CHAPTER 9

Outbreaks at Rydges and Stamford hotels

1. Following the commencement of mandatory quarantine at 11.59pm on 28 March 2020, the Hotel Quarantine Program ran 24 hours a day, seven days a week, up until the time that Victoria ceased accepting international arrivals on 30 June 2020.[1] Over that period, in excess of 20,000 returned travellers[2] were accommodated across approximately 20 contracted hotels.[3] From 17 June 2020, Alfred Health was engaged to provide quarantine services in the newly established facility at the Brady Hotel under the 'Health Hotel' model.[4] Alfred Health later expanded its service delivery to a number of other quarantine sites.[5]
2. Prior to the involvement of Alfred Health, there were outbreaks of COVID-19 from two of the 20 hotels; the Rydges Hotel in Carlton (Rydges) and the Stamford Plaza Hotel in Melbourne's CBD (Stamford).
3. Before turning to the details of those outbreaks, I make the observation, again, that best practice in running a healthcare facility, be it a hospital or a quarantine facility, does not guarantee that no infection transmission will occur. But what best practice does provide is that the risk of such transmission is minimised to the greatest extent possible.

What were the outbreaks?

4. The outbreaks of the COVID-19 virus from Rydges and Stamford were described in Chapter 2. But before any analysis of the outbreaks as to why and how they happened, their consequences and lessons of those outbreaks, I shall briefly set out the facts of the outbreaks here.

Rydges outbreak

5. The genesis of the Rydges outbreak was as follows:
   A. On 9 May 2020, a family of four returned from overseas and commenced mandatory quarantine at the Crown Promenade hotel, staying together in the same room.[6] On that same day, one family member became symptomatic and subsequently tested positive to COVID-19 on 14 May 2020. The other three family members became symptomatic between 10 and 12 May 2020, and tested positive for COVID-19 on 14, 17 and 18 May respectively.[7]
   B. On 15 May 2020, following the two initial COVID-19 diagnoses, the entire family was relocated to Rydges.[8]
   C. On 25 May 2020, three people who worked at Rydges began to experience COVID-19 symptoms.[9] This included one member of hotel staff and two security guards.[10] They were each, subsequently, diagnosed with COVID-19.[11] As at 18 June 2020, 17 confirmed cases were linked to Rydges.[12] This included eight individuals who had worked at Rydges[13] (including one hotel worker, a nurse and six security guards),[14] as well as household and social contacts of those staff.[15]

Stamford outbreak

6. And for the Stamford outbreak, it happened thus:

    A. On 1 June 2020, a traveller returned from overseas and commenced a 14-day period of mandatory quarantine at Stamford. On the same day, that person became symptomatic. The traveller was tested for COVID-19 on 3 June 2020 and was subsequently diagnosed with COVID-19 on 4 June 2020.[16]

    B. A security guard, who had been working at Stamford, became symptomatic on 10 June 2020 and tested positive for COVID-19 on 14 June 2020.[17]

    C. On 11 June 2020, a couple returned from overseas and commenced mandatory hotel quarantine at Stamford. On the same day, one of them became symptomatic. On 12 June 2020, the other became symptomatic. Both underwent testing on 14 June 2020 and both were diagnosed with COVID-19, on 15 and 16 June 2020 respectively.[18]

    D. By 13 July 2020, a total of 46 cases of COVID-19 had been epidemiologically linked to the Stamford outbreak.[19] This included 26 security guards and one healthcare worker,[20] as well as social and household contacts of staff members.[21]

7. These outbreaks led to disastrous consequences for the Victorian community. The transmission of COVID-19 from returned travellers to those working within the program and its subsequent proliferation into the community were underwritten by a considerable range of contributing factors.

8. Identifying factors that led to each outbreak, as well as understanding the epidemiological and genomic evidence of the consequences of those outbreaks is the work of this chapter. However, what is contained here is not to be read in isolation from other contributing factors identified in other chapters of this report.

