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Ms Jeanette Radcliffe
Senate Select Committee on COVID-19
Committee Secretariat
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20 AUG 2020

Dear Ms Radcliffe

Please see enclosed copy of the final report for the Review of Dorothy Henderson Lodge (DHL) COVID-19 Outbreak, as per my commitment at the 4 August 2020 hearing of the Senate Select Committee on COVID-19.

Yours sincerely


Richard Colbeck

REVIEW OF DOROTHY HENDERSON LODGE (DHL) COVID-19 OUTBREAK

SUMMARY

Setting, outbreak and response

- Dorothy Henderson Lodge is an 80-bed nursing home which is part of a retirement living complex operated by BaptistCare, in Macquarie Park in northern Sydney.
- On March 3rd 2020, the first COVID-19 case at DHL, was diagnosed in an AIN (assistant-in-nursing); four residents and two more staff were diagnosed with COVID-19, over the next 2 days.
- Between 4-6th March, contact tracing, isolation/quarantine and infection prevention and control (IPC) measures were implemented, initially in one wing and then in the whole facility, with advice and support from public health officers from the NSW Ministry of Health and an IPC specialist from the NSW Clinical Excellence Commission.
- These measures included:
 - standard IPC precautions for all staff and essential visitors on entry to the facility and contact and droplet precautions for anyone in close contact with residents;
 - quarantine of residents in their rooms; cessation of visits from family and friends;
 - all permanent carers were presumed to be close contacts and furloughed to home-quarantine; residents were cared for initially by a skeleton staff, later by agency nurses.
 - additional cleaning, waste disposal and food distribution measures were introduced.
- Medical rounds were conducted, almost daily, during the outbreak, initially by an infectious disease physician and, after several days, by a general practitioner.
- Between 8-16th March, four more residents and an agency nurse were diagnosed with COVID-19
- On March 20th the remaining 68 residents, all of whom were thought to be well, were tested empirically for COVID-19; unexpectedly, six had positive PCR results. An agency nurse was diagnosed with COVID-19 on the same day.
- Between 28-30th March four residents in the same wing became ill; three were PCR-positive for COVID-19.
- To April 11th, 17 residents and five staff have had COVID-19 and six residents have died.

Major challenges

Maintaining staff numbers and compliance with IPC precautions

- When the first case was diagnosed, many personal carers stayed away from work and others were distressed and fearful; all were quarantined for two weeks.
- Early in the outbreak, many carers were unfamiliar with the strict IPC precautions and/or the working environment, which was stressful and conducive to IPC breaches.
- Maintaining adequate numbers of agency nurses was difficult and costly.
- Containment and IPC precautions resulted in excessive use of personal protective equipment (PPE) (~800 sets per day) and enormous amounts of waste were generated.

Prolonged quarantine/isolation of residents

- By the end of March, residents who remained free of COVID-19 had been confined to their rooms, without visitors, for more than three weeks. This caused serious adverse effects on their mental and physical well-being, despite attempts to mitigate these effects.

Lessons learnt

- The response of BaptistCare management and staff, to this outbreak, was prompt and thorough. The outcome probably would have been worse in a less well-managed facility with fewer resources and facilities. Spread of COVID-19 is very difficult to control in a household-like residential setting, with highly vulnerable residents.
- All but one of the six residents who died were over 90 years old; eight of 17 who were infected have fully recovered and (on April 13th) three remain PCR-positive and/or symptomatic; three (of 17) PCR-positive residents remained asymptomatic throughout.
- Almost half the cases were (probably) already infected before containment measures were fully implemented; another wave of exposures occurred 1-2 weeks later.
- In managing an outbreak of COVID-19 in an aged care facility, the serious adverse effects of prolonged confinement of residents must be balanced against risks of the disease itself.
- Specialist IPC advice and frequent medical review of residents were essential components of successful management of this outbreak, and a major source of support for staff.

