, temporary modifications can often, at least partly, compensate.

A major challenge for RACF design, in the wake of COVID-19, is to balance the desire for person-centred care, privacy and opportunities for social interaction, in a 'home-like' setting, on the one hand, against an increasing need for clinical care and IPC, on the other.

COVID-19 outbreaks are more difficult to control in large, crowded facilities, with shared bedrooms and/or bathrooms. (9, 11) Single rooms with *en suite* bathrooms, communal areas with adequate space, light and fresh air and safe outdoor spaces are conducive to both optimal quality of life *and* IPC.(12) The increasing needs of residents for clinical care also require areas suitable for private clinical consultation or minor procedures. Facility design must also recognise that many residents have some degree of dementia. In their final report, (13)p105 the Royal Commission into Aged Care Quality and Safety (RCAC) stated: "....good design in residential aged care, particularly for people living with dementia, usually involves smaller, lower-density congregate living arrangements Large, noisy institutional environments can worsen the adverse consequences of dementia."

During COVID-19 outbreaks, compartmentalisation (cohorting) of residents and their respective carers, into separate zones or buildings for those with and those without infection, can minimise the number of cases and deaths. Separate entries/exits and staff meeting rooms and toilets, are required to prevent mingling of staff from different zones. (14-17)

Crowding may be unavoidable in long term care facilities (LTCFs) in densely populated cities, such as Hong Kong, where many homes are situated in high-rise apartment blocks.(18, 19) Careful planning and pre-emptive action - such as moving residents to specialised facilities, if they cannot be safely quarantined in the LTCF, and admitting COVID-19 cases to hospital - can reduce the risks. (18, 19)

Other features of the built environment that facilitate outbreak control are conveniently located spaces for storage of much larger than usual quantities of PPE and separately, storage of used PPE and other waste, awaiting collection.(10)

Effective ventilation, including an adequate air exchange rate and direction of flow, can minimise a risk of aerosol transmission of SARS-CoV-2. The importance of ventilation was illustrated by a COVID-19 outbreak in just one ward of a nursing home, in which unfiltered indoor air was recirculated, while no-one was affected in five other wards that were ventilated with outside air.(20)

There are increasingly frequent reports of SARS-CoV-2 being transmitted to people who have not been within 2 metres or even in the same room at the same time, as the source

case.(21, 22) Accumulating evidence supports the view that improved indoor ventilation, by means of open windows, rooms with balconies or separate air handling systems for separate zones, can reduce SARS-CoV-2 transmission.(10, 12, 23)

Future RACF design considerations

Low-density living has been increasingly adopted by aged care providers worldwide and endorsed by specialist architects, to promote resident wellbeing and IPC.

"... in future, providers may adopt designs that emphasise ...separated neighbourhoods, where residents can live, socialise and dine together in smaller groups... that could be cordoned off [during] a future pandemic, without bringing the community to a halt". (24)

Comparison of small-scale (Green-House® style) homes with conventional nursing homes, in the USA, showed that residents of small homes and their families were more satisfied with quality of life and care.(25) In 2020, rates of COVID-19 infection, hospitalisation and mortality, were lower in small-house-style homes than in conventional nursing homes.(26) Building design incorporating the small-house principles is worthy of consideration in future.

What our review found

Some RACFs in Australia have significant numbers of shared rooms. Participants told us that RACF design, particularly shared bedrooms and bathrooms heavily influenced outbreak responses. In one RACF where there were a number of shared rooms, a staff member was diagnosed with COVID-19 after unwittingly working for several days while infectious. Forty of 115 residents and 46 staff members were judged to be close contacts but prompt action by RACF staff and state authorities, prevented further transmission. Residents who were contacts were transferred to private hospitals, which allowed all remaining residents to be moved to separate rooms. Staff contacts were furloughed. There were no further cases.

The importance of this pre-emptive action was underlined by our Canadian expert colleague, who emphasised the risk of cross-infection in shared rooms. The average number of residents per room was the basis of a LTCF crowding index, which was shown to correlate strongly with the numbers of cases and deaths during COVID-19 outbreaks.(9)

RACF managers often felt that cohorting was impossible, based on the facility layout. However, we were told that an on-site visit (ideally) or examination of a detailed floorplan, by an experienced IPC consultant, could often suggest a minor structural modification, such as a partition or locking a door between zones, that made it feasible. Other examples of temporary modifications planned or implemented during outbreaks included: use of a communal dining room to store clean PPE or as a COVID-19 isolation area; use of a shipping container to store large amounts of used PPE, whilst awaiting collection (which was often delayed); provision of separate portable toilets for staff from different zones; repurposing offices for staff tea/meeting rooms. We heard of many nuanced approaches to creating more effective spaces for improved infection control.

Ideally, structural modifications and associated administrative policies would be implemented or at least planned *before* an outbreak occurs. However, we were told that some RACFs did not have detailed site plans when outbreaks occurred, which made planning, cohorting or identifying sites for IPC stations difficult for consultants assisting them remotely. Site plans, showing occupant(s) of each resident room, should be available

and up to date. Ideally, RACFs in Australia should aim to reduce the number of shared rooms and bathrooms and modify layouts, if possible, to allow zoning. However, as one state official noted, closing facilities with shared rooms would significantly reduce the number of RACF places.

We were told that some providers are reviewing building projects that are already underway, to allow more effective zoning, if required, in future. We also noted that whilst many of Australia's modern RACFs are not specifically designed to replicate smaller households, their spacious design would allow effective zoning in the event of an outbreak.

Clinical care

Integrated care for older people "refers to strategies aimed at overcoming fragmentation.... improving the health and wellbeing of clients, client satisfaction..., and the efficiency and sustainability of health and aged care systems."(27) In its final report, the RCAC recommended that: ".. that the health and aged care systems [should] be as integrated as possible and aligned with relevant State and Territory arrangements" (13)p88

Primary, Specialist and Hospital Care

The RCAC identified longstanding deficiencies in provision of primary care to RACF residents. "Primary health care practitioners are either not visiting people at their residences, not visiting enough, or not spending enough time with them to provide the care required". (13)p114

There is little information about how primary care providers, generally, responded to COVID-19 in RACFs in different countries, where aged care models vary. However, there was apparently little guidance about how to provide primary care services for residents of LTCFs during COVID-19 outbreaks. (28, 29)

More information is available about integrated LTCF/hospital services from several countries. (30-33) Partnerships were often established in response to COVID-19 outbreaks and limited to a single state/province or hospital network. Their value lies in the provision of co-ordinated support in response to an outbreak, including medical and palliative care, additional nursing and IPC support and timely diagnostic testing. This support often meant that transfers of residents to hospital sometimes could be avoided or facilitated, if indicated. Initial emergency collaborations often evolved into permanent alliances.

A study in France, compared nursing homes A and B, which had close hospital links, with an otherwise similar home, C, which had no hospital link. COVID-19 case attack and mortality rates (38% and 15%, respectively), in homes A and B were significantly less than in home C (63% and 40%, respectively). Home C also had more cases among staff. It was postulated that some residents died from neglect, due to staff shortages, not from COVID-19.(33)

Multidisciplinary telehealth consultations can also facilitate primary and specialist care and reduce hospitalisation and deaths of nursing home residents, by supporting facility staff with clinical decision-making, case detection, hospital transfers and needs assessment. (34)

Like similar experiences of large outbreaks in Australia, (35) these examples illustrate the need to establish integrated aged and health care services, before further COVID-19 or other infectious disease outbreaks occur. There were existing relationships between RACFs and hospital geriatric in-reach or hospital-in-the-home services in most Australian jurisdictions, based on local health districts or equivalent. Co-ordination with public health units was apparently more varied and often limited to infectious disease outbreaks. It seems logical to link the expertise of RACF staff, who have experience in complex care of older people with functional and cognitive impairments, with that of specialists in infectious diseases, IPC, geriatrics, palliative care and public health, with the goal of reducing the devastating effects of COVID-19 outbreaks in RACFs.(36)

In its final report, the RCAC recommended: "...Australian and State and Territory Governments should introduce multidisciplinary outreach services accessible to all people

receiving residential care ... based on clinical need. ... operated by geographically-based Local Hospital Networks responsible for managing the delivery of public hospital services." (13)p115

Sparse knowledge of the clinical features and modes of transmission of COVID-19 and limited access to laboratory testing, understandably contributed to serious outbreaks in RACFs early in the pandemic. SARS-CoV-2 infection can be asymptomatic or symptoms can be delayed and nonspecific, at any age. (37-41) Among residents of 182 skilled nursing facilities in the USA, 41% of those who tested positive for SARS-CoV-2 were asymptomatic, 19% pre-symptomatic and 40% symptomatic at the time of testing.(40) The symptoms of COVID-19, in older people, are highly variable and include delirium, lethargy or increased cognitive impairment, with or without fever. In the context of a suspected COVID-19 outbreak, testing of *all* residents and staff, irrespective of symptoms, is essential to ensure prompt implementation of appropriate IPC measures and minimise transmission. (38, 39)

Should residents of RACFs with COVID-19 be admitted to hospital?

Advanced age and dementia are sometimes included among criteria for refusal of hospital admission, when beds are in high demand, despite obvious ethical implications.(42-44) In some countries, LTCFs were expected to care for older people with COVID-19, whether or not they were residents, to relieve pressure on hospitals. In other countries, COVID-19 patients are hospitalised routinely. In Australia, official advice from DoH and some state/territory governments, is that RACF residents with COVID-19 should only be admitted for strictly medical indications; other state/territory governments routinely admit them to hospital.(45, 46) Sometimes, hospital and public health officials' ignorance of the needs of older people, contributes to admission policies that result in preventable COVID-19-related deaths.(47) Such policies are apparently based on certain assumptions eg:

- that residents can receive appropriate care in the RACF, equivalent to hospital care;
- that residents prefer to remain, and die, in a safe, familiar environment; and/or
- that transfer to hospital, *per se*, is dangerous for older people and can hasten death.(48).

Despite some basis for these assumptions, there are major objections: (49)

- RACFs are not built, equipped or staffed as hospitals. (50) During outbreaks, staff
 numbers are reduced by absenteeism and the workload is increased. Providing even
 basic personal care, let alone strict IPC or clinical care, is a major challenge. (7, 8) In
 hospital, appropriate supportive care can save lives and the transmission risk is more
 manageable. Prompt source control in a RACF, will mean fewer cases and hospital
 admissions, overall;
- RACF managers were encouraged to ensure that residents' advance care directives
 (ACDs) were up to date when the COVID-19 pandemic began. Palliative care in a safe,
 familiar environment, was often assumed to be the preferred option for a resident with
 COVID-19 (51). But during an outbreak, a RACF is often neither familiar nor safe. Trusted
 staff are replaced by masked, overworked strangers, unable to stop to give basic care.
 An ACD stipulating "no hospitalisation" or "no intensive care", does not imply "no care".
 Supportive and/or palliative care, consistent with the resident's ACD, can be and often

- is provided effectively in hospital in the context of COVID-19.(52) Many RACF residents with COVID-19, have mild symptoms and the majority survive with supportive care.(29)
- Finally, an emergency hospital transfer of a frail, cognitively impaired resident, from an uncontrolled COVID-19 RACF outbreak is, indeed, very likely to have adverse effects and increase transmission risk. (53, 54) However, a properly planned transfer, for medical or dementia care or source control, is unlikely to cause significant ill-effects.

Hospital admission policies can be influenced by unwitting ageism, (55) which overlooks the diversity of health status, needs and preferences of older people. (56) Ageism is reflected in longstanding resource deficits in aged care, failure to document COVID-19-related deaths in RACFs in some countries, patronising attitudes and 'protective' policies and offensive social media commentary. (57-61)

However, even without ageist discrimination, decisions about hospital transfer of RACF residents with COVID-19 are difficult. They should be made on a case-by-case basis, to allow consultation among hospital and public health officials, RACF management, residents and their regular carers and/or medical advisors. (49, 62)

What our review found

"Clinicians know how complicated [older] people are. [After] a day or two of poor care, of not having showers, not being fed, not having adequate hydration, in-reach teams were very limited in what they could do. I remember having [colleagues] on the phone in tears and I said, "Look, forget about high tech medicine, these people need basic care. You've ... taken three people to the bathroom and you've fed two people, that was probably more useful." (Geriatrician)

Anecdotal reports, from many people we spoke to, indicated that GPs rarely visited RACF residents, during 2020. Some consulted by telehealth or participated in on-call phone rosters or in-reach teams; a few RACFs employed locum GPs. *Ad hoc* solutions, such as these, apparently worked for some but were not available to all residents. Better coordination within primary health networks (PHNs) and/or a different model of primary care, as recommended by the RCAC, would facilitate more consistent arrangements.(13)p114

Some RACFs had pre-existing relationships with hospitals, that provided specialist in-reach services. During outbreaks, they provided medical and palliative care for residents with COVID-19 and facilitated hospital transfers. Some hospital laboratories provided rapid COVID-19 diagnostic testing. (7, 35) However, we were told that members of in-reach teams were often distressed and frustrated by the lack of basic resident care during the worst outbreaks, when most experienced RACF staff had been replaced by inexperienced agency staff. Many surge workers had no experience of aged care, little understanding of IPC and some had limited understanding of English.

We heard repeatedly, during this and previous reviews, that staff shortages and inexperience were aggravated by lack of experienced nursing leadership. Residents' care plans and medical records were often missing, inaccessible or out of date; there were language barriers; some residents could not be identified. Many became dangerously deconditioned, malnourished or dehydrated because of isolation, loneliness and neglect. Weakness made them more susceptible to falls; many were depressed and withdrawn, cognitive impairment increased. Serious medical complications occurred because of

medication errors or delays. Constant staff turnover often meant that meaningful, clinical handover, between shifts was difficult, although reported to be easier in RACFs with electronic care management systems.

These chaotic circumstances - as they were consistently described by our respondents - were only alleviated by deployment of teams of hospital nurses, led by experienced nurse managers and/or emergency hospital transfer of (all or most) residents, whether or not they had COVID-19. However, relief was often too late to prevent devastating consequences.(7, 8)

By contrast, during this review, we heard accounts, from providers, health officials and others, of very different outcomes. In some RACFs, an initial COVID-19 case prompted rapid activation of well-rehearsed outbreak management, IPC and communication plans. Appropriate support from government agencies was offered and often gratefully accepted. Transmission was prevented or rapidly stopped, with minimal harm or distress to residents. Some facilities were able to replace furloughed staff with experienced aged care workers from other sites within their own organisation; physiotherapists, dietitians and/or life-style co-ordinators were able to continue working with residents, to mitigate the effects of lockdown.

The index case in a RACF may reflect random bad luck but favourable outcomes generally depend on effective leadership, existing IPC and communication policies, outbreak planning and preparation and a well-prepared, loyal workforce – as well as external support to ensure prompt laboratory testing, contact-tracing and access to additional staff and equipment, if required. Several providers told us that the outcomes, of outbreaks they had managed, were better when they had been able to transfer residents with COVID-19 to hospital.

Delayed (or refused) hospital transfers for clinically deteriorating residents were a major concern to many participants in this review. Often, there was active "push-back" from hospitals. One major provider shared feedback about their experiences with two different local health networks. In both cases, hospital staff focused on whether or not residents had ACDs and they were reluctant to accept transfers, although the provider indicated that appropriate clinical care could not be provided in the RACF:

"... we had our residents turned away. We did manage to get them into an ambulance, just one – well, we had a few there and they were examined in the car park and sent back, and I was told, "No...we have to clear our decks for the wave – we're waiting for the wave of admissions," and I said, "I'm it. I'm your wave. I've got patients for you. You've cleared your decks for my patients."

This experience was not uncommon, with many providers describing ageist attitudes, at odds with key principles of the National COVID-19 Aged Care Plan:

- All Australians should be able to access healthcare and live with dignity, regardless of their age and where they live.
- Australians receiving aged care services have the same right to be protected from the risk of transmission of COVID-19 as others in the community.
- Australians receiving aged care services have the same right to maintain their mental health and wellbeing as others in the community.

- Older people, their families, carers, the aged care workforce and the aged care sector are informed and understand what to do during the pandemic and how to access supports available to them.
- The aged care workforce is respected and supported to deliver safe care to older Australians.
- Older people receiving Australian Government funded aged care services have the right to be properly looked after, treated well and given high quality care and services with the rights of older people protected by the Charter of Aged Care Rights.

Our earlier reviews noted similar tensions over where residents with COVID-19 should be cared for. In this review, we again heard of RACFs where the ACQSC had issued Notices to Agree because of concern for residents' safety. Even in these circumstances, specialist advisors, with extensive aged care and clinical experience, were challenged when attempting to access hospital care for RACF residents. One advisor told us:

"I had people screaming down the phone, who weren't clinicians, who were making decisions. [I]eventually got [the residents] moved out. The next day there were others who were still significantly unwell, and I just went around the system to get them into hospital, because I wasn't satisfied that they were getting the care that they needed. I got attacked again on the phone. I stand by my decision and I would do it again.... everyone's trying to do their best in a disaster situation, but if you're put into a facility as an advisor, to co-ordinate the disaster response, then your clinical expertise needs to be taken into account, which it wasn't."

Aged & Community Services Australia (ACSA) also drew attention to ageism, in a position paper²³ on the interface between aged care and healthcare (June 2020). Dementia Australia has advocated for special consideration of people living with dementia in residential care, whose wandering puts them or others, at risk during a 'lockdown'. They recommend that alternative accommodation be considered, to balance individual needs with the risk of infection. Special accommodation for people living with dementia, at Wantirna Health in Melbourne, was well received and was an effective solution for some, but it was soon fully occupied.

During the latter part of the second wave in Victoria, many of these issues were mitigated by the establishment of the Victorian Aged Care Response Centre (VACRC), in late July 2020.

As outlined elsewhere in this report, we also identified that, despite its dense population, Hong Kong has achieved very low COVID-19 mortality rates for residents in aged care. Our expert colleague in Hong Kong told us that COVID-19 preparation there, was based on their experience in managing SARS which included, amongst other measures, strict isolation procedures and mandatory hospitalisation for aged care residents infected with COVID-19.

In Australia, only South Australia has a policy of routine hospital transfer for all residents with COVID-19.

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²³ https://acsa.asn.au/ACSA/media/General/Documents/Policy-Position-Paper-aged-care-health-care-interface-during-COVID-19.pdf

Effective interagency communication

International experience

International literature on interagency communication may not be generalisable because of differences in organisation, funding and regulation of aged care and healthcare sectors. Nevertheless, reports from other countries, that emphasise the essential role of smooth communications, during COVID-19 outbreaks, resonate with Australian experience eg:

- An analysis of long-term support services (LTSS) in the USA recommended radical restructure of relationships with healthcare and public health services, to address longstanding systemic problems. The authors noted that LTSS are often blamed for the devastating toll of COVID-19 on residents but argued that poor co-ordination in the US Federal public health services and under-resourcing of public health in many States, were equally culpable. Among other things they recommended better co-ordination of policies and communication with LTSS providers by Federal and State public health services. (63)
- Post-acute and long-term care providers (PALTC), in the USA, have also called for improved communication and collaboration between sectors in the wake of COVID-19. Citing harmful effects of misguided government policies, in some States, they emphasised the importance of PALTC experts being 'at the table' when policies affecting the sector are developed, to ensure that policies are feasible and supported by industry. They recommended that all States follow the example of those where successful collaborations between health authorities, emergency management, hospitals, consumers, PALTC providers and clinicians have led to favourable outcomes.(64)

Successful interagency communication and collaborations, at county or hospital network level, can also result in successful outcomes eg:

- The University of Washington Medicine's Postacute Care (UWMPAC) service established
 a local network of skilled nursing facilities (SNFs) to standardise COVID-19 outbreak
 preparation and response. Regular communication initially built trust and facilitated
 collaboration between SNFs, UWMPAC and public health, when outbreaks began.(65)
- In British Columbia, co-ordinated multi-sectoral responses to COVID-19 outbreaks in LTCFs were modelled. It was correctly predicted that daily communication, between LTCF operators, regional public health and health service officials, linked to standardised interventions, would lead to reversal of initially increasing trends in COVID-1i9 infection rates. (66)

What our review found

The response to any crisis, affecting RACF residents, is complicated by their vulnerability and dependency and the complex relationships amongst multiple stakeholders responsible for protecting them. Several people we spoke to for this review mentioned successful multisectoral emergency responses to natural disasters, such as fire or flood and pointed out that RACF staff and public health authorities are familiar with infectious disease outbreaks, such as seasonal influenza.(67) Responses to influenza outbreaks vary between jurisdictions and the Commonwealth and presumably, their effectiveness also varies but in the absence of

publicly reported outcomes, it is difficult to assess. (68) Therefore, previous experience was of limited value in developing communication strategies in response to COVID-19.