9.1 The designation of a 'hot hotel'

9. Within the Hotel Quarantine Program, certain premises were used exclusively to accommodate returned travellers who had tested positive to COVID-19.[22] Those designated hotels were referred to as 'red hotels' or 'hot hotels'. According to Dr Finn Romanes, Deputy Public Health Commander with the Department of Health and Human Services (DHHS) public health team, the idea of a hot hotel 'is a manifestation of the concept of "cohorting", which is the practice of isolating individuals with an infectious disease together, and separate from others who do not have that disease'.[23]

10. In the initial phase of the Program, there was no designated hot hotel. Instead, hotels accommodating returned travellers as part of the Program had 'red floors' set aside for confirmed COVID-19 cases.[24] In the event that a returned traveller tested positive for COVID-19 during the course of their mandatory quarantine period, they could be relocated to a red floor.[25]

11. During April 2020, returned travellers who had been diagnosed with COVID-19 (and their close contacts) were moved to a single site, Rydges. It appears that it was determined that this site was to be used as a 'hot hotel' because it had been the hotel that received a large number of known COVID-positive returned travellers who had previously been on a cruise ship off the coast of South America.

Support for the idea of establishing a hot hotel

12. On 30 March 2020, Dr Romanes raised a policy proposal of moving positive COVID-19 cases to a 'dedicated hotel for people found to be positive'.[26] On 31 March 2020, he advised Merrin Bamert, Director of Emergency Management at DHHS and later the Commander of Operation Soteria, and others, of Public Health Command's recommendation to cohort positive COVID-19 cases. He noted Prof. Sutton's advice that this should 'ideally be in one hotel only, or if necessary, on one floor of one hotel'.[27]

13. Dr Annaliese van Diemen, Deputy Chief Health Officer (DCHO) confirmed, in her evidence before the Inquiry that she had recommended cohorting positive guests and indicated that the approach had been endorsed by the CHO.[28]

14. Jason Helps, State Controller — Health, stated in his affidavit of 4 November 2020 that the CHO's advice about the use of a single COVID-positive hotel as contained in Dr Romanes's email of 31 March 2020, 'initiated planning for hot hotels'.[29]

15. Notwithstanding the evidence of Dr Romanes, Dr van Diemen and Mr Helps, Prof. Sutton stated that, while he agreed that cohorting guests was a generally sound public health measure, he 'was not consulted about moving positive cases into one hotel floor or to a specific hotel'.[30] In this regard, his evidence is at odds with the content of the contemporaneous email of Dr Romanes (31 March 2020).

Rationale for hot hotels

PUBLIC HEALTH RATIONALE

16. According to Dr van Diemen, cohorting of positive cases, preferably in a single location (in this case, a hotel), is a recognised public health preventative measure.[31] The benefits of doing so include that it:

    A. creates less risk across the system, in this case the Hotel Quarantine Program, because the measure separates unwell or infectious people from those who are susceptible and, therefore, decreases the number of susceptible people to whom the infection can spread

    B. decreases the number of staff who are potentially exposed to infectious people

    C. allows for a higher concentration of medical and support staff to be allocated to the cohort in light of their higher risk of deterioration and potential need for medical attention.[32]

17. On 7 April 2020, Dr Romanes, in an email to Braedan Hogan, Agency Commander of DHHS, endorsed the idea of using the Novotel South Wharf (Novotel) hotel to cohort COVID-positive guests. He noted, in particular, that the approach:

> … has many advantages from a public health risk management perspective and is — as long as logistics can be handled — the favoured public health model. This approach reduces the low (but material) risk that, as a result of detaining well individuals in a hotel, we then create a risk that they acquire COVID-19 from the environment of the hotel …[33]

18. Dr Simon Crouch, Senior Medical Advisor, Communicable Diseases Section at DHHS, gave evidence that, in his opinion, it was 'not unreasonable' to have a hot hotel in order to minimise the risk of further transmission to others in quarantine.[34] While any returned traveller should be managed as a suspected positive case, he explained that cohorting offered the best option for oversight and public health management.[35]

19. In his statement to the Inquiry Prof. Sutton agreed that, from a public health perspective, 'combining positive cases into one location is generally a sound approach from an IPC [infection prevention and control] perspective as it minimises the risk of transmission created by positive cases being accommodated with people who have not been exposed'.[36]