DESCRIPTION OF THE OUTBREAK AND RESPONSE

Setting

Dorothy Henderson Lodge (DHL) is an 80-bed facility, including a 14-bed memory support unit (MSU), in Macquarie Park, Sydney, which is owned and operated by BaptistCare. All residents have single rooms with en-suite bathrooms, balconies and emergency-monitoring systems. The accommodation is divided into six wings on two floors, with shared lounge and dining areas. During the day, nine personal carers (assistants-in-nursing; AINs) and one registered nurse (RN) are on duty for morning and evening shifts; and at night there are three residential care workers and one RN. The staff work in teams, each in one wing, caring for a defined group of residents. The only exception is the RNs, who provide clinical care, including observations and medication rounds, across the whole facility and are in frequent contact with all residents.

Timeline of COVID-19 outbreak.

March 3rd: The first case of COVID-19 at DHL, was in an AIN, who had been intermittently unwell for several days. Her last day at work was 1st March; COVID-19 was diagnosed on March 3rd. She was self-isolated at home. There was no relevant history of travel or contact.

A crisis team of DHL managers supported by public health officers (PHOs) and the infection prevention and control (IPC) manager from Northern Sydney Local Health District, isolated the wing in which the affected AIN had worked and introduced IPC precautions.

March 4-5th: The next day, the IPC manager from the NSW Clinical Excellence Commission took over IPC supervision. The whole facility was closed and, as additional cases were identified, all personal care staff were assumed to have been close contacts and quarantined at home. A skeleton staff of on-site and external BaptistCare managers and other volunteer staff, who had not had close contact with residents, was formed to care for residents until agency staff could be engaged. Residents were confined to their rooms and standard, contact and droplet IPC precautions introduced for staff, when in contact with residents. Enhanced cleaning, laundry and waste collection and food delivery measures were introduced. All personal visits to residents ceased.

Meanwhile, two DHL residents, who had been admitted to Ryde Hospital on March 1st and 2nd, were identified as contacts of the first case and tested on March 4th. One had died the previous day and was tested after death; the other DHL resident died in hospital on March 7th.

Another two residents were diagnosed and admitted to hospital with COVID-19 on March 4th. A registered nurse (RN), who had returned to work from leave on February 28th, became ill the same day, was tested on March 3rd and reported positive for COVID-19 on the 4th. He was a South Korean national but had no recent travel or visitors from South Korea.

On March 5th a DHL office worker was diagnosed with COVID-19. She had minimal contact with residents but was in contact with staff of both DHL and Ryde Hospital.

Precautions and changes to normal operations during the outbreak

Containment and IPC:

All residents were confined to their rooms. Personal visits to residents ceased and only essential external visitors (e.g. PHOs, IPC specialist, medicos) were permitted, with appropriate IPC precautions. Physical distancing among staff was aided by use of tape on the floor in common areas. Alcohol-based hand rub and mask dispensers were placed at the main entrance, the entrance to each wing and other strategic locations. "Rules" for lockdown were indicated by signage.

Staff were instructed to observe standard IPC precautions, at all times, and contact and droplet precautions when in contact (<1.5m) with residents, including use of surgical mask, gown, gloves and eye protection (if contact with body fluid was thought likely). Anecdotally, and despite instructions to the contrary, some visitors and staff used P2 respirators. Later, staff were required to wear surgical masks at all times, because of difficulty confining some residents to their rooms.

Domestic services.

Cleaning: Routine cleaning is centralised for the whole retirement village. Cleaners observe standard precautions and wear appropriate PPE, when inside DHL. Regular cleaning is performed daily, using disposable microfibre mop heads; frequently touched surfaces are wiped frequently with hospital-grade detergent/disinfectant wipes. On March 4th and 31st, external contract cleaners performed enhanced, facility-wide, cleaning and disinfection using a specialised surface coating agent with residual activity.

Laundry: Residents were issued with individual laundry bags, which are collected at the end of each day. Laundry from DHL is washed separately, but otherwise in the usual way.