Despite early reports of high mortality rates among RACF residents overseas,(5) our respondents told us that many providers and RACF staff initially believed that COVID-19 outbreaks would be similar to a bad 'flu season. The CDNA guidelines for management of COVID-19 in RACFs²⁴, first published in March 2020, were modified from influenza guidelines. A survey of RACFs, soon afterwards (March/April), indicated that more than 95% of respondents believed they were adequately prepared for COVID-19.(1)p5 Small COVID-19 outbreaks in 20 Australian RACFs, in February-March 2020, had reinforced this belief, since only the first, at Dorothy Henderson Lodge, in Sydney, involved more than three cases.

Early advice to the sector from the ACQSC and state authorities, failed to convey a sense of urgency among many providers. Responses to government-mandated precautions during the first COVID-19 wave, varied. Some managers and staff regarded visitor restrictions, screening, compulsory influenza vaccination and the use of masks, as unnecessary. Reports from family members interviewed during our previous reviews, indicated that precautions were inconsistently applied. On the other hand, some RACFs introduced visitor restrictions earlier and kept them in place longer than required, often with support from residents and families.

Some providers told us they responded to international media reports as early as January 2020 and begun outbreak management planning and preparations. Consumer advocacy groups, such as Dementia Australia and provider peak bodies – ACSA and Leading Aged Service Australia (LASA) - shared information about COVID-19, via international networks, in real time. Meanwhile, some experts and media commentators were publicly warning that hospitals would soon be overwhelmed and Intensive Care Units 'overflowing' with COVID-19 patients. Governments were focused on preparing hospitals for the worst. Already, official and unofficial signals to the aged care sector, were contradictory and confusing.

The second major outbreak in Sydney, at Newmarch House in April, alerted authorities and the sector that Australian RACFs would not be exempt from the devastating effects of COVID-19. However, as border closures and other restrictions brought community transmission almost to a halt, between April and June, there was widespread complacency, that Australia – including the aged care sector – had 'dodged a bullet'. Many providers apparently continued to rely on generic OMPs and guidelines from ACQSC, CDNA and governments (which were sometimes subtly different or contradictory). Many were satisfied with online IPC training for staff and existing arrangements with staffing agencies, on standby if extra staff were needed. Many were basing surge workforce planning on advice from ACQSC that they should anticipate up to 20-30% replacement. Many had very little PPE in stock but assumed more would be provided by government, if needed. Meanwhile, as we heard from several providers, some providers continued to develop, practise and refine facility specific OMPs, promote IPC training and identify surge workers within their networks.

Most communications to the aged care sector originate from DoH, the ACQSC and state or territory health departments. Our survey of RACF managers showed that most of them

²⁴https://www.health.gov.au/resources/publications/cdna-national-guidelines-for-the-prevention-control-and-public-health-management-of-covid-19-outbreaks-inresidential-care-facilities-in-australia

were satisfied with these communications. Despite understandable limitations of early versions, most guidelines were revised regularly to incorporate lessons from previous outbreaks. The DoH and ACQSC websites host a range of COVID-19 resources and updates to which are added jurisdictional advice, public health directions and guidance or instructions for providers. Whilst advice and directives are essential, many people told us they were so numerous and so frequently updated, that they had difficulty keeping abreast of current versions. Some large organisations allocated specific staff members to prepare consolidated versions for facilities. One participant told us that, as Approved Provider, they wanted to provide a single 'source of truth' for staff, residents and their families and took great pride in doing so.

Despite some reservations, many people we spoke to, gave examples of effective interagency communications and noted systemic improvements, in most jurisdictions, in the past six to nine months. However, they also identified examples of continuing gaps and recent interagency communication failures and emphasised the need for continued improvement.

During our workshops, participants emphasised the critical importance of having the right information at the right time. Consistent messaging, during COVID-19 outbreaks, was one of the most significant improvements still needed. Notwithstanding the plethora of information available, those who apply it on the frontline, need a single 'source of truth' that provides reliable, timely advice. Providers reported often struggling to identify when a guideline or directive was last updated and what changes had been made.

We also heard from providers and government officials about the ambiguous roles of conventional and social media during outbreaks. Some reports were misleading, interfered with outbreak management, undermined the confidence of staff or provoked public anger against them. When relatives were unable to contact a RACF during an outbreak they often appealed to the media for assistance. At other times, journalists were able to access and share important information more quickly than people in the thick of an outbreak were able to. Based on their experience, many people we spoke to recognised the value of more proactive communication with the media and the public eg by media release, website postings and social media posts, as well as regular communications with residents, families and staff, directly or by texts, emails or webinars.

Emergency response

Elements of emergency management – mitigation, preparedness, response and recovery – all of which are required to deal with COVID-19 were, not surprisingly, poorly understood in early 2020, except in a few countries, that had experienced similar outbreaks, such as SARS. Some of them implemented preventive measures - in the community, in hospitals and in aged care - early in 2020 and to date, have escaped the pandemic's worst effects.(69-72)

The best *mitigation* strategy for any emergency in a RACF, is to be aware of plausible but preventable risks that could compromise the health and wellbeing of residents and incorporate preventive measures into business-as-usual (BAU). Elements of an effective *mitigation* strategy, in this context, are also elements of good management: strong leadership, adequate staffing, an IPC programme, links with hospital services, transparency between stakeholders and a well-rehearsed local OMP.

Ample advice and guidance is available, from DoH, ACQSC (73), CDNA⁷ and local authorities, to inform the immediate response to an outbreak, including the actions required by the provider and sources of support available. Current advice emphasises the importance of rapid, co-ordinated action by the provider and by Commonwealth and State authorities. The success of the response will depend on preparedness at the RACF level and support and leadership at organisational and government levels. Experience with COVID-19 outbreaks in Australia and elsewhere has identified both causes of failure and elements of success in responding to an outbreak. The key to success is in understanding that COVID-19, in the context of aged care, is an emergency that requires rapid, decisive action ie an emergency response. Important elements of the emergency outbreak response include:

- 'Command and control' leadership model rapid decision-making, clarity as to who is in charge, teamwork and an understanding of roles and responsibilities;
- Rapid activation of transmission-based **IPC precautions** based on established policies, trained staff and access to a single, authoritative, source of expert advice;
- Prompt source control including:
 - case detection laboratory testing of all staff and residents, irrespective of symptoms, contact tracing and retesting, as required
 - isolation of cases and quarantine of contacts furlough of staff; isolation of infected residents; cohorting of residents and staff; transfer of ill or high-risk residents
 - o *monitoring of cases* to detect deterioration, provide supportive care or transfer;
- **Communication** with and between residents and their family members to inform, support, reassure;
- Strategies to prevent adverse effects on residents psychological and physical effects of isolation and immobility eg deconditioning, malnutrition, loneliness, cognitive impairment;
- **Staff support** information, reassurance, counselling; reasonable workload and working hours; assistance with single site work; assistance for furloughed staff to work from home; paid sick leave; safe, alternative accommodation if required; follow-up of staff who have been infected or quarantined;
- Collaboration with external agencies offering support and advice, including care of residents and hospital transfer, if required.

What our review found

Roles of providers in emergency response

Approved Providers we spoke to told us that they were aware and regularly reminded, that management of a COVID-19 emergency is their responsibility. Many said they felt well prepared, willing to take responsibility but also to accept help, if needed. Others apparently expected authorities to take over. Case managers told us that some providers were defensive and unwilling to accept help, which they interpreted as a 'warning' sign. The situation in some RACFs rapidly deteriorated because providers failed to accept responsibility or seek and act on external advice.

Decisions by outside agencies sometimes undermined providers' best efforts. For example, a state public health official apparently failed to appreciate the consequences of a decision to furlough virtually all staff, leaving the provider without staff and the DoH team unable to replace them; a provider's decision, to agree to a relative's request to look after a loved one at home, was overturned by an official without explanation. In these circumstances, providers were, understandably, at a loss to understand who was in really charge, despite their best efforts to take control.

Some providers understood the requirement to implement an effective 'command and control' structure. The COVID-19 mantra 'go hard, go fast' resonated with the experience of many review participants. We were also told that, whilst there were varying levels of experience in emergency management, many providers successfully stood-up their own incident management teams, sometimes operating at executive and board level, to manage the emergency within their organisations. These arrangements varied but our observations suggested that larger providers with multiple RACFs, operated at higher levels of sophistication.

Some failures of effective emergency response reported in our earlier reviews, were repeated during this one, such as:

- Frequent time-consuming teleconferences added to providers' feelings of confusion and disempowerment. Speakers often failed to identify themselves and it was not clear who was in charge. Instructions were sometimes contradictory. Minutes of meetings were not distributed or actions-arising documented. Multiple demands for information, diverted managers from their main tasks;
- Sometimes, a hospital referral by a geriatrician or GP was vetoed by the ambulance service, hospital or a public health official. While there may have been valid reasons, these decisions were not explained, they were distressing for residents and staff and exacerbated a difficult situation in the RACF.

Feedback suggested that there was often a lack of respect, for even the most experienced aged care staff, among external agencies. Providers formed a prevailing view that officials in support agencies thought they knew best, despite limited, if any, experience working in aged care environments themselves. Providers told the review that there were multiple site assessments from different bodies, that offered gratuitous, often conflicting, advice and left with no follow-up report. Such was the level of frustration, one provider told us:

"...for every person that came into our homes, everyone's favourite recommendation was to change the signage. And it didn't matter what the signage was, the signage had to change.

And so, at one point, we actually had to say, "Just stop, don't change the signage again" because it was just confusing the staff... I mean we just went with [signs from] DHHS ... and it doesn't matter what else anyone else recommends."

Another provider (Chief Executive Officer) told us:

"And the voice of the provider was completely diminished, and people contradicted themselves, they contradicted each other. Those lines of accountability and direction were not clear... and the pressure that was brought to bear on the home was actually disgusting ... There was an overture of pressure and suspicion and nastiness really, that came through there that did not help the home at all"

These disputes worsened already tense situations and relationships became strained. RACF teams and managers were often working excessive hours to deliver the best possible care, in difficult environments. The review heard regularly about the impact on the mental health and wellbeing of staff, at all levels, involved in the delivery care.

At the workshops, providers told us how important it was for them to have a single point of contact and oversight during an outbreak and fewer unnecessary (and often competing) requests for information and site visits. LASA reinforced providers' plea for a single source of accessible, reliable and up to date information.

Although many aged care providers are used to managing adverse weather, fire and other site-based emergencies, none had experienced anything on the scale of some major COVID-19 outbreaks. For even the most seasoned emergency responders, the dynamics of an outbreak response brought unprecedented challenges. One of the Aspen Medical clinical first responders (with global humanitarian mission experience) told us during an earlier review "I couldn't believe this was happening in my country".

Roles of government and health service agencies in emergency response

An emergency response to RACF outbreaks is meant to be guided by the National COVID-19 Aged Care Plan (the Plan) and its intersection with jurisdictional plans:

"While the Updated National COVID-19 Aged Care Plan presents a national approach, flexibility will be required to suit local situations occurring within jurisdictions, as state and territory governments have constitutional responsibility for public health."

The Plan includes links to key operational documents for each state and territory.

However, we were told repeatedly that this intersection of roles and responsibilities, between Commonwealth and state agencies, is one of the key opportunities for improvement. During an outbreak in late 2020, feedback to the review highlighted the challenge. Tension arose from differences between Commonwealth and state perspectives, which led to disagreement about how to make best use of locally available resources.

As noted earlier, providers repeatedly told us, during workshops and interviews, that the question as to 'who is in charge' during an emergency response continues to arise. Some providers said their fear of regulatory interventions stifles their ability to manage the outbreak optimally. One large, well resourced, provider told us that the official response to their outbreak (which was a single case) was 'regulatory heavy'. They implored us to help shift the focus towards working together, collaboratively. Another provider who had experienced a punitive regulatory intervention was alarmed that such strong action could

be taken, although there had been no on-site assessment by the ACQSC. However, in previous reviews, we noted that regulatory intervention and appointment of an Advisor - as required by a Notice to Agree - often helped a failing provider to change course.

Based on our discussions with providers, the continued lack of clarity about the emergency response hierarchy ie which organisation takes precedence, has an adverse impact on Approved Providers' ability to manage COVID-19 outbreaks, which is understood to be their responsibility. There is clearly a need for protocols, such as the one in place between the Commonwealth (DoH and ACQSC) and New South Wales (NSW Health)²⁵ to be developed, for all states and territories. These protocols should clearly set out the roles and responsibilities of the provider, the regulator and relevant government agencies. As foreshadowed in the national plan:

"The Commonwealth continues to work with state and territory governments to develop similar protocols in the establishment of aged care emergency response centres in each jurisdiction with regard to jurisdictional public health arrangements."

Based on feedback from participants, one potential source of discord is the requirement for 'aged care emergency response centres'. Some jurisdictions believe they are best incorporated into existing state emergency response centres rather than being set up as a separate centre. Definitions of hot spots and action triggers may need to be clarified if misunderstandings, between agencies operating in the same high-pressure environment, are to be avoided.

Despite these niggling issues, we heard about much successful collaboration between providers and local health networks. Additional resources were often provided to allow better access to healthcare for aged care residents, for example, in the form of specialist assessment, in-reach care or targeted support. The models of support differed between states and territories. One example was the interactions between RACFs and Victorian public and private health services during the peak of the second wave. Targeted support included hospital staff being deployed to provide care when a workforce was depleted, sometimes accompanied by a nurse manager to help coordinate the emergency response or provide assistance with IPC. These teams apparently integrated well and providers appreciated acute health service support, particularly when they had been previously, unable to access hospital care for residents.

Victorian (and other) Aged Care Emergency Response Centre

This and previous reviews showed that, at the peak of Victoria's second wave, delays in laboratory testing and contact-tracing, often impeded effective responses to and control of COVID-19 outbreaks. Many of these issues and tensions were eased with the establishment of the VACRC in July 2020, a model that has since been adopted in one form or another in other states and territories. We were told that a virtual centre, rather than an actual physical place, could achieve the same outcomes.

We have become aware of numerous system improvements, across various levels and jurisdictions, since the early outbreaks in 2020. For example, the Commonwealth Case

²⁵ https://www.health.gov.au/sites/default/files/documents/2020/07/commonwealth-and-nsw-protocol-to-help-manage-a-covid-19-outbreak-in-a-residential-aged-care-facility-in-nsw-protocol-to-support-joint-management-of-a-covid-19-outbreak-in-a-residential-aged-care-facility-racf-in-nsw 0.pdf

Manager role has been enhanced by development of toolkits and resources to streamline outbreak management and facilitate interagency communication. Local Public Health Units have now been established in Victoria to enhance capacity to provide more timely support. One remaining challenge for emergency response is the tyranny of distance in rural and remote communities, which will challenge the capacity to rapidly mobilise response teams and workers in the event of an outbreak. Emergency planning must consider contingencies to protect vulnerable people outside the regional and metropolitan centres.

Infection prevention and control (IPC)

Status of IPC programmes and staff training in RACFs before COVID-19.

IPC has had a low priority in RACFs in many countries, despite outbreaks of infection, including influenza.(74-76) Many infections, that result in hospital admission or death of residents, could be prevented by consistent IPC practices.(77) The COVID-19 pandemic has uncovered systemic weaknesses in IPC policies and practices in many RACFs. Whilst implementation of hospital-style IPC is challenging in the 'home-like' setting of a RACF, the risk of infection in a home with 100 or more occupants is far greater than in an average household (78). Unlike hospitals, RACFs often lack expertise or resources for effective IPC programmes and their cost-effectiveness in this setting and acceptability to residents are unproven. (79, 80)

IPC guidelines for RACFs, including advice on outbreak management, have been available for many years but inconsistently adopted.(81) In the USA, federal regulations mandate that nursing homes have a designated staff member responsible for IPC and staff training is recommended.(82) However, the quality of nursing home IPC programmes is variable. This is attributed, in part, to variable state government support for training.(83). Repeated surveys between 2013 and 2018, highlighted limitations of IPC programmes including (82, 84-88):

- programmes often focused on single components of IPC, such as hand hygiene;
- training of nursing assistants was difficult because many worked part-time, workloads were heavy and there were language, cultural and educational barriers;
- 61% of nursing home IPC leads had no IPC training; >50% had management responsibilities and only an average 30% of their time was available for IPC;
- facilities whose IPC lead was unqualified or inexperienced, were more likely to receive IPC deficiency citations.

Less information is available about IPC programmes in Australian RACFs and most focus on transmission of multiresistant organisms (MRO) and antibiotic use. (68, 75, 89-91) However, many of the issues identified in US surveys are familiar. The Aged Care Quality Standard, 3(g) requires RACFs to minimise "infection-related risks through implementing standard and transmission-based precautions..."; and "develop and implement an effective prevention and control programme....". ²⁶ But there are no quality indicators and no nationally consistent infectious disease or MRO surveillance in RACFs, both of which are important measures of IPC effectiveness.(68) Surveys of Australian RACFs, in 2018 and 2019, (92, 93) found, among other things:

- >90% had an IPC programme and a designated staff member with IPC responsibilities;
- an average of 14 funded hours, per month, were allocated for IPC activities by the designated staff member or an external provider;
- only 41% of designated IPC staff had completed an IPC course;

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 $^{^{26}\} https://www.agedcarequality.gov.au/providers/standards/standard-3$

 many designated IPC staff were facility managers, with other responsibilities and very limited time to deliver staff training or access to continuing education or expert IPC advice.

Added to the fact that the basic qualification (Certificate III) for personal care assistants (PCAs) has not previously mandated an IPC component in its curriculum, these findings go some way to explaining why the RCAC concluded, in their final report, that IPC practices in RACFs are often substandard. (13)p71

IPC involves a hierarchy of controls, ²⁷ some of which are (or should be) BAU; others are based on context-specific risk assessment with advice from an IPC professional. IPC controls relevant to COVID-19 in RACFs include: (70, 94)

- Elimination or substitution of risk (source control): eg control of community transmission; hand hygiene and physical distancing; entry screening and exclusion based on history of exposure or symptoms; prompt case detection and testing, isolation of cases, contact-tracing and quarantine; appropriate environmental cleaning;
- Engineering or environmental (see above): single rooms and bathrooms; resident and staff cohorting; physical barriers and signage to control people traffic; strategically placed hand sanitiser and PPE donning/doffing stations; cleanable surfaces; effective ventilation;
- Administrative: leadership; role-specific IPC training of staff; funded sick leave, adequate shifts/hours for staff; consistent IPC messaging; non-punitive practice monitoring; occupancy compatible with cohorting; regular refilling of hand sanitiser dispensers; adequate PPE quality and supplies; signage showing PPE techniques; safe waste disposal.

IPC in RACFs and COVID-19.