20. Professor Lindsay Grayson, Professor of Infectious Diseases at Austin Health, also gave evidence to the Inquiry about the approach to cohorting taken in hospitals. He gave evidence that, ideally, and even within a ward of known positive cases, all cases would be kept separate due to the potential risk of exposing a patient to a different strain of the same virus, however, in some instances, this is not possible. In these cases, the hospital will attempt to cohort, 'that is, we cluster known infected cases together, where as best as we can tell they have an identical infection and so they are not going to pose a risk to each other'.[37]

OPERATIONAL RATIONALE

21. Prof. Sutton also gave evidence that the establishment of a hot hotel had operational benefits.[38] He noted this:[39]

> Creating a COVID-19-positive hotel, or a 'hot hotel' was intended to mitigate the current circumstances where COVID-19-positive people occupy a floor of each hotel, so that other rooms cannot be used for persons not COVID-19-positive.

22. Mr Hogan observed, in email communication to Dr Romanes on 7 April 2020, that the current model of using 'red floors [was] taking out hotel capacity from the overall system' and that they were proposing the Novotel as a hot hotel at that time in order to 'release capacity in the system, stand up a suitable model of care in one location to support these positive cases and negate issues with exiting'.[40]

23. Kym Peake, former Secretary to DHHS, gave evidence that it made sense, rather than having hot floors dispersed across multiple hotels, 'to have a hotel where there was clear knowledge ... about the positivity [sic] of the clientele'.[41]

Designation of Rydges as a hot hotel: whose decision was it?

24. On 27 March 2020, agreement was reached for 95 rooms at Rydges to be allocated for use in the Hotel Quarantine Program.[42] On or around 30 March 2020, that agreement was formalised in writing and executed.[43] On 1 April 2020, the Department of Jobs, Precincts and Regions (DJPR) received information from staff at Rydges about its service offering, in particular its food offering, staffing levels and security practices.[44] This communication did not include any information about the suitability of Rydges to accommodate a concentration of COVID-19-positive guests.

25. On 31 March 2020, Andrea Spiteri, State Controller — Health at DHHS, contacted Claire Febey, Executive Director for Priority Projects at DJPR, in search of a hotel that could accommodate a homeless person who had tested positive for COVID-19. She was advised, on the same date, that the request was beyond the scope of the current contracts and that the hotels had refused to accommodate the homeless man.[45] Ms Spiteri told the Inquiry:

> On 1 April 2020, [DHHS] worked further with DJPR who subsequently advised that the Rydges Carlton would be stood up as a COVID positive hotel from 2 April 2020. I do not know who decided Rydges Carlton would be the best option to be designated the COVID-19-positive hotel.[46]

26. On 2 April 2020, Ms Febey confirmed, by email to Mr Hogan and Ms Spiteri, that Rydges had been 'activated' to take confirmed COVID-19 cases from that evening, including a person who needed immediate accommodation.[47] She noted that 'this hotel is set up to receive confirmed cases from the general community that are expected to comply with their isolation'.[48]

27. On 4 April 2020, in an email to the State Control Centre (SCC), Mr Hogan, Mr Helps and Ms Spiteri, Ms Febey wrote:

> We had some great conversations with Andrea [Spiteri] and Braeden [Hogan] this week and activated Rydges as a property that will take confirmed COVID-19 cases from the community (e.g. family violence context, no other appropriate place to self-isolate).[49]

28. By 7 April 2020, DHHS had become aware of the repatriation flight from Uruguay that may be arriving in Australia carrying cruise ship passengers.[50]

29. On 8 April 2020, Ms Febey (by email to Mr Hogan, the SCC, Ms Spiteri and others) stated that agreement had been reached that Rydges would, that day, take its first confirmed COVID-19 case and 'it will be kept for the purpose of accommodating confirmed cases from both Operation Soteria and the community'.[51]

30. On 8 April 2020, Mr Hogan sent an email to Denise Ferrier, Executive Lead, DHHS, and staff, including those officers at the State Emergency Management Centre (SEMC), stating:

> [W]e have agreed with Public Health Command to stand up a hotel to contain COVID positive cases to streamline the care needed — instead of spreading it out across 14 hotels.[52]

This email, which was only produced to the Inquiry in early November 2020, suggests that the public health team was, in fact, involved in the decision to stand up a hot hotel.