Food services: Food is prepared centrally, delivered to DHL in bulk and plated on site. Disposable crockery is used during the outbreak, but is inappropriate for some MSU residents, for whom regular crockery is used and washed in the unit's dishwasher. Kitchen staff deliver meals to residents' rooms on a separate trolley for each wing, which is cleaned with detergent/disinfectant wipes, after each round. Carers receive meals at the resident's door. If possible, they combine assisting residents with meals with episodes of care, such as observations, to limit the number of contacts and use of PPE (up to 10 times per day, per resident). The increased workload entailed in individual food distribution was challenging.

Waste disposal: An 'infectious' waste disposal bag, into which all waste is discarded, including used PPE, food waste and disposable crockery, is placed outside each resident's room. Until recently, waste was treated as clinical waste, as an 'abundance of caution', which required specialist collection. In retrospect, this was thought to have been unnecessary. According to national guidelines for disposal of waste from COVID-19 patients, used PPE can be disposed of into regular waste bins.

March 6-8th: Agency nurses were recruited from March 6th. A greater number was needed than the usual staff complement, because of the additional workload. Many were relatively junior and understandably fearful for their own safety. It was acknowledged that it was several days before IPC precautions were properly implemented.

March 8-16th: A resident who was at DHL for respite-care, on March 9th and three more residents between March 13-15th, were diagnosed with COVID-19 and admitted to Ryde Hospital, where one died on March 14th. A care manager who was one of the skeleton staff who cared for residents at the start as also diagnosed on March 9th and self-isolated at home.

March 20-27th: By March 20th all 68 remaining residents had been confined to their rooms for 17 days, without visitors or contact with fellow residents. They were increasingly distressed by prolonged confinement, with some experiencing depression or physical debility, from lack of exercise and social contacts. Although most complied with quarantine, a few wandered out of their rooms, repeatedly, and were often unwilling to return. This was particularly difficult in the MSU because of residents' more advanced dementia and frequent wandering.

It was decided that, if COVID-19 could be excluded, residents could be allowed brief periods of supervised exercise outside their rooms. Therefore, all were tested for COVID-19 on March 20th, although none was thought to be acutely unwell; unexpectedly, five results were positive, and one inconclusive. Review of medical records indicated that two of the six had had mild symptoms (cough and/or fever) during the previous one or two days; they, and three asymptomatic PCR-positive residents, remained in isolation at DHL. Another resident, who was asymptomatic when tested, deteriorated a few days later and died in hospital on March 27th.

An agency nurse who had begun work at DHL on March 8th, became ill on the 16th and was diagnosed with COVID-19 on the 20th. A resident, whom he cared for, had become ill and was diagnosed with COVID-19 on March 12th.

After the unexpected diagnoses on March 20th, the possibility was raised, that PCR-positive residents at DHL might be transferred to another facility, to allow quarantine restrictions to be eased. However, although potential facilities were identified, it was felt that it would be too stressful for residents and families and impracticable to provide adequate staffing.

March 28-31st: Four additional residents in the same wing became ill between March 28-30th. Three were confirmed with COVID-19. One died in hospital, another returned to DHL for palliation, after a brief hospital admission, and died a few days later and the third remained at DHL.

On March 30th COVID-19 care teams were formed, each of two AINs, to care for the four PCR-positive residents who remained at DHL.

Current situation (April 13th): There have been no new cases of COVID-19 among residents or staff, since March 30th. Of the 17 residents who developed COVID-19, six have died (five of whom were over 90 years old), eight have fully recovered. At least five residents were not admitted to hospital and remained at DHL; only one of them is still unwell. Two residents remain in hospital.

IPC precautions remain in place and staff, including RNs, are cohorted within individual wings; there is a dedicated COVID-19 care team for the remaining PCR-positive resident; a symptomatic resident in the MSU is awaiting test results. All residents in four of six wings of DHL are free of COVID-19. They are now allowed to leave their rooms for brief periods for exercise, accompanied by a carer.