In 2020, many authorities issued COVID-19-specific IPC guidelines for RACFs (95-97), which were updated as new evidence emerged. Minor differences, between guidelines reflect local epidemiology, culture, resources and risk tolerance but the principles remain the same. There is no single 'correct' set of IPC practices. They vary between different settings, but their effectiveness depends on consistent application within each setting. No IPC component is adequate on its own or invulnerable to human error (81) but high-level controls can often compensate for gaps; for example, a LTCF outbreak was rapidly controlled by prompt case detection and cohorting, despite PPE shortages.(98)

Based on experience with SARS or MERS, many countries, in South-East Asia, implemented robust IPC measures, that limited the burden of COVID-19 in LTCFs. (18, 69, 71, 99) In Singapore, small outbreaks occurred in six of the city's 80 LTCFs in April-June 2020. They coincided with outbreaks in crowded dormitories housing low-paid migrant workers, some of whom worked in the LTCFs. Across all six outbreaks, there were only 25 cases (20 residents, five staff).(70, 99)

Deployment of an IPC support team to an outbreak, with a non-punitive approach to training and performance assessment, can reinforce previous training and build trust and

²⁷ https://www.health.gov.au/sites/default/files/documents/2021/02/minimising-the-risk-of-infectious-respiratory-disease-transmission-in-the-context-of-covid-19-the-hierarchy-of-controls.pdf

confidence among staff.(100) However, several teams deployed at the same time, that give contradictory advice or criticise, will undermine confidence and aggravate the effect of inexperience or equipment shortages. For example, early in the pandemic, a global shortage of N95 respirators was exacerbated when their use was recommended, based on the 'precautionary principle' but contrary to local and international recommendations.(7, 8, 100)

COVID-19 RACF IPC guidelines are difficult to implement effectively, without also attending to systemic workforce issues that contribute to staff unwittingly spreading SARS-CoV-2. (101)

What our review found

Our previous reviews of individual RACF COVID-19 outbreaks identified recurring issues with IPC that contributed to adverse outcomes, such as: inadequate PPE supplies, staff being unfamiliar with its use, failure to account for extra time required to don and doff and the logistics of PPE disposal.(7, 8) Despite these findings, many people we spoke to for this review told us that, when the first wave of community transmission was largely controlled (April-June 2020), some providers still failed to accept the need for IPC training and were unwilling to purchase PPE. Some were said to have rationed PPE, even when its use was mandated. Nevertheless, prior to the pandemic, the overwhelming majority of providers satisfied the required infection control criteria under the Aged Care Quality Standards.

Some providers had recognised the importance of stricter IPC standards, appointed an inhouse IPC specialist and established IPC and staff training programmes. Nevertheless, even those providers admitted that, despite apparently robust preparations, they underestimated the impact of COVID-19 - the enormous quantities of PPE that had to be purchased, stored and disposed of after use and the increased workload and discomfort for staff using it. As one respondent, to an ACQSC interview survey, observed: "We prepared for a big storm, but we were hit by a tsunami".(4)

Before the second COVID-19 wave in Victoria, reviews of IPC preparedness were undertaken by the ACQSC and state health departments. RACFs that were judged to be poorly prepared were offered assistance with face-to-face training, although not all accepted. Online training was available and, according to a survey undertaken for this review, most staff completed it. When outbreaks occurred, teams from state health departments and clinical first responders from Aspen Medical were deployed to provide IPC guidance. If a large proportion of regular staff was furloughed, clinicians from various agencies, including hospitals, the ADF and AUSMAT were deployed.

Many informants told us about unintended consequences of these agencies' well-meaning attempts to implement their versions of appropriate IPC. For example, IPC practices already in place or implemented by one team were sometimes contradicted by another, often accompanied by an angry confrontation; posters illustrating 'correct' PPE choices donning and doffing techniques were torn down and replaced; and PPE donning and doffing stations moved. A geriatrician told us "...we had up to five different teams and ... multiple cases where people were ripping each other's PPE guidance signs down, and replacing them....It was almost laughable if it wasn't so serious".

Poorly prepared RACFs were not the only ones where this occurred. One provider told us that their organisation had appointed a national IPC manager and implemented IPC as BAU

in 2019. IPC training was enhanced when the pandemic began. When an outbreak began in a RACF, several support teams arrived. Without consultation, one team dismantled and moved PPE stations; a PPE 'spotter', sent to monitor staff practices, was seen to be wearing his poorly fitted N95 respirator, upside down, over a beard. Some members of support teams apparently had no experience of aged care and little IPC expertise; they were disrespectful to experienced RACF staff and gave contradictory advice that undermined confidence. Several providers indicated their willingness to accept advice and assistance but emphasised the importance of an authoritative 'single source of truth'.

A representative of the Australian Nursing and Midwifery Federation (ANMF) told us that members reported that at least nine different sets of donning and doffing guidelines were in circulation. After discussion with colleagues in Hong Kong and Korea, the ANMF saw little value in online IPC training to achieve practice improvement and, instead, favoured face-to-face drills to improve IPC standards and the use of PPE in the aged care sector. In support of this view, our survey of RACF managers found that the only significant difference, between sites that experienced outbreaks and those that did not, was that staff of the latter were twice as likely to have completed face-to-face IPC training.

Our participants observed that COVID-19 demonstrated the near impossibility of implementing effective high-level IPC, during a crisis, unless standard IPC precautions had been embedded as BAU. One described the importance of instilling a 'safety culture' in which staff understood IPC principles and how to apply them and were encouraged to speak up, in a supportive, non-punitive way, if they noticed an IPC breach by a colleague or a visiting contractor. We were told about a visiting GP, whose IPC practice was recognised as inappropriate by staff but they had been (understandably) unwilling to challenge a doctor. One respondent observed that many people in the aged care sector equate IPC only with PPE use and fail to recognise the importance of high-level environmental and administrative controls and standard precautions as essential components of IPC BAU.

Many respondents discussed the everyday difficulty of having to train agency surge workers in a real-time outbreak environment. This was often complicated by the fact that many of them had had no previous IPC training. Some were recent immigrants, who spoke little English and had difficulty understanding the basics of effective IPC and PPE use.

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Recommendation 5: "All residential aged care homes should have one or more trained infection control officers as a condition of accreditation. The training requirements for these officers should be set by the aged care advisory body we propose." (1)p22

On 1 October 2020, Minister Colbeck announced \$245 million funding to support COVID-19 efforts and mandated that aged care providers appoint trained IPC officers. Roles and responsibilities of IPC leads were outlined in a letter to Providers, from DOH Secretary, in November, including: the IPC lead at each site "must be a designated member of the nursing staff who has completed an identified IPC course" and is employed by the Provider

https://www.health.gov.au/ministers/senator-the-hon-richard-colbeck/media/government-welcomes-aged-care-royal-commissions-covid-19-report-recommendations

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"at nurse level (RN or EN), in recognition of the need to be involved in the clinical aspects of a service, level of expertise expected and ability to have influence at a service."²⁹

The letter also outlined training requirements for IPC leads, including completion of the DOH online COVID-19 focused training modules and a suitable course at AQF8/graduate diploma level, by 28 February 2021. The *Foundations of Infection Prevention and Control for Aged Care Staff*³⁰, offered by the Australasian College of Infection Prevention and Control (ACIPC), was identified as suitable. This course is conducted online, over 80 hours, with additional time required for assignments. Further details of IPC lead roles and responsibilities were posted on the DoH website (updated 6 April 2021).³¹ We understand that IPC leads have been appointed to almost all RACFs and most have completed the course.

Recommendation 6: "The Australian Government should arrange with the States and Territories to deploy accredited infection prevention and control experts into residential aged care homes to provide training, assist with the preparation of outbreak management plans and assist with outbreaks." (1)p22

The Minister indicated, in response that: *The Government has been working with state and territory governments to implement a decision of National Cabinet of 21 August to implement additional face-to-face infection control training and establish joint approaches to the management of outbreaks.*²⁷ We were told by jurisdictional aged care representatives, to whom we spoke for this review, that face-to-face training is underway and a guide for IPC training of staff in Commonwealth-funded RACFs is under development.

Informants for this review welcomed the RCAC recommendations and, *prima facie*, the DoH response. However, many expressed concern about details of implementation. We were told that some staff were appointed to IPC lead positions unwillingly. Some appointees, struggled with and were not given adequate time to complete the course, which required a significant additional time-commitment to complete assignments; some found the post-graduate level challenging.

Concern was also raised that the IPC lead role is poorly defined. Some people we spoke to queried, among other things, how long appointments would last, what are the responsibilities of the role and whether appointees would have adequate time to train new staff and provide training for existing staff. Further clarity was sought on the level and scope of initial staff training and opportunities for further training and education.

There was concern among both providers and union leaders, that there would be wide variation in expertise and responsibilities of IPC leads and that, in the absence of defined standards, it would be difficult for the ACQSC to determine whether a RACF had fulfilled its accreditation requirements. There is an impression that Commonwealth funding is specified for use only for COVID-19 preparations. It is not clear whether there will be ongoing support for RACFs to sustain IPC as BAU. Respondents agreed that effective IPC practice requires long-term commitment; IPC leads need opportunity and time for continuing education and

²⁹ https://www.health.gov.au/sites/default/files/documents/2020/11/secretary-letter-to-natsifac-providers-about-infection-prevention-and-control-leads-letter.pdf

 $^{^{30}\,}https://www.acipc.org.au/ipc-leads-in-aged-care-foundations-of-infection-prevention-and-control/accounts and accounts and account accounts and account accounts and accounts and accounts and account accounts and account accounts and accounts and account account accounts and account accounts and account account accounts and account ac$

³¹ https://www.health.gov.au/initiatives-and-programs/infection-prevention-and-control-leads

professional development, time to train and retrain staff, access to specialist IPC advice and authority to develop and implement facility-specific IPC programmes.

There is a pressing need to define IPC standards for RACFs. Some respondents told us that they have observed variation in ACQSC assessors' knowledge and how they interpret IPC requirements. They expressed concern about assessors' ability to judge IPC practices consistently.

Leadership, management and governance

The quality of care in RACFs depends on the organisational values embodied in senior leadership (governing body and executive management) and enacted through the corporate and clinical governance structures.(102) Meeting community and consumer expectations to provide humane, person-centred and clinical care of older people, who cannot be cared for at home, is challenging. It requires strong leadership, management and governance and adequate resources. The RCAC recognised that, as in many other countries, the challenge is not met in some Australian RACFs, even in normal circumstances:

"Deficiencies in the governance and leadership of some approved providers have resulted in shortfalls in the quality and safety of care. Some boards and governing bodies lack professional knowledge about the delivery of aged care, including clinical expertise. There is a risk that they may focus on financial risks and performance, without a commensurate focus on the quality and safety of care. There is sometimes a lack of accountability, particularly when things go wrong. (13) p75

Leadership is not confined to those at the top of the organisational chart. Co-ordination of leadership, with trust and respect between senior and middle management, and clear definition of roles and responsibilities are essential to maintaining the safety and quality of care in RACFs. The day-to-day responsibility for the care and wellbeing of residents falls to facility and/or nurse managers. Health professionals who choose to work in aged care are likely to be highly motivated but they are often undervalued by their colleagues in healthcare.(103) Management skills are needed to foster a workplace culture that provides job satisfaction, team building and retention of high-quality staff and optimal use of limited resources. In many aged care organisations, there are few opportunities for managers to develop leadership and management skills.

"Poor workplace culture has also contributed to poor care. The values and behaviour of people in senior positions have a significant impact on workplace culture and the quality of care that is delivered. When these values and behaviours are poor, so may be the care that people receive." (13) p75

During a crisis, such as a COVID-19 outbreak, the facility manager often carries the responsibility and blame for a poor outcome. Successful *facility* management depends on coherent, supportive *organisational* leadership and adequate resources.(104)

Managers who function well enough during BAU may not be equipped to meet the challenge of a major crisis, which requires a different management style, including authority to make operational decisions and authorise resource allocation that would otherwise require sign-off at senior management or board level. The management skills, staff training and resources required to manage a COVID-19 outbreak cannot be conjured into being in a crisis but require long-term strategic development.

Crisis leadership and management

Longstanding failures of leadership and governance identified by the RCAC meant that many RACFs were ill equipped to manage a crisis such as COVID-19. The RCAC identified "... weaknesses and shortcomings in the system, especially the reactive nature of its governance." These failures contributed to significant shortfalls in care of residents during

lockdowns, even in RACFs that did not experience outbreaks.(13)p82 Nevertheless, there is widespread recognition within the aged care sector, in Australia and overseas, that competent crisis leadership and prioritisation of safety are vital to successful outbreak management (4, 105, 106); prompt leadership action can often prevent a major outbreak and save lives.

A different leadership style may be needed, during a crisis such as COVID-19, compared with one that works well enough during BAU. 'Transformational leadership' is most effective, when rapidly changing circumstances require a swift response.(107) This should not be a punitive top-down approach, which is likely to contribute to stress, staff burnout and absenteeism.(100). In the context of COVID-19 in a RACF, a collaborative outbreak management team can provide expertise, (re)define roles and delegate responsibilities as circumstances change. Ideally, executive leaders will be on-site regularly, to support and reassure staff, keep them informed even when information is limited, and respond to experienced frontline staff's suggestions for operational improvement. (100, 106)

As well as *organisational* leadership, COVID-19 highlighted the importance of *government* leadership in agencies that facilities rely on for support. In many countries, regional, state and national governments and other agencies were poorly prepared and co-ordinated.(64) RACFs often received confusing or conflicting instructions from different agencies (94, 108). According to the RCAC, Australia was no exception:

"Confused and inconsistent messaging from providers, the Australian Government, and State and Territory Governments emerged as themes. All too often, providers, people receiving care and their families, and health workers did not have an answer to the critical question: who is in charge? At a time of crisis clear leadership, direction and lines of communication are essential." (1)p11

The Society for Post-Acute and Long-Term Care Medicine (PALTC) has also recognised the need for systemic change in the sector and outlined five keys to solving the COVID-19 crisis:

- recognition of PALTC expertise in development of policies that affect the sector;
- a need for tailored context-specific solutions rather than one-size-fits-all solutions;
- collaboration across healthcare sectors becoming the norm;
- proactive, not reactive and supportive not punitive federal policy leadership; and
- massive restructuring of the nursing home industry and regulatory process. (64)

All of these issues resonate strongly in the recommendations of the RCAC and other commentary on the need for leadership and change in RACFs.(108-110)

What our review found

Early discussions with the ACQSC, during this review, confirmed that effective leadership was a game-changer in the COVID-19 outbreak environment. ACSQC representatives told us that, whilst the value of effective leadership and management was often underestimated, it was the key to successful outcomes during outbreaks. Providers and peak body representatives we spoke to confirmed that learning from past leadership failures was a driver for reflection and improvement. Indeed, as the ACQSC observed, in their review of lessons learned, "we saw the best in people".(4) State health department officials also pointed to favourable outcomes being intrinsically related to the leadership capabilities of individual providers.

Ultimately, the leadership capability of an organisation is driven by and reflected in the governing body and the role of Chief Executive Officer. During this review, we were given examples of Board Directors being actively engaged in governance of COVID-19 outbreaks. In some cases, existing Board Committees (such as the Clinical Governance Committee) expanded their remits or new subcommittees were formed. During uncertain times, the presence and attention of Board Directors provided additional confidence and assurance to leadership teams which were often 'stretched' during COVID-19 outbreaks.

Through the review, we heard of executive teams working extremely long hours to support frontline staff in managing both COVID-19 risk and outbreaks. In some cases, executive staff were specifically allocated to focus on COVID-19 outbreaks and also fulfilling roles as members of the incident management team. Many providers were managing multiple simultaneous outbreaks during the second wave in Victoria. It was a demanding task and the operational responsibility sat with the Chief Executive Officer.

Through feedback from workshops, it was clear that the skillset for which most RACF managers were recruited did not necessarily match those of the 'command and control' style required for managing an ongoing emergency. Nevertheless, some RACF managers apparently assumed additional 'command and control' roles, whether as an innate behaviour trait or an acquired skill, developed through training. However, there were different approaches. Providers told us that, in some cases, they would allocate an additional manager to work with the usual RACF manager, so that one could focus on coordination of the emergency and the other on care delivery. In other larger organisations, a more senior manager may assume the local emergency co-ordination role, usually as part of a broader incident management team.

People we spoke to confirmed the importance of having a contingency plan to replace key management staff during a prolonged outbreak. Experience from the VACRC was that when a manager became exhausted, the ability to maintain control of an outbreak depended on the capacity to replace them effectively. We were also told that many providers stepped up to meet the challenge of multiple outbreaks but found that they felt disempowered by involvement of many external agencies.

During this critical time, we were told that many providers took steps to improve clinical governance. Clinical Governance Committees already existed in many organisations and oversaw outbreak management. Some increased their meeting frequency and opened meetings to all Board Directors, which enabled closer oversight of outbreak management with swift decision-making and resource allocation. As one provider reported, ".....for us dealing with COVID, we were thinking in minutes and hours, not days and weeks. So the minute we had a threat of COVID in any of our homes, we reacted in minutes and hours."

Planning and preparation

Planning and preparation are essential components of an effective response to COVID-19. Globally, the high mortality rates among residents during LTCF outbreaks, early in pandemic, (5, 111) suggest that – not surprisingly - preparations were often inadequate.(47) Many RACF outbreaks were stabilised only after major interventions from hospital teams.(29-32)

Between March and May, 2020, large surveys of LTCFs, in Canada (112) and the USA (113), found that there were many sources of guidance about management of COVID-19 in LTCFs eg from WHO, CDC, state/regional public health authorities and/or professional or corporate organisations. Most LTCFs had already implemented a range of measures, including staff IPC training, visitor restrictions, staff screening and exclusion if unwell. In Canada, LTCF clinicians felt that the sector had not been adequately consulted during planning and questioned the feasibility of some public health recommendations. Nevertheless, about half of the respondents believed they were ready to manage an outbreak, despite concerns about availability of adequate PPE and staff (112). In the USA, many LTCFs were also worried about having enough experienced staff to manage the increased care of residents or to replace any who became ill. Some had already experienced shortages of PPE and hand sanitiser.(113)

As the pandemic progressed and the effects of COVID-19 outbreaks in RACFs were recognised, the importance of outbreak management planning and scenario-testing became obvious. In Australia, the ACQSC conducted interviews, towards the end of 2020, with representatives of 36 Victorian Approved Providers, whose facilities had experienced outbreaks, during the second COVID-19 wave (July- September 2020). Many participants reported that they had developed site-specific OMPs and stress-tested them in advance. Nevertheless, most had not anticipated the magnitude of what was required, when an outbreak occurred. They acknowledged the importance of learning from others. (4)pp 7-9

Past experience was also a great teacher, as illustrated by the effective preparations, in countries that had experienced major outbreaks of SARS or MERS, that prevented or limited the severity of COVID-19 outbreaks in LTCFs. (18, 70-72)

Outbreak management planning

Guidance on preparation and implementation of OMPs is now widely available, based on experience during 2020. (114, 115) Considerations for an effective COVID-19 OMP include:

- the plan should be site specific and regularly and practised to ensure it is fit for purpose;
- it should be consistent with plans of relevant local authorities and organisations;
- staff, residents and their relatives, medical and allied health professionals, service providers, and other stakeholders, should be involved or consulted in its development;
- the potential need for additional staff should be considered, to account for absenteeism and additional workload;
- consideration should be given about how to provide on-going medical care of residents by a GP and/or in-reach team, including arrangements for telehealth consultations;
- there should be a detailed strategy to maintain communications between residents, relatives and staff in the event of an outbreak or lockdown;
- ensuring that residents' personal and medical records and personal identification are up to date and locations of residents' room are marked on a site-plan;

• consideration (in consultation with residents and/or relatives) of whether residents who are particularly vulnerable, because of physical comorbidities or dementia, or sharing a room may need to be moved to a different room, zone or home.