31. By 9 April 2020, it was identified that the cohort of travellers from Uruguay was from the Greg Mortimer cruise ship, that a significant proportion of the group had contracted COVID-19 or were close contacts of people who had tested positive for COVID-19[53] and that they were predominantly older Australians.[54]

32. On the same day, there was correspondence between senior DHHS officials as to how to accommodate these returning travellers. Ms Peake indicated, by email, that the Premier had expressed a preference that they use a hotel near the airport to accommodate the returning travellers, rather than a hotel in the CBD.[55]

33. Melissa Skilbeck, Deputy Secretary Regulation, Health Protection and Emergency Management at DHHS, responded:

> We have one contracted hotel who is ready willing and able to accept COVID-positive guests — Rydges Swanston Street. At this late stage of planning, it would be risky to seek to convince another hotel to contract to take such guests.[56]

34. Ms Peake gave evidence that, following these emails, she had conversations with both Ms Skilbeck and Simon Phemister, Secretary of DJPR, about the risks of establishing and staffing a new hot hotel at short notice. Her evidence was that Mr Phemister agreed to advise the Premier's Private Office that it would not be prudent to try and contract a different hotel at that late stage.[57]

35. Pam Williams, Commander Operation Soteria, DHHS, also explained that there was a general reluctance among a number of participating hotels to accommodate a concentration of COVID-positive returned travellers. She stated that only two hotels indicated a willingness to accommodate such a cohort. Rydges was one of those hotels.[58]

36. According to Dr van Diemen, the decision to use Rydges as a 'hot hotel' was made by the Emergency Operations Centre.[59] The Emergency Operations Centre was, of course, a facility set up by DHHS to manage Operation Soteria.[60] She told the Inquiry that she was first informed that Rydges had been selected as the designated hotel by Ms Skilbeck in the email of 9 April 2020.[61]

37. On 10 April 2020, Mr Hogan noted, during the Operation Soteria meeting at the SCC, that 'Rydges will be a COVID-19 positive [sic] with the Uruguay flight.'[62] In the same meeting, Ms Febey observed:

> In terms of the Rydges Hotel taking the Uruguay passengers, which consists of some COVID-19 confirmed cases. DHHS will lead this service, DJPR will not have the usual on-ground presence but will provide advice on what it can help with.

38. Ms Peake gave evidence that DJPR provided advice to DHHS about Rydges being available to be used as a hotel for COVID-positive returned travellers.[63] However, she also acknowledged that the successful quarantine of the Greg Mortimer cohort impacted the decision to thereafter use Rydges as a hot hotel.[64]

39. However, documents provided to the Inquiry following the conclusion of public hearings demonstrate that, on 27 April 2020, Ms Williams sought assistance with coordinating the movement of COVID-positive passengers to Rydges and that it was at that time she had formed a plan to move all guests to Rydges to 'provide a better more coordinated service to them'.[65]

40. The evidence demonstrated that Rydges was, initially, identified as a site that could be used to house members of the community who needed support to self-isolate. However, with the influx of COVID-positive cases and their close contacts from the Greg Mortimer, Rydges became a convenient option for that group as well.

41. This was not necessarily because it was considered a particularly suitable site for the purpose, but due to a number of factors that developed gradually. It seems that it was of critical importance that Rydges had indicated a willingness to take on those guests. It was available in early April to accommodate the group of returned travellers from the Greg Mortimer cruise ship, many of whom were known to have tested positive for COVID-19. This group was accommodated at Rydges.

Implications of uncertainty about the decision-making chain: Rydges chosen as a 'hot hotel'

42. As outlined above, there were several documents that indicated the decision to use Rydges for COVID-positive returned travellers, as well as other members of the community, was a decision made between 8 and 10 April 2020.[66] However, Ms Williams gave evidence that the DCHO only 'agreed' to house all COVID-positive guests in a single hotel (to improve operational efficiencies and focus support for those guests) much later, on 22 April 2020.[67]

43. Ms Williams's email of 27 April 2020 supported this, demonstrating that it was only at that time that a plan was being formulated to move all current COVID-positive guests housed in other hotels to Rydges.[68] That plan was being conveyed to Dr Crouch of the public health team but it does not appear from the correspondence that his input was being specifically sought.[69] Rather, Ms Williams was seeking information from him to support the logistics of the exercise.