The majority of permanent staff have returned to work and employment of agency nurses continues. Visits are still not allowed, but staff encourage and support electronic contact, and, in some cases, in-person contact with physical distancing behind a wire fence.

Next steps: Starting on April 14th restrictions will be further, by allowing residents in the four COVID-19-free wings to spend time together in the kitchenette areas of each wing with appropriate physical distancing and supervision, if required. RNs will be able to move between wings, with appropriate IPC precautions, but personal carers will remain cohorted within individual wings. Arrangements will be reviewed on April 21st.

Origin and spread of the outbreak

Contact tracing, by PHOs, has identified links with cases external to and within DHL, but complex social and professional networks mean that a complete epidemiological description of the outbreak is impossible. In particular, the exact timing - presumably in the second or third week of February - and source of entry of COVID-19 into DHL are unknown. Several DHL residents had been inpatients and DHL staff had contact with staff of Ryde Hospital, where COVID-19 cases occurred before the DHL outbreak began. Preliminary RNA sequencing confirms that the DHL cases are closely related to those at Ryde Hospital and part of a larger community outbreak.

Several residents were already infected or incubating COVID-19, before containment and IPC precautions were implemented. The fact that cases occurred in every wing, can be explained by the fact that, before residents were confined to their rooms, they mixed freely in lounge and dining areas and gardens and RNs provided care to residents in all wings. However, the fact that exposures continued after 'lockdown', suggests significant breaches in IPC. This would have been unsurprising, particularly during the early period of critical staff shortage and considering that agency staff were working under unfamiliar, stressful conditions. Nevertheless, the outcomes could have been much worse. The outbreak was recognised, and containment measures introduced promptly. The number of cases was relatively modest and all but one of the residents who died were over 90 years old.

MAJOR CHALLENGES AND LESSONS LEARNT.

Staffing.

DHL managers identified the major challenge as maintaining adequate staffing. At the start, many permanent staff did not return to work and those that did were, understandably, distressed and afraid, despite reassurance from managers and specialists. As more cases were diagnosed, it was assumed that all personal carers and RNs had been close contacts, so they were furloughed for two weeks' self-quarantine. The sudden departure of almost regular carers and RNs was a major blow to both residents and management. The facility was staffed for several days, by managers and volunteers from other areas of the BaptistCare business, who previously had not had close contact with residents. However, during the first few days of the outbreak, BaptistCare managers were faced with the huge tasks of ensuring adequate care for confused and anxious residents; implementing containment and IPC precautions; arranging recruitment and initiation of agency staff; procuring PPE and other equipment; and communicating with worried relatives and the media.

Agency nurses were provided by Health Care Australia (HCA). More than the usual staff complement was needed, because of the additional workload associated with 'lockdown' and it was often difficult to secure adequate numbers, as many worked part-time and/or at other facilities. In addition, some

were quite junior or overseas trained and, understandably nervous about the unfamiliar setting and risks involved. Some staff had to be flown in from interstate or elsewhere in NSW, adding transport accommodation costs. The total staff costs have been enormous and presumably could not be sustained by a smaller, less well-resourced organisation. Obtaining staff would have been more difficult later in the year, when acute hospitals would be busier and competing for agency staff.

During the early period, the BaptistCare staff were reduced further, when a manager became ill with COVID-19 and another was quarantined, after an asymptomatic resident whom she had been caring for, developed symptoms a day later; there had been only a minor deviation from full PPE (no eye protection). In retrospect, considering the serious staff shortage and minimal risk of exposure, a pragmatic risk assessment might have allowed her to continue working during the (hypothetical) incubation period, so long as she remained well.

Domestic staff were largely unaffected, as they worked in a central services department, separate from DHL and had minimal contact with residents. However, cleaning, catering, laundry and waste disposal procedures were modified, and additional precautions introduced, for DHL.

IPC precautions and use of PPE.