What our review found

It was clear from discussions during this review that that many improvements in planning and preparation have been made, since early 2020. However, the level of preparation varied across the sector and as noted in previous reviews, many residents have suffered because of a lack of focused, in-depth planning and preparation. Early in the pandemic, many providers made a false assumption that planning for a severe influenza season would suffice. However, as is now well documented, the highly transmissible SARS-CoV-2 can spread extremely rapidly and (often, initially) silently throughout a RACF.

As part of its own planning and preparation, DoH engaged Quantium, a specialist data analytics company, to develop Aged Care Sector COVID-19 risk profiles. The aim was to identify RACFs at increased risk of experiencing an outbreak, they developed models that predict risk of introduction and spread of SARS-CoV-2 in a RACF. These were further tested and refined using data from actual outbreaks. The risk profiles developed can be used to target support, if community transmission occurs.

In our discussions with participants, we learnt that it was not uncommon for aged care organisations to overestimate their levels of preparedness. If their OMP was untested, their self-assessment of readiness would be of little value. Many informants told us that, even when OMPs were well developed and tested, they often failed to account for the level of response required and differences in building design, air-handling systems or residents' needs. This confirmed that 'one size did not fit all' and even the most detailed plan was not always sufficient.

In our online survey of RACFs, 99.4% of respondents confirmed that they had an OMP in place, 72.4% said it had been tested one to four times since it was developed and notably, 94.3% of respondents indicated that the plan had been modified at least once since its initial version.

Several people we spoke to reminded us that planning and preparation also needs to take account of RACF residents who have specific health and social care needs, such as drug or alcohol use, mental illness or homelessness that need special consideration. Indigenous Australians and remote communities also require special consideration under Australia's biosecurity provisions, which were introduced, with community consent, to protect them from introduction of COVID-19. These additional considerations need involvement of people with specialist knowledge of these needs to assist in the planning so that responses are tailored to meet their needs.

In our discussions, one provider told us about a situation, in which possible adverse effects of a public health order, on residents with special needs, were apparently avoided. The provider advocated, successfully, to have an order, to furlough a large group of specialist staff, withdrawn. Had it proceeded, replacement staff would not have had the skills or rapport to care for residents adequately and the consequences could have been disastrous.

Some large providers told us about the overarching systems developed to support organisational outbreak planning but that they particularly focused on detailed planning for

each individual RACF, tested their plans meticulously and modified them based on the results. Some providers engaged independent consultants to review preparedness and emergency management plans. Others noted that focusing solely on developing an OMP could potentially distract them from focusing on prevention. One provider described a very thorough approach to prevention, which was outlined in what were described as 'Enhanced Resident Protection Measures'. They had been implemented early in March 2020 and have since been since shared with other providers. The same provider had a COVID-19 case in a RACF and after working closely with state and commonwealth agencies, prevented the outbreak spreading beyond the index case.

From interviews and workshops, we learnt of some organisations' commitment to continuously updating their OMPs based on their own and others' experiences. Some had been so concerned about the high risk of COVID-19 outbreaks, that they had begun gathering COVID-19 intelligence from overseas before it was generally available in Australia.

Reflecting on actual experience of significant outbreaks in the sector, the ACQSC has gathered comprehensive information. As noted earlier, in November 2020, the ACQSC published detailed guidance - *Outbreak management planning in aged care* (115) - which promotes a streamlined and co-ordinated approach to planning and preparation. In introducing this guidance to the sector, the ACQSC Commissioner noted:

"As the country approaches a state of 'COVID normal', the risk of COVID-19 persists, even where there is no detectable level of community transmission and no positive cases in your local area ... We cannot become complacent. As a sector, we have learned much... And it is important we continue to embed these learnings into our practice to ensure the health, safety and wellbeing of people receiving care, their families, staff and the broader community."

Preventing social isolation

COVID-19 among RACF residents

There is wide variation in the physical and mental health, mobility and preferences of RACF residents. What most of them have in common are: advanced age; a need for assistance with personal care; and communal living. Each of these is associated with an increased risk of infection. If infection occurs, RACF residents are more likely to die than community-dwelling people of comparable age. Nevertheless, the majority of older people with COVID-19 (~70-80%) will survive and some will have minimal or no symptoms. Based on recent data (February 2021) from 22 countries, residents of RACFs/LTCFs, account for 41% of all COVID-19 deaths, on average. However, the strongest predictor of COVID-19 infection in a RACF is community transmission. Therefore, there is wide variation in proportions of all RACF residents who have died from COVID-19 in different countries, ranging from 0.02% in Singapore, to >5% in several European and North American countries.(3)

Age, gender (116, 117) and comorbidities are the most obvious risk factors for severe, symptomatic COVID-19.(118) However, symptoms are often subtle and easily ignored in people with cognitive impairment or frailty, (119-121) who later die from COVID-19.(122) Atypical symptoms include a slight increase in baseline temperature (123, 124), drowsiness, delirium, weakness causing falls, (125, 126) and anorexia, vomiting and diarrhoea. (127-129) The diagnosis may be delayed because of an older person's inability to give a reliable history.(130) People living with dementia are more vulnerable because of greater dependence on physical care, higher comorbidity rates and/or less capacity to comply with IPC precautions. Dementia-associated behaviours, such as agitation or wandering, may expose them and others to infection and these behaviours are often exacerbated by changes in routine or unfamiliar carers.(130, 131) Analysis of US electronic health record data, showed that people with dementia were twice as likely to be infected with SARS-CoV-2 and to die, than aged-matched COVID-19 patients without dementia. (132)

However, outcomes also depend on the quality of care. A small study in Wuhan, China, compared two groups of hospitalised COVID-19 patients: one group, of 19 patients, had Alzheimer's disease (AD) and the other group, of 23 patients, were age-matched controls without AD. In patients with AD, the average interval between onset of symptoms and admission and the lengths of hospital stay were shorter, and their illnesses were milder, than in the control group. Differences were attributed to the fact that most AD patients lived in nursing homes, with better access to healthcare and early diagnosis than the control group, most of whom lived in the community.(133)

An analysis of ethical values in dementia care, based on contemporary media and academic writing, produced varied results. In some RACFs, during lockdown, residents with dementia died alone and neglected in their rooms; in others, visits or electronic contacts with relatives were arranged during end-of-life care. When nursing homes failed to provide basic personal or clinical care, deaths were often caused by pandemic-related neglect, rather than COVID-19. Some homes devised innovative ways to mitigate risks due to residents' wandering, without resorting to physical or chemical restraint. Ethical failures of dementia care were often judged to be due to inadequate government guidance or resources.(51)

The devastating effects of COVID-19 are not limited to RACFs where outbreaks have occurred or to residents infected with SARS-CoV-2. In many countries, the pandemic has exacerbated longstanding neglect of standards and failure to include RACFs in COVID-19 planning.(134). Shortfalls in aged care have been the subject of reviews in many countries, including Australia.

In its final report, the RCAC wrote:

"The COVID-19 pandemic has been the greatest challenge Australia's aged care sector has faced....The suffering has not been confined to homes which have experienced outbreaks. Thousands of residents...have endured months of isolation which has had a terrible effect on their physical, mental and emotional wellbeing." (13) p170

RACF/LTCF lockdowns are intended to protect residents, but they sometimes fail to prevent outbreaks because of PPE shortages or too few staff.(135) Even when outbreaks are avoided, there can be serious adverse effects on residents, due to isolation, loss of social connection and immobility.(136) Restrictions also affect how residents died. Data from the Swedish Palliative Care Register, showed that people who died from COVID-19, in 2020, were much more likely to die alone, than people who died in 2019 (41% vs 17%). If they died in a nursing home, they were less likely (13% vs 24%) to have a relative present than if they died in hospital.(137)

Effects of lockdowns on residents, relatives and friends

In many countries, governments introduced nursing home restrictions that banned visitors, prevented residents from leaving and discontinued communal meals and activities. Residents were often confined to their rooms. Visitor restrictions generally included families, friends and all non-essential workers, including unpaid personal caregivers (often family members) who provided essential, complex care to residents. Sometimes they included medical and allied health professionals, and other service providers such as hairdressers and podiatrists. (138-140) Staff were often too busy to spend time with residents. This meant that residents were deprived, not only of company, but also of opportunities for conversation, sharing concerns with relatives and friends, assistance at mealtimes or with reading, shopping or interpreting. Even under normal circumstances, many nursing home residents experience loneliness and depression, which are greatly exacerbated during lockdown, especially during the last weeks of their lives. Immobility and isolation rapidly cause physical, cognitive, psychological and functional decline. Restrictions imposed without consultation with residents or their families, raised ethical concerns about denial of residents' rights.(138, 140)

A qualitative study, involving in-depth interviews with 56 residents from eight nursing homes in Belgium, explored the psychological effects of several weeks' lockdown. Residents reported feeling a loss of freedom due to being confined to their rooms and sometimes actually 'locked up'. There was loss of social connection because they no longer saw relatives and friends. Even the staff no longer had time to stop and talk. They were bored, from lack of recreational activities and distractions, including visits from medical and allied health professionals. And they particularly felt the loss of autonomy. They were no longer told what was happening or included in decision-making; they felt they were being treated as children. In short, they were lonely, angry, bored and stressed. Many felt depressed and

lost their hope for the future. These serious effects indicate a pressing need to provide more resources and support for residents in these circumstances.(141)

Visitor restrictions were imposed for long periods in RACFs in some parts of Australia, especially in Victoria during the second COVID-19 wave in July and August 2020; some were continued long after official guidance required them. In our previous reviews, residents' family members, told us that some managers claimed, incorrectly, that ongoing restrictions were mandated by government, others were apparently fearful about the ongoing risks and/or concerned about the extra burden, on staff, of supervising visitors. (8)

The final report of the RCAC, described the adverse effects of visitor restrictions:

"The understandable restriction of visits to older people due to the pandemic has had tragic, irreparable and lasting effects which must immediately be addressed. Visits from family and friends are critical to the physical, mental and emotional health and wellbeing of people living in residential aged care, and also to the health and wellbeing of family and friends." (13) p171

An 'Industry Code for Visiting Residential Aged Care Homes during COVID-19'32, initiated by Council in the Ageing (COTA) Australia, and supported by 13 aged care peak bodies and consumer advocacy organisations, was published in November 2020.

Communications during lockdown

Many RACFs were able to partly compensate for residents' loss of outside contact, by facilitating electronic communications. GPs and multidisciplinary specialist teams used telehealth methods to communicate with residents - and/or relatives - and RACF staff, to facilitate clinical consultations and end-of life planning. These strategies often meant that hospital admissions could be avoided, or facilitated, if necessary and, importantly, they kept relatives informed of their loved ones' condition. (34, 63, 142)

Whether or not there was an outbreak, alternative methods of remote communication between residents and family members were also vital, to maintain contact and psychological wellbeing during lockdowns. Many residents successfully used phone, email and videoconferencing, but some who were deaf or cognitively impaired, needed help from a staff member or volunteer.(51)

An online survey, of people with family members or friends in LTCFs, investigated emotional responses to the use of different communication methods, using a 'Positive and Negative Affect Scale'. Frequent phone calls elicited fewer negative emotions among participants and e-mails elicited more positive emotions among residents. In contrast, letters delivered by staff or by post provoked negative emotions among participants and/or residents. The findings were consistent with other studies suggesting that synchronous communication methods are preferred, although videoconferencing was an exception with no nett response. (143)

³² https://www.cota.org.au/policy/aged-care-reform/agedcarevisitors/

Easing visitor restrictions

In March 2020, the US Centers for Medicare and Medicaid Services (CMS) introduced strict visitor restrictions in nursing homes. Even when restrictions started to be cautiously eased, after three months, many nursing homes remained closed to visitors out of an 'abundance of caution'. In response to ongoing concerns, a Delphi panel of 21 aged care experts developed a series of consensus statements recommending criteria for visitor admission and logistics of screening, IPC precautions, location of visits, definition of essential caregivers and end-of-life visits. Despite some remaining disagreements, it was judged that, in the absence of robust evidence, consensus among clinicians and patient care advocates was an effective way to balance individual resident's preferences vs the group's safety.(138)

Visitor restrictions were also introduced in many European countries.(139, 140) In the Netherlands, after restrictions began to be eased, a study was conducted to assess nursing homes' compliance with local guidelines and the effects of visitors, on residents' and staff wellbeing. There were variations between homes, in PPE guidelines and how visits were conducted but overall compliance was satisfactory. The benefits of real, personal contact between residents and their family members were recognised and based on the results, the Dutch government allowed easing of restrictions more generally. (139)

What our review found

Social isolation and separation from family and friends has been raised as a significant issue in this review. They often seriously affected the health of residents during the pandemic. We have heard repeatedly, about long periods of lockdown and visitor restrictions which have caused observable decline in the physical and mental health of residents.

In previous reviews, we identified visitor restrictions as a source of tension between providers and residents' families and friends. Frustration at not being able to see loved ones and their requests not being heeded, often led relatives to contact the media to draw attention to their plight. Nevertheless, some providers told us that surveys of residents and families, indicated strong support for lockdown, especially when outbreaks first occurred.

Consumer advocacy and provider peak bodies that participated in this review have a consistent view that measures to reduce the impact of social isolation are imperative. Although we have heard about more relaxed and nuanced approaches to visiting, there is still a sense that restrictions on visiting often continued in excess of public health advice recommendations. In defence of this approach, providers note that they are responsible for delivering safe and effective care to residents, in a high-risk environment. Finding a balance, between that responsibility and the resident's right to see their loved ones in person, is sometimes elusive. One of our participants told us, "we need to walk in their [residents' and families'] shoes" to truly understand the impact of visiting restrictions.

Provider and consumer advocacy bodies have worked together to develop a (voluntary) *Industry Code for Visiting Residential Aged Care Homes during COVID-19* (the code) to establish minimum standards for visiting during the pandemic. Since its original launch in May 2020, the code has been reviewed regularly and was last updated in November 2020. It intersects with the National COVID-19 Aged Care Plan (the Plan) in that advice in the Code is tailored to correspond with the escalation tiers described in the Plan.

Despite this constructive intervention, consumer advocacy bodies told us that they still receive many calls and enquiries from family members about visiting restrictions beyond the Code's recommendations. They described some providers' attitude as "reputation over risk".

In order to address some ongoing challenges, the ACQSC has produced *Partnerships in Care*³³ guidelines, which would allow people who are regularly involved in a resident's care to continue this on a regular basis. A 'partner in care' is defined as:

"... a person who has a close and continuing relationship with the care recipient, such as a family member, loved one, friend or representative. They frequently and regularly visit a person living or staying in a residential aged care service to provide aspects of regular routine care and companionship to that person."

Poorly worded (ambiguous) public health directions were implicated as one reason why some providers imposed higher level visitor restrictions than required. However, Elder Rights Advocacy in Victoria told us that, following discussions with other consumer advocacy bodies and DHHS, public health directions during the recent (February 2021) 'snap lockdown' were written with reference to the Code, which has improved visiting access for families.

COTA expressed concern about the prevalence of lockdown, even in the absence of community transmission and observed that there is variability between providers, even in the same geographic locations. They were particularly concerned about decline in people living with dementia due to being cut off from loved ones.

Dementia Australia also described the adverse impact of long periods of lockdown and the important balance between too little and too much stimulation. They also told us that some providers erroneously interpreted early signs of cognitive decline and withdrawal as indicating that residents were 'more settled' with fewer visitors. The ANMF reported that their members were concerned also about the long-term impacts of reduced interaction with families and friends.

In November 2020, Dementia Australia published a discussion paper, based on a research partnership with the University of Sydney entitled 'One day the support was gone'³⁴. It focused on the mental health impact of COVID-19 on people living with dementia, their families and carers. The paper noted:

"People impacted by dementia already experience lower levels of social engagement, inclusion and connectedness within their communities. This, coupled with the restrictions enforced through the COVID-19 pandemic, has meant that people living with dementia, their families and carers, are even more vulnerable to adverse mental health outcomes."

This paper provides insights into the experience of people living with dementia and the decline caused by isolation during the pandemic. It also explores the impact on the families and carers of people living with dementia. Dementia Australia noted how many people have suffered during the pandemic and this needs to be addressed in a timely manner.

³³ https://www.agedcarequality.gov.au/sites/default/files/media/acqsc partners in care factsheet final.pdf

³⁴ https://www.dementia.org.au/sites/default/files/2020-11/PFOD-Discussion-Paper-Nov-2020-ver1.pdf

One of the most effective ways to manage the impact of restricted visiting access is to improve communications with families and friends so that they are fully informed about what is happening in the RACF and what is being done to care for and protect their loved ones. Feedback to this review identified the positive impact of supported communications directly between residents and their families using iPads, phones or similar technology. Many providers told us that they had had detailed communication plans in place since the pandemic began. This was reinforced in the online survey in which 98.3% of respondents indicated that their organisation had a formal COVID-19 communications plan.

We also heard from providers that effective communications with residents and their families and friends, was associated with high levels of satisfaction and relatively little media interest, even where outbreaks had occurred. They reported that getting communications 'right' was central to their plans. Many said they had learnt from the previous experiences of others. One provider stated "we wanted to be the 'source of truth' for our residents and their families".

Communications to residents included regular written correspondence; some providers also used messages on meal trays. During outbreaks, providers increased telephone contact with families and many allocated or reassigned groups of staff, to manage regular communication updates between residents their loved ones. Some providers reported the benefits of family meetings, using platforms such as MS Teams or Zoom, which were engaging and effective. One provider included support agencies in these calls, so that queries or concerns from family members could be quickly answered and resolved.

The Older Persons Advocacy Network (OPAN) and other consumer advocacy bodies reminded us that family contact details must be regularly updated by the Approved Provider and take into account the need to include access information related to 'broken' families.

The emotional toll of social isolation cannot be overestimated. Many providers ensured that residents and families had access to mental health support. This was often available in person and provided a 'safe space' for residents to discuss and debrief their experiences and concerns. In addition, the Australian Government has funded a range of grief and bereavement initiatives to alleviate impacts on residents and families affected by COVID-19. Additional funding has also been provided to Dementia Australia and OPAN to provide continued advocacy and support during the pandemic.

Workforce and staff mental health

In Australia, aged care is one of the largest service industries. In 2016, the estimated total number of people employed in residential aged care was 235,764, of whom 153,854 were in direct care roles. This represented a 33% increase - from 115,660 - since 2003. However, the proportions of *skilled* worker categories fell, during this period - RNs from 21% to 14.5%, ENs from 13.1% to 10.2% and allied health professionals from 7.4% to 1.4% (plus allied health assistants, 3.2%). Meanwhile the proportion of PCAs has increased from 58.5% to 70.3% of the workforce.(144) A Senate enquiry, (2015-17)³⁵, noted high resident to staff ratios, high workload pressures and low ratios of RNs to PCAs, in RACFs, as have others more recently, (145) including the RCAC:

"...Australia's aged care system is understaffed and the workforce underpaid and undertrained...Aged care workers often lack sufficient skills and training to cater for the needs of older people receiving aged care services....[and] simply do not have the requisite time, knowledge, skill and support" (13) p76

"The unregulated aged care sector, in Australia, encourages providers to replace higher paid, skilled nurses with lower paid, semi-skilled personal care workers despite increasing needs of residents for skilled clinical care and evidence that staffing numbers, particularly registered nurses are closely linked to quality of care". (13) p129

A qualitative study of 32 workers, from three Australian aged care organisations, revealed that, while some chose to work in aged care, for others it was the only work they could get. Some participants stayed in the job because of support from team members and supervisors, rapport with clients and potential career development - although there were few opportunities. Those who wanted to leave the sector cited poor support from management, inadequate staffing, and physical and psychological stress. There were major cultural differences between the three organisations targeted in this study.(146) Staff shortages, high turnover, inadequate training, low proportions of RNs and limited government support for IPC in aged care, in many countries, contribute to high rates of COVID-19 in RACFs.(83, 110)

Single-site work in aged care

Low paid aged care workers frequently hold multiple jobs. In the USA, population survey data (2010-19) showed that aged care workers were 30% more likely than other workers to hold second jobs. Wages and/or hours in the primary job were inversely associated with the likelihood of holding more than one job. Second jobs were usually in aged care or public-facing services eg PCAs worked as cashiers, shop assistants or cleaners; RNs as college instructors or direct care workers.(147) Workers with two or more jobs are at greater risk of COVID-19 themselves and more likely to be unwitting super-spreaders within a LTCF.(148) In a point prevalence study, a high proportion (75%) of staff who tested positive for SARS-CoV-2 had no symptoms at the time of testing. Those who worked in more than one home were three times more likely to be infected (52%) than those who worked at a single site (17%). Whole genome sequencing revealed case clusters among staff who had little resident contact, indicating transmission between staff members.(149) Asymptomatic

³⁵ https://www.aph.gov.au/Parliamentary Business/Committees/Senate/Community Affairs/AgedCareWorkforce45/Report/c03

spread between staff within or outside the workplace is a major contributor to high rates of COVID-19 among staff.