The stringent IPC precautions introduced were consistent with national guidelines and regarded as necessary to limit spread of infection, particularly in the early stages, when there were still many gaps in understanding of the risks and transmission routes of COVID-19. However, they were associated with major burdens on staff and financial costs. The time taken to put on and take off PPE increased staff workload and an estimated 800 sets of PPE were used each day, contributing to enormous the volumes of waste generate. Despite these precautions, new cases were diagnosed up to four weeks after the first, including an agency nurse who became unwell with COVID-19 in the second week. He had been caring for a resident who became ill with COVID-19 on his fifth day at DHL. Because she had been well until then, he was not wearing eye protection. Whether this was relevant to his developing COVID-19 four days later, is unknown, since no details are available other potential exposures. However, not unreasonably, staff were then required to wear safety glasses routinely, when in close contact with residents.

Several informants, including DHL managers, acknowledged that breaches of strict IPC precautions occurred, particularly during the early stages of the outbreak. A review by an IPC specialist from the CEC¹, at the end of March, after the last cluster of cases, identified a number of issues, including: absence of alcohol-based hand rub in places where it should have been; inappropriate placement of waste disposal bags and dirty linen bags; and breaches of standard IPC practices by staff, including variable hand hygiene and use of gloves, wearing of jewellery and incorrect use of PPE.

Social and physical distancing of residents, hospital transfer.

Being confined to their rooms and not allowed visitors was immensely distressing for residents. Although it was also distressing for relatives, BaptistCare management took great care to keep them fully informed and reported that, with few exceptions, they were understanding and co-operative. Staff also made efforts to facilitate contact between staff and relatives by phone, video or text messaging or voicemail, as often as possible. On occasions families would visit outside (e.g. for a child's birthday party) while the resident 'participated' from the balcony. Nevertheless, the absence of physical contact with loved ones and lack of exercise and fresh air seriously affected residents' mental and physical health. Some became depressed, withdrawn or physically deconditioned; some

refused to eat to leave their rooms, when they were later given the opportunity. The visiting general practitioner expressed the view that the effects of prolonged confinement were as great a threat to residents' health and well-being as COVID-19. Balancing these opposing risks to residents is among the many major challenges in management of a COVID-19 outbreak in a residential aged care facility.

Anecdotally, some residents were referred to hospital, contrary to their advanced care directives. This is understandable in the context of a frightening new disease, the consequences of which, for individuals and the community, were – and still are - uncertain. However, it later became clear that seriously ill residents could be safely palliated at the facility, after consideration of their and their family's wishes and the resources of the facility. Several mildly affected residents were also cared for at DHL. Admission to an acute care hospital often can be avoided for residents with COVID-19.

Diagnostic testing and case detection.

All residents were regarded as close contacts of cases and tested if fever or respiratory symptoms occurred. It was assumed, correctly in most cases, that those who remained well were uninfected. However, four PCR-positive residents had no symptoms and three remained well. Symptoms are usually, but not always, a reliable guide to testing in this population.

When COVID-19 is present in the neighbourhood of an aged care facility, active monitoring of residents' health, at least daily, will help identify suspicious cases and ensure prompt testing and isolation. Staff should also monitor their health or be questioned before each shift about fever and respiratory symptoms and tested immediately if symptoms develop. When a case is diagnosed, there should be a high index of suspicion for pre-symptomatic or unrecognised cases.

IPC and medical support during an outbreak.

IPC support: Access to experienced IPC consultants was critical to the management of this outbreak, including initial advice and training of staff and subsequent monitoring of progress. An IPC consultant also assisted in development of the isolation/quarantine de-escalation plan at the end of the outbreak, to ensure that IPC precautions were maintained.

A review of compliance with IPC precautions, after the last cluster of cases. in late March¹, identified and recommended remedial action for a number of breaches of standard IPC practices. Such breaches are not uncommon even in hospital practice and reflect the general inadequacy of healthcare workers' training in IPC and use of PPE. However, they can be particularly problematic for staff and patients (or, in this case, residents) during an outbreak.