Network analysis, using smartphone location data demonstrated the extent of connectivity between LTCFs, in a USA study, providing evidence supporting a single-site workplace policy.(150) In Ontario, after an emergency public health single-site order for LTCF staff, GPS data show a sharp fall in mobility between nursing homes, but some persisted.(150)

Without systemic workplace reform and more workers, mandating single-site work will leave workers disadvantaged and many facilities with even fewer experienced staff.(100) Even without single-site restrictions, regular staffing levels are often inadequate during outbreaks because of the increased workload entailed in caring for sick residents and strict IPC measures. Staff are often expected to work overtime and reduced overnight staff levels increases cross-over between zones with a greater risk of cross-infection. (100)

Keeping staff at work during COVID-19

Once a significant proportion of staff become infected, pre-existing staff shortages rapidly escalate because of illness, quarantine or workers' fear of infection, for themselves or their families. Staff shortages can occur even without outbreaks, because of increased workload due to IPC precautions and visitor restrictions with exclusion of carers who previously provided daytime care of a resident. Inadequate planning and sector-wide shortages of aged care staff, mean that additional staff will be in short supply or inexperienced during periods of community transmission. (151, 152)

Strategies that protect staff from illness and support them during COVID-19 may not always be feasible but they important to aim for:

- involve staff in outbreak management planning and scenario-testing;
- ensure that there are adequate supplies of PPE and that staff are trained in its use;
- arrange team-based rosters in zones, with separate access and meeting rooms;
- offer alternative accommodation if staff are concerned about household contacts;
- provide enough rostered hours and remuneration, to incentivise single-site work;
- screen staff for symptoms at each shift, arrange testing at the first sign of illness or history of COVID-19 contact and provide paid sick leave while the test result is awaited;
- value the efforts of staff, listen to their concerns, allow adequate rest.

Staff Physical and Mental Health and Wellbeing

From the RCAC special report: "Large numbers of aged care workers have contracted COVID-19. Nurses, personal care workers, cooks and cleaners are required to work in close proximity to residents who are, or may be, COVID-19 positive. This was graphically described for us by Ms Diana Asmar, Branch Secretary of the Health Services Union, who told us that her union's members 'right now feel like they're on the bottom of the Titanic ship'. Aged care workers perform intimate tasks which place them at risk of catching the virus". (1)p25

As of October 2020, about 1.5% of Australia aged care workers (2,211 of ~150,000) had been infected with COVID-19.³⁶ In Victoria, aged care workers accounted for 63% of COVID-

https://www.health.gov.au/sites/default/files/documents/2020/10/covid-19-outbreaks-in-australian-residential-aged-care-facilities-9-october-2020.pdf

19 infected care workers (1,732/3,561); of them, 26% were nurses, 71% PCAs and 3% others; 77% were judged to have been infected at work.³⁷

Early in the Victorian COVID-19 second wave, delays in laboratory testing and contact-tracing in RACFs, meant that some outbreaks were well established before they were recognised. This meant that large proportions of staff in some homes were furloughed and could not be replaced at short notice. The increased to residents and any remaining staff, especially if they were inexperienced, has prompted widespread concern.(8, 153)

The risk of COVID-19 transmission between staff members emphasises the need for them to maintain physical distancing when not using PPE within the workplace, eg in tea rooms, meeting rooms or bathrooms. It may be necessary to repurpose rooms, to provide staff rooms, or organise tea break rosters so rooms do not become crowded. Staff should be cohorted to avoid unnecessary contact with other staff and potentially avoid wholesale furlough should one of them become infected.

Aged care workers worldwide are a relatively disadvantaged group. They are mostly women, in low paid insecure jobs, who often belong to ethnic minorities and are poorly trained for the physically and emotionally demanding work they do. They are at increased risk from COVID-19 because of high rates of exposure during periods of community transmission and especially, during a RACF outbreak. Many have co-morbidities that increase their chance of severe disease if infected. In many countries (including Australia early in the pandemic) aged care workers were at added risk because of inadequate supplies of PPE and little previous experience of using it safely. When a resident dies they may be the only person present and they are likely to experience grief, and perhaps guilt and moral distress.(154, 155)

A survey of 228 nursing home workers in Spain, investigated the psychological impacts of COVID-19. Staff reported increased workloads and social pressures at work as well as constant contact with suffering and death. They were concerned about staff and PPE shortages and, realistically, afraid of infection. They felt there was a mismatch between the demands of the job and the resources, support and recognition they received. Their levels of secondary traumatic stress were assessed as being higher than those experienced by emergency health workers and fire fighters. These findings suggest an urgent need for preventive programmes to mitigate the psychosocial stress experienced by these workers.(156)

A qualitative study of 44 staff from eight nursing homes in Belgium specifically explored the psychological effects of lockdown. In focus groups, staff expressed frustration that they had not been given coherent information, clear guidelines or a care plan. There were shortages of PPE and laboratory testing was only done infrequently. Understandably, they felt vulnerable to infection and fearful of taking it home to their families. The use of PPE caused a major increase in workload, which was exacerbated by staff absenteeism. Some staff were redeployed to unfamiliar jobs, which made them feel 'lost'. The lockdown changed the staff's relationships with residents. They felt residents had to be made to stay in their rooms, even locked in, if necessary. They had difficulty choosing between protection and psychological care of residents, which made them feel anxious and guilty. (141)

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³⁷ https://www.dhhs.vic.gov.au/victorian-healthcare-worker-covid-19-data

In the latter part of 2020 (August-October) the ANMF, conducted a national survey of members, in conjunction with the Rosemary Bryant Research Centre.(157) Nearly 12,000 survey respondents were divided into four groups based on workplace and the results compared between groups. The distribution of workplace groups was: hospital, 58%; aged care, 18%; primary care/community, 18%; and other, 6%. Most of the aged care workers were PCAs and most of those in other groups were nurses. Workplace comparisons showed that the experiences of aged care workers were generally less favourable than those of workers in other categories. Aged care workers reported the highest proportion of positive COVID-19 test results – 4.45%, compared with 3%, overall – and reported being most concerned about COVID-19 related risks to their personal health and psychological wellbeing. (157)

Aged care workers were also most concerned about job security and financial hardships and most likely to have had to give up work at one location They reported the most challenging working conditions of all groups namely: highest levels of workplace demand, role conflict and work-life conflict and lowest role clarity. They also reported the lowest level of job satisfaction, and were more likely to experience depression, anxiety, stress and exhaustion than other groups. Despite this, they were the least likely to seek external mental health support.

These findings indicate that occupational stressors experienced by aged care workers have significant impacts on mental health and indicate that this group require greater psychological support or assistance with psychological help-seeking. The results also go some way to explaining an observation by the RCAC, which reinforces the need for major reform of working conditions in aged care:

"The sector has difficulty attracting and retaining well-skilled people due to: low wages and poor employment conditions; lack of investment in staff and, in particular, staff training; limited opportunities to progress or be promoted; and no career pathways. All too often, and despite best intentions, aged care workers simply do not have the requisite time, knowledge, skill and support to deliver high quality care." (13) p76

What our review found

Workforce availability

Workforce availability is critical to successful outbreak management in residential aged care settings. Previous reviews have highlighted numerous challenges in securing the 'right workforce at the right time' and whilst we have observed many successful workforce responses, we have also observed situations where inadequate staffing (numbers, skill level or skill mix) has led to serious decline in residents' conditions and deaths from neglect. In the context of community transmission of COVID-19, staff are at risk of infection.

Commonwealth and State governments have developed strategies to provide a back-up staff, when providers cannot meet their own needs. Some (often larger) providers successfully managed their workforces and preferred to their own staff pool as much as possible. The Australian Government's surge workforce programme began in early April 2020, to provide a range of support for RACFs during outbreaks. Staff were deployed from this programme and from local health networks, staff agencies, private hospitals, the Australian Defence Force and state-based casual staff pools and agencies. Aspen Medical was engaged to provide on-site emergency response teams capable of assessing workforce requirements. The surge workforce was intended to 'top-up' existing staff and complement

providers' own surge workforce. However, as noted in our previous reviews, some providers relied exclusively solely on the Government's programme. In our online survey, 91% of respondents indicated that they had surge workforce plans in place but only 27.5% reported a capacity to replace more than 50% of their own staff. This would not be adequate for some outbreaks in which almost all staff were furloughed.

Organising and mobilising a surge workforce is a major logistical challenge. It required an extraordinary collaborative effort to deliver staff where they were needed. Government introduced the National Aged Care Emergency Response (NACER) teams initiative to encourage interstate support from areas without COVID-19 transmission during Victoria's second wave. It was managed through Healthcare Australia and included government-funded incentive payments. Some providers with capacity to engage their own interstate staff, told us they organised similar programs and incentives.

However, the supply of suitably qualified and/or experienced aged care staff was not unlimited and demand often exceeded supply. This was particularly evident during Victoria's second wave when, at one stage, there were more than 140 simultaneous outbreaks and staffing levels were rapidly depleted. ANMF officials told us that staff reported major increases in workloads. The situation was exacerbated as many staff were redirected to other COVID-related duties such as staff entry screening.

During this and previous reviews, we have heard a great deal about a lack of appropriate skills and experience of some of the surge workforce. Sometimes staff were rostered to a facility only to leave when they discovered that a COVID-19 outbreak was in progress. We were also told that sometimes more staff arrived for shifts than required. At other times, rostered staff simply failed to attend for duty. Many of these workers had never previously worked in aged care and for many, English was not their first language. One provider told us that "managing the surge workforce was like a lottery". Others decided to restrict access to any staff other than their own, as much as possible.

This difficult situation led to a temporary redesign of roles in some RACFs. Specific tasks or functions were allocated to staff, who did not have aged care skills, and they provided critical support. For example, some of them helped residents communicate with their families (with iPads or similar devices). Others provided regular updates for families. This could be done off-site, sometimes by staff on furlough who were able to work from home, provide continuity and support for surge workers, since they were familiar the residents and their needs.

Our review confirmed that many aged care staff had more than one permanent part-time job and often, did casual work as well. In many RACFs, shift patterns and rosters are fixed, which means that staff can often secure additional work on a predictable basis. The high levels of staff mobility between workplaces is an important factor contributing to spread of COVID-19.

'Single-site working' arrangements were announced³⁸ in July 2020 that were:

"...designed to minimise the potential risk of workers unintentionally transmitting COVID-19 by working across multiple sites and, by extension, reducing the overall risk of outbreak at

 $^{180 \\} https://www.health.gov.au/news/announcements/statement-clarifying-implementation-of-guiding-principles-for-residential-aged-care-keeping-victoria-residents-and-workers-safe$

any given site and also reducing the health risk for individual residents and workers in Victorian aged care homes, ..."

Aged care staff in declared hot spots were required to nominate a single employer with whom they would undertake all of their regular work. The initiative was funded by the federal government and designed to ensure that no employee was disadvantaged by participating in the programme. However, we heard from aged care providers and the ANMF that the programme was inconsistently applied during subsequent small outbreaks in South Australia and New South Wales.

Respondents to the review told us that, despite assurances, some staff were fearful of the effect on their secondary employment. The ANMF and Health Services Union (HSU) reported that some members had employment contracts terminated when they admitted they were working for multiple employers. This meant that, when the single site working arrangements finished, staff no longer had their previous second jobs (and security of tenure). ANMF and HSU highlighted that insecure employment had been an issue, even before the COVID-19 pandemic. Many staff were vulnerable and had a limited understanding of their rights. Their insecurity sometimes led to them leaving home isolation and continuing to work - noting that single site arrangements did not apply to agency staff. We were also told that RACF managers sometimes shared information about staff who were on furlough from one facility but working in another.

In order to limit the potential spread of COVID-19, we were told that some providers paid for staff to be housed in 'safe accommodation' so they could continue to work without fear of transmission to or from their family members. An example of such an initiative was the former innovative, 'hotels for heroes' programme in Victoria, (now known as 'frontline worker accommodation') that provides temporary accommodation for eligible frontline workers who are exposed to people with COVID-19 or cannot safely self-isolate or quarantine at home. Participants told the review that that eligibility and funding for these programmes varies across jurisdictions.

It was also pointed out to us that social or family connections between staff who work in different high-risk areas (for example RACFs, disability services, quarantine hotels) is a significant issue and may be a greater risk than workforce mobility alone.

Notwithstanding the introduction of a significant number of funded initiatives at a federal and state level, we were told about some unintended consequences. The ANMF and HSU were concerned that they had not been adequately consulted about some key workforce policies and the lack of standardisation of workforce policy initiatives. This has been a divisive issue among aged care workers. This was particularly apparent in relation to the Aged Care Workforce Retention Bonus, which provided incentive payments for direct care staff but did not include key support staff such as food services, laundry and cleaning staff.

Many of our informants again reiterated the systemic issues of aged care funding and its relationship to staff employment in aged care. As the ANMF noted, the right leadership and a foundation workforce, are critical to outcome improvement in aged care. The final report of the RCAC makes a number of recommendations relating to the pay and conditions of aged care staff. At the time of writing, these recommendations are still under review.

Staff Mental Health

Since the beginning of the COVID-19 pandemic, there have been many reports of its adverse impact on staff mental health and wellbeing. Some staff have been afraid to go to work, because of the risk of cross infection, to themselves or their close contacts. During outbreaks, particularly, many staff experience high levels of stress and physical and emotional exhaustion. This is often compounded by residents' escalating need for care, depleted staff resources, expectations of residents' families for more frequent communication and having to engage with many unfamiliar agencies and stakeholders.

We have been told of the enormous pressure on frontline staff and managers during outbreaks, particularly when are high rates of illness and death. The responsibility for managing the outbreak and delivery of care falls heavily on staff. We have heard about frontline staff being verbally abused in the community and accused of spreading COVID-19.

Some providers offer Employee Assistance Programs to support staff and provide free, confidential advice and counselling. Some providers told us that the use of these programmes has increased. They also offer support from a psychologist or counsellor, working directly with staff (or residents) in the affected RACFs. Funded support is also available for aged care sector staff from federal and state governments and more generally through Medicare and community mental health organisations such as Beyond Blue.

State governments also provide a range of free and innovative resources to support staff. One example is the Pandemic Kindness Movement³⁹ in New South Wales, created by clinicians across Australia, working together to support all health workers during the COVID-19 pandemic. Resources include curated, evidence-informed resources and links to support services. In Victoria, Safer Care Victoria has established the Healthcare Worker Wellbeing Centre⁴⁰ which provides supports and resources focusing on the mental health and wellbeing of healthcare workers.

³⁹ https://aci.health.nsw.gov.au/covid-19/kindness

⁴⁰ https://www.bettersafercare.vic.gov.au/support-and-training/hcw-wellbeing

Recommendations

Introduction

These recommendations reflect our key observations and findings in this review. Whilst we recognise that there are many COVID-19 risk-management protocols and strategies already in place, these recommendations are designed to drive further improvement. We also note that the recommendations of the Royal Commission into Aged Care Quality and Safety are currently under review and if implemented, will significantly improve the residential aged care sector. Our recommendations should be considered in this context.

Recommendations are made under each of the nine lines of defence outlined in the review. The recommendations are made to the Commonwealth Department of Health (the Department) to implement or oversee and whilst focused on minimising the risks associated with the transmission of COVID-19, could equally apply in the event of other pandemics.

Built Environment & Infrastructure

- 1. The Department reviews current guidelines and minimum standards required for adequate ventilation, in both new and existing residential aged care facilities.
- 2. Following the review, the Department provide advice to the aged care sector on any changes required, having regard to mitigating the risk of COVID-19 transmission.
- 3. The Department consults with the aged care sector on phasing-out shared rooms and bathrooms to reduce the risk of COVID-19 transmission.

Clinical Care

- 4. Primary Health Networks develop definitive COVID-19 outbreak management plans and guidelines to provide consistent General Practitioner support to residents in RACFs during an outbreak.
- 5. The Department ensures that residents living in RACFs can access healthcare in accordance with the principles outlined in the National COVID-19 Aged Care Plan.
- 6. The Department ensures that guidelines for residential aged care transfers to hospital during a COVID-19 outbreak are in place in each jurisdiction.
- 7. Local health networks (however titled) identify specific accommodation for people living with dementia, who cannot be suitably accommodated in a RACF during an outbreak.
- 8. The local health networks continue to build sustainable relationships with the aged care sector.

Effective Interagency Communication

- 9. The Department maintains and publishes reliable, up to date COVID-19 information for the aged care sector as a 'single source of truth' in an easily accessible format.
- 10. The Department, through the National COVID-19 Aged Care Plan, collaborates with the relevant Commonwealth, State and Territory departments and agencies to commit to updating and sharing information through the 'single source of truth'.

Emergency Response

- 11. The Department ensures that online training and mentoring in emergency outbreak management and crisis leadership (as funded through the Aged Care Preparedness Expansion measure) be delivered as a matter of priority to all Approved Providers and to key government agencies engaged in outbreak emergency responses.
- 12. Approved Providers ensure that sufficient staff have completed online training and mentoring in emergency management and crisis leadership, to prepare them to manage an outbreak.
- 13. In accordance with the National COVID-19 Aged Care Plan, all jurisdictions develop management protocols to define roles and responsibilities for *Joint Australian, State and Territory Government Working Arrangements*.
- 14. The Guide to the Establishment of an Aged Care Health Emergency Response Operation Centre be reviewed to consider the establishment of 'virtual' alternatives where appropriate.
- 15. The Commonwealth Case Manager appointed to an outbreak is the single point of contact and oversight for that outbreak. All requests for information should be directed through the Case Manager who will liaise with the appointed Incident Commander (however titled) within the RACF.
- 16. The Case Manager ensures that records of meetings are maintained to identify agreed outcomes, actions required and personnel responsible for delivering outcomes.
- 17. Onsite assessments must be co-ordinated by the Case Manager.
- 18. In the event that there is any dispute with regard to priority of any action or intervention, the Case Manager will provide direction or escalate the matter to the Commonwealth State Manager for resolution.
- 19. The Case Manager ensures that processes are in place to facilitate timely responses to requests for information and/or advice from Approved Providers.
- 20. The Department assures adequacy of planning, preparation and capacity to respond to potential aged care outbreaks in rural and remote communities.

Infection Prevention & Control

- 21. The Department continues the implementation of Infection Prevention and Control (IPC) recommendations made in the Royal Commission into Aged Care Quality and Safety's COVID-19 Special Report.
- 22. The Department considers long-term funding requirements for improving IPC in RACFs and embedding it as business-as-usual.
- 23. The Department ensures that RACF 'IPC Leads' have ongoing support from Approved Providers and access to IPC specialists.
- 24. The Department reviews the adequacy of current COVID-19 clinical waste guidelines to promote a nationally consistent approach to collection, segregation, storage and disposal of clinical waste.

Leadership, Management & Governance

25. Approved Providers consider individual leadership coaching to support managers in acquiring additional skills to enhance leadership capacity, in both business-as-usual and emergency management.

Planning & Preparation

- 26. The Aged Care Quality and Safety Commission determine a minimum standard to give effect to best practice pandemic planning and preparation in a RACF.
- 27. Approved Providers must submit an annual Pandemic Planning attestation to confirm compliance with the required Standard. The governing body must approve the attestation and submission.

Preventing Social Isolation

- 28. Approved Providers fully implement the Industry Code for Visiting Residential Aged Care Homes during COVID-19 and give effect to 'Partnerships in Care' as outlined by the Aged Care Quality and Safety Commission.
- 29. The Aged Care Quality and Safety Commission continues to monitor implementation of the Industry Code for Visiting Residential Aged Care Homes during COVID-19 in accordance with the Aged Care Quality Standards.
- 30. Approved Providers must maintain up-to-date family contact details including information authorised by the resident or their nominated representative.
- 31. A representative of the Older Persons Advocacy Network should be allocated to each outbreak and provided with right of entry by the Approved Provider.
- 32. Chief Health Officer (or equivalent) public health directions for residential aged care (however titled) should give effect to the Industry Code for Visiting Residential Aged Care Homes during COVID-19 and provide site access for the Older Persons Advocacy Network.
- 33. Approved Providers should provide continued access to allied health services and inroom therapies designed to reduce cognitive, nutritional, mobility and physical decline.
- 34. Approved Providers should provide sufficient assistive technologies to support interactions between residents and their families and friends.
- 35. Approved Providers should give appropriate additional consideration to residents with special needs, including people living with dementia.

Workforce & Staff Mental Health

- 36. Approved Providers develop pandemic workforce plans to facilitate optimal staffing levels during a COVID-19 outbreak, having regard to:
 - a. surge workforce requirements;
 - b. implications of single-site working arrangements;
 - c. consulting and engaging with staff on key matters and decisions related to impacts on their working environment and conditions;
 - d. access to safe accommodation to minimise COVID-19 transmission;
 - e. access to flexible leave arrangements;
 - f. access to mental health support.

- 37. The Department reviews its 'restricting workforce mobility' arrangements and consults with Approved Providers, residential aged care staff and their representatives to:
 - a. confirm activation triggers and funding for such arrangements;
 - b. consider safe accommodation options to minimise COVID-19 transmission.
- 38. Chief Health Officers consider the implication of public health directions for residential aged care workers, which may impact continuity of care for residents having specific regard to:
 - a. the ongoing care of residents with special care needs;
 - b. identifying workable solutions (with Approved Providers) to effect clinical handover from one group of workers to another where required.

Conclusion

The COVID-19 pandemic has exposed shortcomings and systemic weaknesses in the aged care system. Many of the issues were not new. Over the past twenty years and as many reviews and inquiries into the aged care sector, numerous recommendations have been made and not heeded.

Throughout this review, we have observed major multi-sectoral commitments to prevention and control of COVID-19 in the highly vulnerable aged care sector. Further system improvements are needed to achieve better outcomes for residents and their loved ones. In this review, we have blended the findings from five key data sources: a survey, literature review, interviews and online workshops and using the Swiss Cheese analogy, we have defined nine key lines of defence as a frame for our review.

It is clear that effective leadership is the key to success in managing COVID-19 outbreaks and that living the mantra, "go hard, go fast", is positively correlated with better outcomes. Our recommendations contain a number of focal points for improvement. In some cases, we reiterate recommendations made in previous reports, discussion papers and reviews by others. We seek a commitment from Government to implement these recommendations and create a safer environment for vulnerable older Australians. A commitment to implementation, will drive an improved readiness and capability across the aged care sector.

But these are difficult times. Following the Royal Commission into Aged Care Quality and Safety and the impact of COVID-19 in aged care, the sector has been operating under immense pressure. Australia has an ageing population with increasing healthcare needs. Notwithstanding planned expansion in home care, the residential aged care sector needs to play an increasingly critical role in meeting the needs of future residents. As a community, we need to do everything we can to restore respect and pride in the sector and the older people it serves.

"...because the way we care for our ageing is a reflection of who we are as a nation. How we care says who we are." 41

Professor John Pollaers OAM, Chair Aged Care Workforce Strategy Taskforce, June 2018

Independent Review: COVID-19 outbreaks in Australian Residential Aged Care Facilities

 $^{^{41} \ \}text{https://www.health.gov.au/resources/publications/a-matter-of-care-australias-aged-care-workforce-strategy}$

Appendix I

The Reviewers

Professor Gwendolyn (Lyn) Gilbert AO

MBBS MD FRACP FRCPA FASM M Bioethics

Professor Lyn Gilbert is an Honorary Professor at the University of Sydney. Through medical training and postgraduate education, she is an Infectious Diseases Physician and Clinical Microbiologist with extensive research interests. She is currently a Senior Researcher at the Marie Bashir Institute for Infectious Diseases and Biosecurity, a Senior Associate at Sydney Health Ethics and Consultant Emeritus at Westmead Hospital.

Professor Gilbert has published more than 380 research articles as well as authoring several books and book chapters. Her main research interests are prevention, surveillance, control and the ethics of communicable diseases of public health importance. She was the inaugural Chair of the national Public Health Laboratory Network (PHLN), is a former member of the Communicable Diseases Network of Australia (CDNA) and immediate past Chair of the national Infection Control Expert Group (ICEG) which provides advice to the Australian Health Protection Principal Committee. Professor Gilbert is a member of the newly established Aged Care Advisory Group which also provides advice to the Australian Health Protection Principal Committee.

Adjunct Professor Alan Lilly

RPN RGN Grad Dip HSM MHA FCHSM CHE FIML MAICD

Professor Alan Lilly is an Adjunct Professor with Australian Catholic University. He is a Registered Psychiatric Nurse and Registered General Nurse by background, with a Graduate Diploma in Health Services Management and Master of Business in Health Administration. With extensive experience in residential care, he has worked across the health, disability and aged care sectors and was Chief Executive for almost ten years in public and private sector organisations.

He is currently a Board Director of the Royal Women's Hospital and the Royal Victorian Eye & Ear Hospital in Melbourne and chairs their respective Board Quality & Safety Committees. A former Accreditation Surveyor with the Australian Council on Healthcare Standards, his professional interests are in leadership, quality & safety and the consumer experience. Nowadays, Alan is Principal of his own consulting firm, Acumenity, providing consulting services in Health and Aged Care. Professor Lilly is a member of the newly established Aged Care Advisory Group which provides advice to the Australian Health Protection Principal Committee.

Appendix II

Participants: In-Depth interviews with System Leaders & Experts

Meeting ID	Date	Role or Department	Organisation	No of gues
				participant
1	18-Dec-20	Executive Director	Aged Care Quality & Safety Commission	1
2	18-Dec-20	Chief Clinical Advisor	Aged Care Quality & Safety Commission	1
3	21-Dec-20	Medical Advisor	Victorian Aged Care Response Centre	1
4	22-Dec-20	Executive Officer	Victorian Aged Care Response Centre	1
5	22-Dec-20	International COVID-19 Expert	New Zealand Ministry of Health	1
6	23-Dec-20	Aged Care Response Advisors	Queensland Health	2
7	23-Dec-20	Independent Expert Reviewer	Private Company	1
8	23-Dec-20	Executive Clinical Services	National Aged Care Provider	1
9	23-Dec-20	International COVID-19 Expert	The University of Hong Kong	1
10	24-Dec-20	International COVID-19 Expert	University of Toronto, Canada	1
11	04-Feb-21	Executive Services	National Aged Care Provider	1
12	04-Feb-21	State Manager	Commonwealth Department of Health	1
13	08-Feb-21	International COVID-19 Expert	London School of Economics, England	1
14	09-Feb-21	Independent Expert Advisor to COVID-19 Outbreak	Private Company	1
15	09-Feb-21	Executive Director Aged Care Branch	Department of Health (Vic)	1
16	10-Feb-21	Federal Secretary & Director, National Policy Research Unit	Australian Nursing & Midwifery Federation	2
17	10-Feb-21	State Emergency Operations Centre	NSW Health	1
18	11-Feb-21	Independent Expert Advisors to COVID-19 Outbreak	Private Company	2
19	15-Feb-21	Public Health Services	Department of Health (Tas)	1
20	16-Feb-21	Executive Services	National Aged Care Provider	5
21	16-Feb-21	State Manager	Commonwealth Department of Health	1
22	16-Feb-21	Epidemiologist	Department of Health (Vic)	1
23	18-Feb-21	Public Health Unit	SA Health	3
24	19-Feb-21	Medical Advisor	Victorian Aged Care Response Centre	1
25	22-Feb-21	Intelligence, Case, Contact and Outbreak Management Team		1
26	23-Feb-21	Public Health Unit	Barwon Health (Vic)	2
27	23-Feb-21	COVID-19 Outbreak Management Team	AnglicareSA Aged Care Services	2
28	23-Feb-21	Executive Services	Aged Care Provider (Vic & Tas)	1
29	23-Feb-21	Chief Executive	Council on the Ageing	1
30	24-Feb-21	Chief Executive	Aged & Community Services Australia	1
31	24-Feb-21	Chief Executive & Executive Officer	Leading Aged Services Australia	2
32	26-Feb-21	Senior Executives	National Aged Care Provider	2
33	26-Feb-21	Consultant	Infection Control Consultancy	1
34	03-Mar-21	Public Health Directorate	Northern Territory Health	2
35	09-Mar-21	OPAN Chief Executive & OPAN Member Chief Executives	Older Persons Advocacy Network	4
36	10-Mar-21	Chief Executive & National Policy Manager	Dementia Australia	2
37	12-Mar-21	Deputy Secretary and First Assistant Secretary	Commonwealth Department of Health	2
38	19-Mar-21	National Officer	Health Services Union of Australia	1
39	29-Mar-21	Written Submission - Clinical Lead	Public Health Service (Vic)	1
			, , ,	
			Total participants	58

Appendix III

Participants: International Expert Profiles

Dr Kevin Brown in Assistant Professor in the Dalla Lana School of Public Health at University of Toronto. He is a scientist with a long history of research into hospital-acquired infections. He works in Public Health Ontario and is currently engaged in research activities related to COVID-19.

Adelina Comas-Herrera is co-lead of the Strengthening Responses to Dementia in Developing Countries (STRiDE) project. Funded by the Research Councils UK Global Challenges Research Fund, STRiDE is a multi-national project covering Brazil, India, Indonesia, Jamaica, Kenya, Mexico, and South Africa. She is the curator of LTCcovid.org, an initiative linked to International Long-Term Care Policy Network that shares evidence and resources to mitigate the impact of COVID-19 amongst those who use and provide long-term care. Her main research interests are economic aspects of care, treatment and support of people with dementia, and long-term care financing, both in the UK and globally. She is currently Assistant Professorial Research Fellow at the Care Policy and Evaluation Centre at the London School of Economics and Political Science.

Professor Terry Lum is the Henry G Leong Professor in Social Work and Social Administration and the Head of the Department of Social Work and Social Administration at the University of Hong Kong. His research interests focus on long-term care, productive aging, environmental gerontology, and geriatric mental health. He is an advisor to the Hong Kong Government on long-term care and has led the development of new assessment instruments and services matching mechanisms for long-term care in Hong Kong. Professor Lum is an invited member of two WHO committees on healthy ageing and long-term care. Professor Lum is an editor of the Journal of Ageing and Mental Health.

Emma Prestidge is Group Manager, Quality Assurance and Safety in the Ministry of Health, New Zealand. The Ministry of Health commissioned the Independent Review of COVID-19 Clusters in Aged Residential Care Facilities (New Zealand) in early 2020.

References

- 1. Royal Commission into Aged Care Quality and Safety. Aged Care and COVID-19 a Special Report. 2020. https://agedcare.royalcommission.gov.au/publications/aged-care-and-covid-19-special-report
- 2. Lencioni P. The Five Dysfunctions of a Team: Jossey-Bass; 2002.
- 3. Comas-Herrara A, Zalakain, J., Lemmon E., Henderson D., Litwin, C., Hsu, A. T., et al. Mortality associated with COVID-19 outbreaks in care homes: early international evidence. LTCcovid.org,. 2021 1st February 2021. https://ltccovid.org/wpcontent/uploads/2021/02/LTC_COVID_19_international_report_January-1-February-1-2.pdf
- 4. Aged Care Quality and Safety Commission. "We saw the best in peeople" Lessons learned by aged care providers experiencing outbreaks of COVID-19 in Victoria, Australia.
 - https://www.agedcarequality.gov.au/sites/default/files/media/ACQSC_Lessons_Learned 24122020.pdf
- 5. McMichael TM, Currie DW, Clark S, Pogosjans S, Kay M, Schwartz NG, et al. Epidemiology of COVID-19 in a Long-Term Care Facility in King County, Washington. N Engl J Med. 2020;382(21):2005-11.
 - https://www.ncbi.nlm.nih.gov/pubmed/32220208
- 6. Gilbert GL. COVID-19 in a Sydney nursing home: a case study and lessons learnt. Med J Aust. 2020;213(9):393-6 e1. https://www.ncbi.nlm.nih.gov/pubmed/33037646
- 7. Gilbert GL, Lilly, A. Newmarch House COVID-19 Outbreak [April-June 2020]. Independent Review. 2020 20 August, 2020. https://www.health.gov.au/sites/default/files/documents/2020/08/coronavirus-covid-19-newmarch-house-covid-19-outbreak-independent-review-newmarch-house-covid-19-outbreak-independent-review-final-report.pdf
- Gilbert GL, Lilly, A. Independent Review of COVID-19 outbreaks at St Basil's Home for the Aged in Fawkner, Victoria and Heritage Care Epping Gardens in Epping, Victoria. 2020 20 November, 2020. https://www.health.gov.au/sites/default/files/documents/2020/12/coronavirus-covid-19-independent-review-of-covid-19-outbreaks-at-st-basil-s-and-epping-gardens-aged-care-facilities.pdf
- 9. Brown KA, Jones A, Daneman N, Chan AK, Schwartz KL, Garber GE, et al. Association Between Nursing Home Crowding and COVID-19 Infection and Mortality in Ontario, Canada. JAMA Intern Med. 2020. https://www.ncbi.nlm.nih.gov/pubmed/33165560
- 10. Wang Z. Use the Environment to Prevent and Control COVID-19 in Senior-Living Facilities: An Analysis of the Guidelines Used in China. HERD. 2021;14(1):130-40. https://www.ncbi.nlm.nih.gov/pubmed/32909834
- 11. Abrams HR, Loomer L, Gandhi A, Grabowski DC. Characteristics of U.S. Nursing Homes with COVID-19 Cases. J Am Geriatr Soc. 2020;68(8):1653-6. https://www.ncbi.nlm.nih.gov/pubmed/32484912
- Anderson DC, Grey T, Kennelly S, O'Neill D. Nursing Home Design and COVID-19: Balancing Infection Control, Quality of Life, and Resilience. J Am Med Dir Assoc. 2020;21(11):1519-24.
 https://www.ncbi.nlm.nih.gov/pubmed/33138934
- 42 Pour Commission into Annal Com Quality, and Cafety Final Rem
- 13. Royal Commission into Aged Care Quality and Safety. Final Report. Care Dignity and Respect. Canberra; 2021 1 March, 2021. https://agedcare.royalcommission.gov.au/publications/final-report-volume-1
- 14. Rolland Y, Lacoste MH, de Mauleon A, Ghisolfi A, De Souto Barreto P, Blain H, et al. Guidance for the Prevention of the COVID-19 Epidemic in Long-Term Care Facilities: A Short-Term Prospective Study. J Nutr Health Aging. 2020;24(8):812-6. https://www.ncbi.nlm.nih.gov/pubmed/33009529
- Lombardo FL, Bacigalupo I, Salvi E, Lacorte E, Piscopo P, Mayer F, et al. The Italian national survey on Coronavirus disease 2019 epidemic spread in nursing homes. Int J Geriatr Psychiatry. 2020. https://www.ncbi.nlm.nih.gov/pubmed/33009529
- 16. Yen MY, Schwartz J, King CC, Lee CM, Hsueh PR, Society of Taiwan Long-term Care Infection P, et al. Recommendations for protecting against and mitigating the COVID-19 pandemic in long-term care facilities. J Microbiol Immunol Infect. 2020;53(3):447-53. https://www.ncbi.nlm.nih.gov/pubmed/32303480

- 17. Shallcross L., Burke, D., Abbott, O., Donaldson, A., et al. Factors associated with SARS-CoV-2 infection and outbreaks in long-term care facilities in England: a national crosssectional survey. Lancet Health Longev. 2021. https://www.thelancet.com/journals/lanhl/article/PIIS2666-7568(20)30065-9/fulltext
- 18. Lum T, Shi C, Wong G, Wong K. COVID-19 and Long-Term Care Policy for Older People in Hong Kong. J Aging Soc Policy. 2020;32(4-5):373-9. https://www.ncbi.nlm.nih.gov/pubmed/32476597
- 19. Chow L. Care homes and COVID-19 in Hong Kong: how the lessons from SARS were used to good effect. Age Ageing. 2021;50(1):21-4. https://www.ncbi.nlm.nih.gov/pubmed/32923993
- de Man P, Paltansing S, Ong DSY, Vaessen N, van Nielen G, Koeleman JGM. Outbreak of COVID-19 in a nursing home associated with aerosol transmission as a result of inadequate ventilation. Clin Infect Dis. 2020. https://www.ncbi.nlm.nih.gov/pubmed/32857130
- 21. Tang JW, Marr LC, Li Y, Dancer SJ. Covid-19 has redefined airborne transmission. BMJ. 2021;373:n913. https://www.ncbi.nlm.nih.gov/pubmed/33853842
- 22. Morawska L, Tang JW, Bahnfleth W, Bluyssen PM, Boerstra A, Buonanno G, et al. How can airborne transmission of COVID-19 indoors be minimised? Environ Int. 2020;142:105832 https://www.ncbi.nlm.nih.gov/pubmed/32521345
- 23. World Health Organization. Roadmap to improve and ensure good indoor ventilation in the context of COVID-19. 2021 1 March 2021. https://www.who.int/publications/i/item/9789240021280
- 24. Macintosh G. How COVID-19 will change aged care design Australian Design Review 2020 8 September 2020 https://www.australiandesignreview.com/architecture/how-covid-19-will-change-aged-care-design/
- Zimmerman S, Bowers BJ, Cohen LW, Grabowski DC, Horn SD, Kemper P, et al. New Evidence on the Green House Model of Nursing Home Care: Synthesis of Findings and Implications for Policy, Practice, and Research. Health Serv Res. 2016;51 Suppl 1:475-96. https://www.ncbi.nlm.nih.gov/pubmed/26708381
- Zimmerman S, Dumond-Stryker C, Tandan M, Preisser JS, Wretman CJ, Howell A, et al. Nontraditional Small House Nursing Homes Have Fewer COVID-19 Cases and Deaths. J Am Med Dir Assoc. 2021. https://www.ncbi.nlm.nih.gov/pubmed/33516670
- 27. Gilbert AS, Owusu-Addo, E., Feldman, P., Mackell, P., Garratt, S. M., Brijnath, B. Models of Integrated Care, Health and Housing: Report prepared for the Royal Commission into Aged Care Quality and Safety. National Ageing Research Institute, Parkville, Victoria.; 2020 Juky 2020.
 - https://agedcare.royalcommission.gov.au/sites/default/files/2020-08/Research%20Paper%207%20%20Models%20of%20integrated%20care%2C%20health%20and%20housing.pdf
- 28. Dys S, Smith L, Tunalilar O, Carder P. Revisiting the Role of Physicians in Assisted Living and Residential Care Settings. Gerontol Geriatr Med. 2020;6:2333721420979840. https://www.ncbi.nlm.nih.gov/pubmed/33354590
- 29. Bianchetti A, Bellelli G, Guerini F, Marengoni A, Padovani A, Rozzini R, et al. Improving the care of older patients during the COVID-19 pandemic. Aging Clin Exp Res. 2020;32(9):1883-8.
 - https://www.ncbi.nlm.nih.gov/pubmed/32654005
- 30. Deschacht M, Malfait S, Eeckloo K. Integrated care for older adults during the COVID-19 pandemic in Belgium: Lessons learned the hard way. Int J Older People Nurs. 2021:e12366.
 - https://www.ncbi.nlm.nih.gov/pubmed/33570259
- 31. Montoya A, Jenq G, Mills JP, Beal J, Diviney Chun E, Newton D, et al. Partnering with Local Hospitals and Public Health to Manage COVID-19 Outbreaks in Nursing Homes. J Am Geriatr Soc. 2021;69(1):30-6.
 - https://www.ncbi.nlm.nih.gov/pubmed/33034039
- 32. Stall NM, Farquharson C, Fan-Lun C, Wiesenfeld L, Loftus CA, Kain D, et al. A Hospital Partnership with a Nursing Home Experiencing a COVID-19 Outbreak: Description of a Multiphase Emergency Response in Toronto, Canada. J Am Geriatr Soc. 2020;68(7):1376-81. https://www.ncbi.nlm.nih.gov/pubmed/32441770