Medical support: Soon after the outbreak began, an infectious diseases physician offered his services to help develop and implement an outbreak response. His recent experience of COVID-19 and his confidence and authority must have helped reassure staff and residents. During the first few days he visited the facility, daily, reviewed residents who were unwell and often phoned relatives to report progress or discuss advanced care directives. Subsequently, a locum general practitioner took over this role and has continued almost daily rounds and regular communication with relatives, throughout the outbreak. The presence of an experienced physician or GP is an important component of outbreak management to assist and support carers and nurses.

Issues for consideration in future COVID-19 outbreaks in residential aged care facilities

Staff quarantine: Furlough of all staff who had suspected contact with a case was appropriate, based on limited evidence and experience with COVID-19 and the onset of the outbreak. However, based on the

DHL's experience, a more liberal staff quarantine policy might be considered, in future, as experience with COVID-19 increases. For example, although all permanent carers were assumed to be close contacts of cases, a targeted risk assessment might have allowed some to remain at, or return to work while they remained well, if they could be reassured that they could do so safely and were confident that they could comply with IPC precautions. None of those who were quarantined became ill. This would have relieved the serious pressure on staffing and (one assumes) distress to residents from sudden absence of trusted carers, at the start of the outbreak.

Waiving quarantine also might be considered for a carer who has cared for an asymptomatic resident, who later becomes ill, based on risk assessment of the likelihood of exposure. If the staff member remains well, carefully monitors her health and continues to observe IPC precautions, her continuing to work should pose minimal risk to residents.

Resident quarantine and IPC: The IPC and quarantine precautions implemented at DHL were appropriate at the time. However, heavy workloads due to staff shortages and caring for residents in quarantine make prolonged adherence to IPC precautions challenging, especially when residents are distressed and unable to understand or conform with restrictions. The cautious transition to reduced restrictions, while several COVID-19-positive residents remained in isolation, with dedicated staff teams, appears to have been successful.

Access to an experienced IPC specialist was critical in this outbreak but may not be available to all aged care facilities, especially at short notice. Ideally, COVID-19 outbreak management plans for individual aged care facilities should be developed in advance, with the assistance of an IPC professional and/or an infectious disease specialist, if possible. It should be based on context-specific risk assessment and include consideration of:

- the mental and physical status of residents and their likely ability to conform with quarantine and physical distancing restrictions;
- the number and level of training of staff – including their understanding of basic IPC precautions and use of PPE - and strategies for replacement of staff who become ill or are quarantined;
- physical resources of the facility and potential for physical distancing, quarantine of residents and/or isolation of COVID-19 cases;
- current prevalence of COVID-19 in the local community;
- how the plan should to be modified, as numbers of COVID-19 cases change;
- the serious psychological and physical effects, on residents, of prolonged confinement, lack of contact with loved ones and immobility;
- planning of ways to mitigate these adverse effects e.g. supervised exercise; remote audio/video communication with loved ones etc.

Communication between experts/advisors: It was mentioned in discussions with DHL managers, that, occasionally, instructions or advice from PHOs and the IPC consultant appeared discrepant and was therefore confusing. It was recognised that this reflected heavy workloads, changes of personnel, incomplete information sharing and, perhaps, differences in professional approach and/or experience. Ideally, responsibilities and lines of authority should be agreed proactively to ensure that specialist expertise is recognised and facility managers are included in decision-making.

Conclusions.