- 33. Tarteret P, Strazzulla A, Rouyer M, Gore C, Bardin G, Noel C, et al. Clinical features and medical care factors associated with mortality in French nursing homes during the COVID-19 outbreak. Int J Infect Dis. 2020;104:125-31. https://www.ncbi.nlm.nih.gov/pubmed/33301993
- 34. Harris DA, Archbald-Pannone L, Kaur J, Cattell-Gordon D, Rheuban KS, Ombres RL, et al. Rapid Telehealth-Centered Response to COVID-19 Outbreaks in Postacute and Long-Term Care Facilities. Telemed J E Health. 2021;27(1):102-6. https://www.ncbi.nlm.nih.gov/pubmed/32644899
- 35. Viray P, Low Z, Sinnappu R, Harvey PA, Brown S. Residential aged care facility COVID-19 outbreaks and magnitude of spread among residents: observations from a Victorian residential in-reach service. Intern Med J. 2021;51(1):99-101. https://www.ncbi.nlm.nih.gov/pubmed/33572024
- 36. Unroe KT. The Pandemic Creates Urgency around Designing Health System Support Structures for Nursing Homes. J Am Geriatr Soc. 2021;69(1):18-9. https://www.ncbi.nlm.nih.gov/pubmed/33179253
- 37. Kimball A, Hatfield KM, Arons M, James A, Taylor J, Spicer K, et al. Asymptomatic and Presymptomatic SARS-CoV-2 Infections in Residents of a Long-Term Care Skilled Nursing Facility King County, Washington, March 2020. MMWR Morb Mortal Wkly Rep. 2020;69(13):377-81. https://www.ncbi.nlm.nih.gov/pubmed/32240128
- 38. Arons MM, Hatfield KM, Reddy SC, Kimball A, James A, Jacobs JR, et al. Presymptomatic SARS-CoV-2 Infections and Transmission in a Skilled Nursing Facility. N Engl J Med. 2020;382(22):2081-90. https://www.ncbi.nlm.nih.gov/pubmed/32329971
- 39. Blackman C, Farber S, Feifer RA, Mor V, White EM. An Illustration of SARS-CoV-2 Dissemination Within a Skilled Nursing Facility Using Heat Maps. J Am Geriatr Soc. 2020;68(10):2174-8.

 https://www.ncbi.nlm.nih.gov/pubmed/32533847
- 40. White EM, Santostefano CM, Feifer RA, Kosar CM, Blackman C, Gravenstein S, et al. Asymptomatic and Presymptomatic Severe Acute Respiratory Syndrome Coronavirus 2 Infection Rates in a Multistate Sample of Skilled Nursing Facilities. JAMA Intern Med. 2020;180(12):1709-11.
 https://www.ncbi.nlm.nih.gov/pubmed/33074318
- 41. Graham NSN, Junghans C, Downes R, Sendall C, Lai H, McKirdy A, et al. SARS-CoV-2 infection, clinical features and outcome of COVID-19 in United Kingdom nursing homes. J Infect. 2020;81(3):411-9. https://www.ncbi.nlm.nih.gov/pubmed/32504743
- 42. Farrell TW, Francis L, Brown T, Ferrante LE, Widera E, Rhodes R, et al. Rationing Limited Healthcare Resources in the COVID-19 Era and Beyond: Ethical Considerations Regarding Older Adults. J Am Geriatr Soc.2020;68:1143-9. https://www.ncbi.nlm.nih.gov/pubmed/32374466
- Emanuel EJ, Persad G, Upshur R, Thome B, Parker M, Glickman A, et al. Fair Allocation of Scarce Medical Resources in the Time of Covid-19. N Engl J Med. 2020;382(21):2049-55.
 https://www.ncbi.nlm.nih.gov/pubmed/32202722
- 44. Dawson A, Isaacs D, Jansen M, Jordens C, Kerridge I, Kihlbom U, et al. An Ethics Framework for Making Resource Allocation Decisions Within Clinical Care: Responding to COVID-19. J Bioeth Inq. 2020;17(4):749-55. https://www.ncbi.nlm.nih.gov/pubmed/32840833
- 45. Crotty F, Watson R, Lim WK. Nursing homes: the titanic of cruise ships will residential aged care facilities survive the COVID-19 pandemic? Intern Med J. 2020;50(9):1033-6. https://www.ncbi.nlm.nih.gov/pubmed/32776671
- 46. Montayre J, Lindley, R. I. Should all aged-care residents with COVID-19 be moved to hospital? Probably, but there are drawbacks too. The Conversation. 2020. https://theconversation.com/should-all-aged-care-residents-with-covid-19-be-moved-to-hospital-probably-but-there-are-drawbacks-too-143826
- 47. Mazumder H, Hossain MM, Das A. Geriatric Care during Public Health Emergencies: Lessons Learned from Novel Corona Virus Disease (COVID-19) Pandemic. J Gerontol Soc Work. 2020;63(4):257-8.
 - https://www.ncbi.nlm.nih.gov/pubmed/32216550

- 48. Keeble E, Roberts HC, Williams CD, Van Oppen J, Conroy SP. Outcomes of hospital admissions among frail older people: a 2-year cohort study. Br J Gen Pract. 2019;69(685):e555-e60.
 - https://www.ncbi.nlm.nih.gov/pubmed/31308000
- 49. Burkett E, Carpenter CR, Hullick C, Arendts G, Ouslander JG. It's time: Delivering optimal emergency care of residents of aged care facilities in the era of COVID-19. Emerg Med Australas. 2021;33(1):131-7.
 - https://www.ncbi.nlm.nih.gov/pubmed/33131219
- 50. Burton T. Residential aged care homes are homes, not hospitals. Sydney Morning Herald. 2020.
 - https://www.uniting.org/blog-newsroom/uniting-life/seniors/residential-aged-care-homes-are-homes-not-hospitals
- 51. Cousins E, de Vries K, Dening KH. Ethical care during COVID-19 for care home residents with dementia. Nurs Ethics. 2021;28(1):46-57. https://www.ncbi.nlm.nih.gov/pubmed/33325324
- 52. Sinclair C, Nolte L, White BP, K MD. Advance care planning in Australia during the COVID-19 outbreak: now more important than ever. Intern Med J. 2020;50(8):918-23. https://www.ncbi.nlm.nih.gov/pubmed/32881275
- 53. Gurwitz JH. COVID-19, Post-acute Care Preparedness and Nursing Homes: Flawed Policy in the Fog of War. J Am Geriatr Soc. 2020;68(6):1124-5. https://www.ncbi.nlm.nih.gov/pubmed/32315075
- 54. Buising KL, Williamson D, Cowie BC, MacLachlan J, Orr E, MacIsaac C, et al. A hospital-wide response to multiple outbreaks of COVID-19 in health care workers: lessons learned from the field. Med J Aust. 2021;214(3):101-4 e1. https://www.ncbi.nlm.nih.gov/pubmed/33190286
- 55. World Health Oorganization. Global report on Ageism. 2021 18 March, 2021.
 - https://www.who.int/teams/social-determinants-of-health/demographic-change-and-healthy-ageing/combatting-ageism/global-report-on-ageism
- 56. Patterson K. Ageism and COVID-19. Australian Human Rights Commission 2020 5 May 2020.
 - https://humanrights.gov.au/about/news/ageism-and-covid-19
- 57. Fraser S, Lagace M, Bongue B, Ndeye N, Guyot J, Bechard L, et al. Ageism and COVID-19: what does our society's response say about us? Age Ageing. 2020;49(5):692-5. https://www.ncbi.nlm.nih.gov/pubmed/32377666
- 58. Ehni HJ, Wahl HW. Six Propositions against Ageism in the COVID-19 Pandemic. J Aging Soc Policy. 2020;32(4-5):515-25. https://www.ncbi.nlm.nih.gov/pubmed/32491963
- 59. Soto-Perez-de-Celis E. Social media, ageism, and older adults during the COVID-19 pandemic. EClinicalMedicine. 2020;29:100634. https://www.ncbi.nlm.nih.gov/pubmed/33235988
- 60. Monahan C, Macdonald J, Lytle A, Apriceno M, Levy SR. COVID-19 and ageism: How positive and negative responses impact older adults and society. Am Psychol. 2020;75(7):887-96.
 - https://www.ncbi.nlm.nih.gov/pubmed/32672988
- 61. Meisner BA. Are You OK, Boomer? Intensification of Ageism and Intergenerational Tensions on Social Media Amid COVID-19. Leisure Sciences. 2021;43:56-61.
 - https://www.tandfonline.com/doi/pdf/10.1080/01490400.2020.1773983?needAccess=true
- 62. Archbald-Pannone LR, Harris DA, Albero K, Steele RL, Pannone AF, Mutter JB. COVID-19 Collaborative Model for an Academic Hospital and Long-Term Care Facilities. J Am Med Dir Assoc. 2020;21(7):939-42.
 - https://www.ncbi.nlm.nih.gov/pubmed/32563752
- 63. Dawson WD, Boucher NA, Stone R, CH VANH. COVID-19: The Time for Collaboration Between Long-Term Services and Supports, Health Care Systems, and Public Health Is Now. Milbank Q. 2021.
 - https://www.ncbi.nlm.nih.gov/pubmed/33590920

- 64. Laxton CE, Nace DA, Nazir A, Post-Acute AM-TSf, Long-Term Care M. Solving the COVID-19 Crisis in Post-Acute and Long-Term Care. J Am Med Dir Assoc. 2020;21(7):885-7. https://www.ncbi.nlm.nih.gov/pubmed/32674813
- 65. Kim G, Wang M, Pan H, G HD, Roxby AC, Neukirch J, et al. A Health System Response to COVID-19 in Long-Term Care and Post-Acute Care: A Three-Phase Approach. J Am Geriatr Soc. 2020;68(6):1155-61. https://www.ncbi.nlm.nih.gov/pubmed/32343363
- 66. Vijh R, Prairie J, Otterstatter MC, Hu Y, Hayden AS, Yau B, et al. Evaluation of a multisectoral intervention to mitigate the risk of severe acute respiratory coronavirus virus 2 (SARS-CoV-2) transmission in long-term care facilities. Infect Control Hosp Epidemiol. 2021:1-8. https://www.ncbi.nlm.nih.gov/pubmed/33397533
- 67. Hooshmand E, Moa A, Trent M, Kunasekaran M, Poulos CJ, Chughtai AA, et al. Epidemiology of 2017 influenza outbreaks in nine Australian Aged care facilities. Influenza Other Respir Viruses. 2021;15(2):278-83. https://www.ncbi.nlm.nih.gov/pubmed/33026149
- 68. Bennett NJ, Bradford JM, Bull AL, Worth LJ. Infection prevention quality indicators in aged care: ready for a national approach. Aust Health Rev. 2019;43(4):396-8. https://www.ncbi.nlm.nih.gov/pubmed/30126530
- 69. Lai CC, Yen MY, Lee PI, Hsueh PR. How to Keep COVID-19 at Bay: A Taiwanese Perspective. J Epidemiol Glob Health. 2020. https://www.ncbi.nlm.nih.gov/pubmed/33605120
- 70. Graham W, Wong, CH. Responding to COVID-19 in Residential Care: The Singapore Experience.LTCcovid country report. International Long-Term Care Policy Network, CPEC-LSE,; 2020 27 July 2020. https://ltccovid.org/wp-content/uploads/2020/08/The-COVID-19-Long-Term-Care-situation-in-Singapore-27July-2020.pdf
- 71. Wong K, Lum, T., Wong, G. The COVID-19 Long-Term Care situation in Hong Kong: impact and measures. LTCcovid.org, International Long-Term Care Policy Network, CPEC-LSE; 2020 8 July, 2020. https://ltccovid.org/2020/07/09/updated-report-the-covid-19-long-term-care-situation-in-hong-kong/
- 72. Kim H. The impact of COVID-19 on long-term care in South Korea and measures to address it. LTCcovid.org, International Long-Term Care Policy Network, CPEC-LSE; 2020 7 May, 2020. https://ltccovid.org/wp-content/uploads/2020/05/The-Long-Term-Care-COVID19-situation-in-South-Korea-7-May-2020.pdf
- 73. Aged Care Quality and Safety Commission. First 24 Hours Mmanaging COVID-19 in a Residential Aged Care Facility; 2021 21 January 2021. https://www.health.gov.au/resources/publications/first-24-hours-managing-covid-19-in-a-residential-aged-care-facility
- 74. Moyo P, Zullo AR, McConeghy KW, Bosco E, van Aalst R, Chit A, et al. Risk factors for pneumonia and influenza hospitalizations in long-term care facility residents: a retrospective cohort study. BMC Geriatr. 2020;20(1):47. https://www.ncbi.nlm.nih.gov/pubmed/32041538
- 75. Stuart RL, Marshall C, Orr E, Bennett N, Athan E, Friedman D, et al. Survey of infection control and antimicrobial stewardship practices in Australian residential aged-care facilities. Intern Med J. 2015;45(5):576-80. https://www.ncbi.nlm.nih.gov/pubmed/25955463
- 76. Lansbury LE, Brown CS, Nguyen-Van-Tam JS. Influenza in long-term care facilities. Influenza Other Respir Viruses. 2017;11(5):356-66. https://www.ncbi.nlm.nih.gov/pubmed/28691237
- 77. Sluggett JK, Lalic S, Hosking SM, Ritchie B, McLoughlin J, Shortt T, et al. Root Cause Analysis to Identify Medication and Non-Medication Strategies to Prevent Infection-Related Hospitalizations from Australian Residential Aged Care Services. Int J Environ Res Public Health. 2020;17(9). https://www.ncbi.nlm.nih.gov/pubmed/32397193
- 78. Mody L, Bradley SF, Huang SS. Keeping the "home" in nursing home: implications for infection prevention. JAMA Intern Med. 2013;173(10):853-4. https://www.ncbi.nlm.nih.gov/pubmed/23589042
- 79. Lee MH, Lee GA, Lee SH, Park YH. Effectiveness and core components of infection prevention and control programmes in long-term care facilities: a systematic review. J Hosp Infect. 2019;102(4):377-93. https://www.ncbi.nlm.nih.gov/pubmed/30794854
- 80. Nicolle LE. Infection control in long-term care facilities. Clin Infect Dis. 2000;31(3):752-6.

- https://www.ncbi.nlm.nih.gov/pubmed/11017825
- 81. Lee MH, Lee GA, Lee SH, Park YH. A systematic review on the causes of the transmission and control measures of outbreaks in long-term care facilities: Back to basics of infection control. PLoS One. 2020;15(3):e0229911. https://www.ncbi.nlm.nih.gov/pubmed/32155208
- 82. Stone PW, Agarwal M, Pogorzelska-Maziarz M. Infection preventionist staffing in nursing homes. Am J Infect Control. 2020;48(3):330-2. https://www.ncbi.nlm.nih.gov/pubmed/31911068
- 83. Dorritie R, Quigley DD, Agarwal M, Tark A, Dick A, Stone PW. Support of nursing homes in infection management varies by US State Departments of Health. J Hosp Infect. 2020;105(2):258-64. https://www.ncbi.nlm.nih.gov/pubmed/32068013
- 84. Stone PW, Herzig CT, Pogorzelska-Maziarz M, Carter E, Bjarnadottir RI, Semeraro PK, et al. Understanding infection prevention and control in nursing homes: A qualitative study. Geriatr Nurs. 2015;36(4):267-72. https://www.ncbi.nlm.nih.gov/pubmed/25794923
- 85. Travers J, Herzig CT, Pogorzelska-Maziarz M, Carter E, Cohen CC, Semeraro PK, et al. Perceived barriers to infection prevention and control for nursing home certified nursing assistants: a qualitative study. Geriatr Nurs. 2015;36(5):355-60. https://www.ncbi.nlm.nih.gov/pubmed/26071320
- 86. Herzig CT, Stone PW, Castle N, Pogorzelska-Maziarz M, Larson EL, Dick AW. Infection Prevention and Control Programs in US Nursing Homes: Results of a National Survey. J Am Med Dir Assoc. 2016;17(1):85-8. https://www.ncbi.nlm.nih.gov/pubmed/26712489
- 87. Stone PW, Herzig, C. T., Agarwal, M., Pogorzelska-Maziarz, M., Dick, A. W. Nursing Home Infection Control Program Characteristics, CMS Citations, and Implementation of Antibiotic Stewardship Policies: A National Study. NQUIRY: The Journal of Health CareOrganization, Provision, and Financing. 2020;55:1-7. https://journals.sagepub.com/doi/pdf/10.1177/0046958018778636
- 88. Agarwal M, Dick AW, Sorbero M, Mody L, Stone PW. Changes in US Nursing Home Infection Prevention and Control Programs From 2014 to 2018. J Am Med Dir Assoc. 2020;21(1):97-103.
- 89. Stuart RL, Kotsanas D, Webb B, Vandergraaf S, Gillespie EE, Hogg GG, et al. Prevalence of antimicrobial-resistant organisms in residential aged care facilities. Med J Aust. 2011;195(9):530-3.
 - https://www.ncbi.nlm.nih.gov/pubmed/22060088

https://www.ncbi.nlm.nih.gov/pubmed/31888867

- 90. Lim CJ, McLellan SC, Cheng AC, Culton JM, Parikh SN, Peleg AY, et al. Surveillance of infection burden in residential aged care facilities. Med J Aust. 2012;196(5):327-31.
 - https://www.ncbi.nlm.nih.gov/pubmed/22432671
- 91. Bennett N, Imam N, James R, Chen C, Bull A, Thursky K, et al. Prevalence of infections and antimicrobial prescribing in Australian aged care facilities: Evaluation of modifiable and nonmodifiable determinants. Am J Infect Control. 2018;46(10):1148-53. https://www.ncbi.nlm.nih.gov/pubmed/29779689
- 92. Mitchell BG, Shaban RZ, MacBeth D, Russo P. Organisation and governance of infection prevention and control in Australian residential aged care facilities: A national survey. Infect Dis Health. 2019;24(4):187-93. https://www.ncbi.nlm.nih.gov/pubmed/31279705
- 93. Shaban RZ, Sotomayor-Castillo C, Macbeth D, Russo PL, Mitchell BG. Scope of practice and educational needs of infection prevention and control professionals in Australian residential aged care facilities. Infect Dis Health. 2020;25(4):286-93. https://www.ncbi.nlm.nih.gov/pubmed/32711966
- 94. D'Adamo H, Yoshikawa T, Ouslander JG. Coronavirus Disease 2019 in Geriatrics and Long-Term Care: The ABCDs of COVID-19. J Am Geriatr Soc. 2020;68(5):912-7. https://www.ncbi.nlm.nih.gov/pubmed/32212386
- 95. Infection Control Exprt Group. COVID-19 Infection Prevention and Control for Residential Care Facilities. Australian Health Protection Principal Committee 2020.
 - https://www.health.gov.au/resources/publications/coronavirus-covid-19-guidelines-for-infection-prevention-and-control-in-residential-care-facilities