The DHL COVID-19 outbreak was the first in Australia and occurred at a time when PCR testing was well-established and community transmission still limited – albeit occurring in the local vicinity of DHL. Compared with reported outbreaks in North America^{2,3} and Europe³, it was relatively contained (24% attack rate). For example, over a four-week period, almost coincident with the DHL outbreak, 171 confirmed COVID-19 cases were linked to a long-term care facility in the USA; 101 of 130 (78%) residents, 50 of 170 staff and 16 visitors were infected and 34 residents died¹. In Canada, an outbreak reportedly caused the deaths of 29 of 65 residents.² As of April 2nd, small outbreaks have been reported in at least 17 aged care facilities in Australia but, so far, with few cases.³

It is clear that BaptistCare is a very professional, well-managed organisation, whose response to this outbreak was exemplary and could provide useful lessons for others. However, there is wide variation in resident profiles, physical facilities, resources and access to expert professional support, between aged care organisations. In addition to implementing Commonwealth and jurisdictional guidelines, for prevention and management of COVID-19 outbreaks, consideration might be given, if it has not been already, to:

- ensuring that all residents have up-to-date advanced care directives;
- engaging an experienced IPC consultant to assist in developing an IPC plan, provide basic training/retraining in IPC and use of PPE for staff and respond to concerns about COVID-19;
- engaging a general practitioner or specialist physician, with experience in IPC and infectious diseases to assist in outbreak planning and implementation.
- providing ongoing regular (e.g. annual) staff IPC/PPE training/retraining.

References

1. NSW Clinical Excellence Commission. Dorothy Henderson Lodge Report. April 2020.
2. Epidemiology of COVID-19 in a long-term care facility in King County, Washington. New Engl J Med. March 27, 2020 DOI: 10.1056/NEJMoa2005412. Available at <https://www.nejm.org/doi/full/10.1056/NEJMoa2005412>
3. Guardian, April 10, 2020 <https://www.theguardian.com/world/2020/apr/09/care-homes-across-globe-in-spotlight-over-covid-19-death-rates>
4. ABC, April 2. Coronavirus cases confirmed in 17 nursing homes in Australia — here's what we know. <https://www.abc.net.au/news/2020-04-02/coronavirus-cases-which-nursing-homes-with-covid-19/12111294>

Appendix. Sources of information.

Information for this report was provided in discussion with several groups and individuals who were intimately involved in the DHL outbreak. I thank them, sincerely, for their generosity, candour and patience in face-to-face meetings, often repeated phone calls or emails. I have tried to synthesise and report the facts and opinions they provided, from different perspectives, as objectively and accurately as possible, and to resolve any apparent discrepancies. This report may need to be modified after they have had an opportunity to review it and correct any misinterpretation or errors. Unsurprisingly, there was little documentation, at this time, to support the information in this report.

- March 20th (1.00-3.30 am). At DHL, with Baptist Care managers: Ross Low (CEO), Allan Waters (General Manager), Anderson Millen (Regional Operations Manager), Sarah Balmer (Care Development Manager) and Melanie Dicks (by Skype, Regional Operations Manager); Kathy Dempsey (Program Manager Healthcare Associated Infections, NSW CEC).
- March 21st (10.00 – 11.00 am) By phone, with Dr James Branley, infectious diseases physician. Nepean Blue Mountains LHD.
- March 21st (1.00-2.00 pm) At NSW Ministry of Health (MOH), with Jennifer Case, Paula Spokes and Shelley Thompson, Public Health Officers.
- March 22nd (3.30-4.30 pm) Teleconference with MOH (Jeremy McAnulty, Christine Selvey, Sean Tobin, Ming Chen, Jennifer Case, Jennie Musto); Northern Sydney LHD (Deborah Willcox, Michael Staff); Aged Care Equality (Ann Wunsch); Kathy Dempsey (CEC).
- March 26th (1.00-2.00 pm) As above plus DHL managers - Allan Waters and Tracy Burling, on-site manager.
- March 30th (5.00-5.30 pm) Follow-up, by phone, with Kathy Dempsey.
- March 30th (7.00-7.30 pm) By phone, with Jo Tallon, Manager of Infection Prevention and Control (IPC) for Northern Sydney LHD.
- March 31st (9.30-10.15 am) April 5th Follow-up by phone with Melanie Dicks as well as several email exchanges to answer additional queries.
- April 9th (2.30-3.15 pm) By phone, Dr Jesse Li, locum general practitioner at DHL.

Lyn Gilbert, April 14th 2020