- 96. World Health Organization. Infection prevention and control guidance for long-term care facilities in the context of COVID-19 update. 8 January 2021. World Health Organisation; 2021.
 - https://www.who.int/publications/i/item/WHO-2019-nCoV-IPC_long_term_care-2021.1
- 97. Centers for Disease Control and Prevention. Preparing for COVID-19 in Nursing Homes. Centers for Disease Control and Prevention; 2020 20 November, 2020. https://www.cdc.gov/coronavirus/2019-ncov/hcp/long-term-care.html
- 98. Psevdos G, Papamanoli A, Barrett N, Bailey L, Thorne M, Ford F, et al. Halting a SARS-CoV-2 outbreak in a US Veterans Affairs nursing home. Am J Infect Control. 2021;49(1):115-9.
 - https://www.ncbi.nlm.nih.gov/pubmed/33157181
- 99. Tan LF, Seetharaman SK. COVID-19 outbreak in nursing homes in Singapore. J Microbiol Immunol Infect. 2021;54(1):123-4. https://www.ncbi.nlm.nih.gov/pubmed/32405290
- 100. Yau B, Vijh, R., Prairie, J., McKee, G., Schwandt, M. Lived experiences of frontline workers and leaders during COVID-19 outbreaks in long-term care: A qualitative study. AJIC: American Journal of Infection Control. 2021. https://www.ajicjournal.org/article/S0196-6553(21)00138-3/fulltext
- 101. Rios P, Radhakrishnan A, Williams C, Ramkissoon N, Pham B, Cormack GV, et al. Preventing the transmission of COVID-19 and other coronaviruses in older adults aged 60 years and above living in long-term care: a rapid review. Syst Rev. 2020;9(1):218. https://www.ncbi.nlm.nih.gov/pubmed/32977848
- 102. Forbes-Thompson S, Leiker T, Bleich MR. High-performing and low-performing nursing homes: a view from complexity science. Health Care Manage Rev. 2007;32(4):341-51.
 - https://www.ncbi.nlm.nih.gov/pubmed/18075443
- 103. Dwyer D. Experiences of registered nurses as managers and leaders in residential aged care facilities: a systematic review. Int J Evid Based Healthc. 2011;9(4):388-402.
 - https://www.ncbi.nlm.nih.gov/pubmed/22093388
- 104. Jeon YH, Glasgow NJ, Merlyn T, Sansoni E. Policy options to improve leadership of middle managers in the Australian residential aged care setting: a narrative synthesis. BMC Health Serv Res. 2010;10:190. https://www.ncbi.nlm.nih.gov/pubmed/20602798
- 105. Havaei F, MacPhee M, Keselman D, Staempfli S. Leading a Long-Term Care Facility through the COVID-19 Crisis: Successes, Barriers and Lessons Learned. Healthc Q. 2021;23(4):28-34.
 - https://www.ncbi.nlm.nih.gov/pubmed/33475489
- 106. Forster BB, Patlas MN, Lexa FJ. Crisis Leadership During and Following COVID-19. Can Assoc Radiol J. 2020;71(4):421-2. https://www.ncbi.nlm.nih.gov/pubmed/32397746
- 107. von Treuer K, Karantzas G, McCabe M, Mellor D, Konis A, Davison TE, et al. Organizational factors associated with readiness for change in residential aged care settings. BMC Health Serv Res. 2018;18(1):77. https://www.ncbi.nlm.nih.gov/pubmed/29390999
- 108. Behrens LL, Naylor MD. "We are Alone in This Battle": A Framework for a Coordinated Response to COVID-19 in Nursing Homes. J Aging Soc Policy. 2020;32(4-5):316-22. https://www.ncbi.nlm.nih.gov/pubmed/32497467
- 109. Fallon A, Dukelow T, Kennelly SP, O'Neill D. COVID-19 in nursing homes. QJM. 2020;113(6):391-2. https://www.ncbi.nlm.nih.gov/pubmed/32311049
- 110. Davidson PM, Szanton SL. Nursing homes and COVID-19: We can and should do better. J Clin Nurs. 2020;29(15-16):2758-9. https://www.ncbi.nlm.nih.gov/pubmed/32281165
- 111. Comas-Herrara A, Zalakain, J. Mortality associated with COVID-19 outbreaks in care homes:early international evidence. International Long Term Care Policyt Network; 2020 12 April 2020. https://ltccovid.org/wp-content/uploads/2020/04/Mortality-associated-with-COVID-12-April-4.pdf
- 112. Siu HY, Kristof L, Elston D, Hafid A, Mather F. A cross-sectional survey assessing the preparedness of the long-term care sector to respond to the COVID-19 pandemic in Ontario, Canada. BMC Geriatr. 2020;20(1):421. https://www.ncbi.nlm.nih.gov/pubmed/33092541

- 113. Quigley DD, Dick A, Agarwal M, Jones KM, Mody L, Stone PW. COVID-19 Preparedness in Nursing Homes in the Midst of the Pandemic. J Am Geriatr Soc. 2020;68(6):1164-6. https://www.ncbi.nlm.nih.gov/pubmed/32343362
- 114. Communicable Diseases Network, Australia. CDNA National Guidelines for the Prevention, Control and Public Health Management of COVID-19 Outbreaks in Residential Care Facilities in Australia. 2021 March 15 2021. https://www.health.gov.au/sites/default/files/documents/2021/03/cdna-national-guidelines-for-the-prevention-control-and-public-health-management-of-covid-19-outbreaks-in-residential-care-facilities-in-australia 0.pdf
- 115. Age Care Quality and Safety Commission. Outbreak management planning in aged care. Aged Care Quality and Safety Commission; 2020 November 2020.
 - https://www.agedcarequality.gov.au/sites/default/files/media/acqsc omp v12.pdf
- Ho FK, Petermann-Rocha F, Gray SR, Jani BD, Katikireddi SV, Niedzwiedz CL, et al. Is older age associated with COVID-19 mortality in the absence of other risk factors? General population cohort study of 470,034 participants. PLoS One. 2020;15(11):e0241824. https://www.ncbi.nlm.nih.gov/pubmed/33152008
- 117. Jin JM, Bai P, He W, Wu F, Liu XF, Han DM, et al. Gender Differences in Patients With COVID-19: Focus on Severity and Mortality. Front Public Health. 2020;8:152. https://www.ncbi.nlm.nih.gov/pubmed/32411652
- 118. Yu Z, Ke Y, Xie J, Yu H, Zhu W, He L, et al. Clinical characteristics on admission predict in-hospital fatal outcome in patients aged >/=75 years with novel coronavirus disease (COVID-19): a retrospective cohort study. BMC Geriatr. 2020;20(1):514. https://www.ncbi.nlm.nih.gov/pubmed/33256640
- 119. Panagiotou OA, Kosar CM, White EM, Bantis LE, Yang X, Santostefano CM, et al. Risk Factors Associated With All-Cause 30-Day Mortality in Nursing Home Residents With COVID-19. JAMA Intern Med. 2021. https://www.ncbi.nlm.nih.gov/pubmed/33394006
- 120. Chinnadurai R, Ogedengbe O, Agarwal P, Money-Coomes S, Abdurrahman AZ, Mohammed S, et al. Older age and frailty are the chief predictors of mortality in COVID-19 patients admitted to an acute medical unit in a secondary care setting- a cohort study. BMC Geriatr. 2020;20(1):409.
 - https://www.ncbi.nlm.nih.gov/pubmed/33066750
- 121. Owen RK, Conroy SP, Taub N, Jones W, Bryden D, Pareek M, et al. Comparing associations between frailty and mortality in hospitalised older adults with or without COVID-19 infection: a retrospective observational study using electronic health records. Age Ageing. 2020. https://www.ncbi.nlm.nih.gov/pubmed/32678866
- 122. Aliberti MJR, Avelino-Silva TJ. Beyond Age-Improvement of Prognostication Through Physical and Cognitive Functioning for Nursing Home Residents With COVID-19. JAMA Intern Med. 2021.
 - https://www.ncbi.nlm.nih.gov/pubmed/33394009
- 123. Rudolph JL, Halladay CW, Barber M, McConeghy KW, Mor V, Nanda A, et al. Temperature in Nursing Home Residents Systematically Tested for SARS-CoV-2. J Am Med Dir Assoc. 2020;21(7):895-9 e1. https://www.ncbi.nlm.nih.gov/pubmed/32674815
- 124. McConeghy KW, White E, Panagiotou OA, Santostefano C, Halladay C, Feifer RA, et al. Temperature Screening for SARS-CoV-2 in Nursing Homes: Evidence from Two National Cohorts. J Am Geriatr Soc. 2020;68(12):2716-20. https://www.ncbi.nlm.nih.gov/pubmed/33034046
- 125. Kennedy M, Helfand BKI, Gou RY, Gartaganis SL, Webb M, Moccia JM, et al. Delirium in Older Patients With COVID-19 Presenting to the Emergency Department. JAMA Netw Open. 2020;3(11):e2029540. https://www.ncbi.nlm.nih.gov/pubmed/33211114
- Helms J, Kremer S, Merdji H, Schenck M, Severac F, Clere-Jehl R, et al. Delirium and encephalopathy in severe COVID-19: a cohort analysis of ICU patients. Crit Care. 2020;24(1):491.
 - https://www.ncbi.nlm.nih.gov/pubmed/32771053
- 127. Mackett AJ, Keevil VL. COVID-19 and Gastrointestinal Symptoms-A Case Report. Geriatrics (Basel). 2020;5(2). https://www.ncbi.nlm.nih.gov/pubmed/32429041

- 128. Ng SC, Tilg H. COVID-19 and the gastrointestinal tract: more than meets the eye. Gut. 2020;69(6):973-4. https://www.ncbi.nlm.nih.gov/pubmed/32273292
- 129. Isaia G, Marinello R, Tibaldi V, Tamone C, Bo M. Atypical Presentation of Covid-19 in an Older Adult With Severe Alzheimer Disease. Am J Geriatr Psychiatry. 2020;28(7):790-1.
 https://www.ncbi.nlm.nih.gov/pubmed/32381283
- 130. Brown EE, Kumar, S., Rajji, T.K., Pollock, B.G., Mulsant, B.H. . Anticipating and mitigating the impact of the COVID-19 pandemic on Alzheimer's disease and related dementias. 28. 2020:712-21. https://pubmed.ncbi.nlm.nih.gov/32331845/ https://pubmed.ncbi.nlm.nih.gov/32331845/
- 131. Wang H, Li T, Barbarino P, Gauthier S, Brodaty H, Molinuevo JL, et al. Dementia care during COVID-19. Lancet. 2020;395(10231):1190-1. https://www.ncbi.nlm.nih.gov/pubmed/32240625
- Wang Q, Davis PB, Gurney ME, Xu R. COVID-19 and dementia: Analyses of risk, disparity, and outcomes from electronic health records in the US. Alzheimers Dement. 2021. https://www.ncbi.nlm.nih.gov/pubmed/33559975
- 133. Li J, Long X, Huang H, Tang J, Zhu C, Hu S, et al. Resilience of Alzheimer's Disease to COVID-19. J Alzheimers Dis. 2020;77(1):67-73. https://www.ncbi.nlm.nih.gov/pubmed/32804094
- O'Neill D, Briggs R, Holmerova I, Samuelsson O, Gordon AL, Martin FC, et al. COVID-19 highlights the need for universal adoption of standards of medical care for physicians in nursing homes in Europe. Eur Geriatr Med. 2020;11(4):645-50. https://www.ncbi.nlm.nih.gov/pubmed/32557250
- Abbasi J. "Abandoned" Nursing Homes Continue to Face Critical Supply and Staff Shortages as COVID-19 Toll Has Mounted. JAMA. 2020;324(2):123-5. https://www.ncbi.nlm.nih.gov/pubmed/32525535
- 136. Bethell J. Social connection in long-term care homes: A scoping review of published research on the mental health impacts and potential strategies during COVID-19. Journal of the American Medical Directors Association. https://doi.org/10.1016/j.jamda.2020.11.025
- 137. Strang P, Bergstrom J, Martinsson L, Lundstrom S. Dying From COVID-19: Loneliness, End-of-Life Discussions, and Support for Patients and Their Families in Nursing Homes and Hospitals. A National Register Study. J Pain Symptom Manage. 2020;60(4):e2-e13. https://www.ncbi.nlm.nih.gov/pubmed/32721500
- Bergman C, Stall NM, Haimowitz D, Aronson L, Lynn J, Steinberg K, et al. Recommendations for Welcoming Back Nursing Home Visitors During the COVID-19 Pandemic: Results of a Delphi Panel. J Am Med Dir Assoc. 2020;21(12):1759-66. https://www.ncbi.nlm.nih.gov/pubmed/33256956
- 139. Verbeek H, Gerritsen DL, Backhaus R, de Boer BS, Koopmans R, Hamers JPH. Allowing Visitors Back in the Nursing Home During the COVID-19 Crisis: A Dutch National Study Into First Experiences and Impact on Well-Being. J Am Med Dir Assoc. 2020;21(7):900-4. https://www.ncbi.nlm.nih.gov/pubmed/32674816
- 140. Dichter MN, Sander M, Seismann-Petersen S, Kopke S. COVID-19: it is time to balance infection management and person-centered care to maintain mental health of people living in German nursing homes. Int Psychogeriatr. 2020:1-4. https://www.ncbi.nlm.nih.gov/pubmed/32393407
- 141. Kaelen S, van den Boogaard W, Pellecchia U, Spiers S, De Cramer C, Demaegd G, et al. How to bring residents' psychosocial well-being to the heart of the fight against Covid-19 in Belgian nursing homes-A qualitative study. PLoS One. 2021;16(3):e0249098. https://www.ncbi.nlm.nih.gov/pubmed/33770110
- Edelman LS, McConnell ES, Kennerly SM, Alderden J, Horn SD, Yap TL. Mitigating the Effects of a Pandemic: Facilitating Improved Nursing Home Care Delivery Through Technology. JMIR Aging. 2020;3(1):e20110. https://www.ncbi.nlm.nih.gov/pubmed/32412909
- 143. Monin JK, Ali T, Syed S, Piechota A, Lepore M, Mourgues C, et al. Family Communication in Long-Term Care During a Pandemic: Lessons for Enhancing Emotional Experiences. Am J Geriatr Psychiatry. 2020;28(12):1299-307. https://www.ncbi.nlm.nih.gov/pubmed/33004262
- 144. Mavromaras K, Knight, G., Isherwood, L., et al. The Aged Care Workforc, 2016. 2017 March 2017. https://agedcare.royalcommission.gov.au/system/files/2020-06/CTH.0001.1001.2805.pdf
- Eagar K, Westera A, Kobel C. Australian residential aged care is understaffed. Med J Aust. 2020;212(11):507-8 e1. https://www.ncbi.nlm.nih.gov/pubmed/32474934

- 146. Xiao LD, Harrington A, Mavromaras K, Ratcliffe J, Mahuteau S, Isherwood L, et al. Care workers' perspectives of factors affecting a sustainable aged care workforce. Int Nurs Rev. 2020. https://www.ncbi.nlm.nih.gov/pubmed/33058198
- 147. Baughman RA, Stanley B, Smith KE. Second Job Holding Among Direct Care Workers and Nurses: Implications for COVID-19 Transmission in Long-Term Care. Med Care Res Rev. 2020:1077558720974129. https://www.ncbi.nlm.nih.gov/pubmed/33213282
- 148. McMichael TM, Clark S, Pogosjans S, Kay M, Lewis J, Baer A, et al. COVID-19 in a Long-Term Care Facility King County, Washington, February 27-March 9, 2020. MMWR Morb Mortal Wkly Rep. 2020;69(12):339-42. https://www.ncbi.nlm.nih.gov/pubmed/32214083
- Ladhani SN, Chow JY, Janarthanan R, Fok J, Crawley-Boevey E, Vusirikala A, et al. Increased risk of SARS-CoV-2 infection in staff working across different care homes: enhanced CoVID-19 outbreak investigations in London care Homes. J Infect. 2020;81(4):621-4. https://www.ncbi.nlm.nih.gov/pubmed/32735893
- 150. Jones A, Watts AG, Khan SU, Forsyth J, Brown KA, Costa AP, et al. Impact of a Public Policy Restricting Staff Mobility Between Nursing Homes in Ontario, Canada During the COVID-19 Pandemic. J Am Med Dir Assoc. 2021;22(3):494-7. https://www.ncbi.nlm.nih.gov/pubmed/33516671
- 151. COTA. Submission to the Royal Commission into Aged Care Quality and Safety. Lessons of the COVID-19 crisis for Aged Care Reform.: COTA Australia (Coucil ob the Ageing); 2020 4 September, 2020. https://www.cota.org.au/wp-content/uploads/2020/09/COTA_Australia_ACRC_COVID-19 Submission No2 Final.pdf
- 152. Davey M. Victoria's aged care system on verge of collapse amid Covid-19 surge, doctors warn. The Guardian Australian Edition. 2020 23 July 2020. Victoria's aged care system on verge of collapse amid Covid-19 surge, doctors warn
- 153. Charlesworth S, Low, L. T. The Long-Term Care COVID-19 situation in Australia. The Long-Term Care COVID-19 situation in Australia. Report in LTCcovid.org, International Long-Term Care Policy Network, CPEC-LSE,; 2020 12 October, 2020. https://ltccovid.org/2020/10/13/updated-country-report-the-long-term-care-covid-19-situation-in-australia/
- 154. Greene J, Gibson DM. Workers at long-term care facilities and their risk for severe COVID-19 illness. Prev Med. 2021;143:106328. https://www.ncbi.nlm.nih.gov/pubmed/33220398
- 155. McGilton KS, Escrig-Pinol A, Gordon A, Chu CH, Zuniga F, Sanchez MG, et al. Uncovering the Devaluation of Nursing Home Staff During COVID-19: Are We Fuelling the Next Health Care Crisis? J Am Med Dir Assoc. 2020;21(7):962-5. https://www.ncbi.nlm.nih.gov/pubmed/32674829
- 156. Blanco-Donoso LM, Moreno-Jimenez J, Amutio A, Gallego-Alberto L, Moreno-Jimenez B, Garrosa E. Stressors, Job Resources, Fear of Contagion, and Secondary Traumatic Stress Among Nursing Home Workers in Face of the COVID-19: The Case of Spain. J Appl Gerontol. 2021;40(3):244-56. https://www.ncbi.nlm.nih.gov/pubmed/33025850
- 157. Adelson P FJ, Peters MDJ, Corsini N, Sharplin G, Eckert M. COVID-19 and the workforce wellbeing of Australian nurses, midwives and care workers. A report prepared for the Australian Nursing and Midwifery Federation. Adelaide, SA: University of South Australia; 2021.