44. There were no documents before the Inquiry that clearly documented the decision, the reasons for it or the identity of who made the decision to use Rydges to cohort returned travellers who had tested positive for COVID-19 (as opposed to people from within the community).[70] The uncertainty about the decision and the basis on which it was made suggested a lack of clarity about responsibility for decision-making in respect of hotels: what hotels were to be used, and for what purposes, or by which designation?

45. Given the public health consequences of concentrating, in a single location, people who were known to have tested positive for COVID-19, the decision to select Rydges for that purpose was a critical one. It required careful thought, and a weighing up of the criteria for making such a decision that should have included, as a minimum, an expert opinion as to the infection prevention and control aspects of the facility.[71] The responsibility for that decision and reasons for taking it ought to have been clear and capable of being produced to the Inquiry.

Consultation regarding infection prevention and control at Rydges

46. Dr van Diemen gave evidence about the measures taken, generally, to ensure that hotels and staff had adequate infection control measures in place across the Hotel Quarantine Program. Chapter 7 provides more detail as to the policy documents developed by DHHS. Dr van Diemen identified that DHHS had provided infection prevention and control advice that was in line with the nationally agreed standards set by the Australian Health Protection Principal Committee (AHPPC).[72] She also gave evidence that, in late March 2020, she formed the view that the Hotel Quarantine Program policy on personal protective equipment (PPE) and infection prevention and control (IPC) needed to be more coordinated and systemised. And so she established a new Infection Prevention and Control Cell (IPC Cell) led by a public health physician and comprising infection control consultants.[73] This represented an expansion from the single infection prevention consultant available earlier in 2020, at the start of the pandemic.[74] The structure of the IPC Cell is introduced in Chapter 7 and discussed in greater detail in Chapter 8.

DEVELOPING A MODEL OF CARE FOR RYDGES

47. On 1 April 2020, during an Operation Soteria meeting at the SCC, DJPR requested guidance from DHHS about cleaning practices for quarantine hotels.[75] That same day, Mr Hogan sent an email to Ms Febey indicating that he would collate the questions DJPR had about cleaning standards in the hotels, including whether there were different standards required for cleaning when a guest was known to have tested positive for COVID-19, and 'seek advice from Public Health if needed'.[76] Mr Hogan subsequently escalated questions and sought guidelines from Public Health Command (PHC), via Dr Crouch, on cleaning requirements for quarantine accommodation.[77]

48. On 2 April 2020, and in response, Dr Clare Looker, Deputy Public Health Commander, DHHS, provided the SEMC with a link to the Commonwealth's publicly available guidance on COVID-19 for hotels and hotel staff.[78] In her witness statement, Dr Looker noted that she had copied the DHHS infection prevention and control consultant in this email, on the basis they may have been able to provide additional resources to guide the hotels.[79] There was no evidence that the deployment of additional resources was, in fact, prompted by this email.

49. On 7 April 2020, in the context of seeking endorsement for the idea of a 'hot hotel', Mr Hogan sought input from Dr Romanes, asking: 'are there any key considerations about the model of care we need to stand up? Or preferences — do we link in with a single hospital to support etc?'[80] Dr Romanes did not respond to that question.[81]

50. However, Ms Bamert responded, saying, 'we have done this work already' and went on to discuss arrangements that were in place to transfer unwell people from hotels to hospitals.[82] In her oral evidence, Ms Bamert elaborated on her response to the email. She indicated that, by her response, she had wanted to convey to Mr Hogan that there was a process in place to escalate the movement of people from the hotel to hospital if required.[83] It was apparent from her evidence that she had not intended to convey to Mr Hogan that a model of care for a hot hotel had been identified, or that the work as to 'key considerations' had been done already.

51. On 8 April 2020, via the COVID-19 Project Management Office and its executive lead, Denise Ferrier, Mr Hogan, again, made enquiries about establishing a model of care for guests in the hot hotel. He initially stated, 'I am keen to develop and implement a model of care for these patients that will adequately support them and also link into a hospital for escalations if required'.[84] In a later email he elaborated on the matters he thought the model need to cover, stating:

> From my perspective we need to ensure adequate level of care for the COVID positive patients
>
> - Resolve who the primary physician over seeing there [sic] care is
> - Requirements for support in the hotel and systems to support this
> - Escalation points and support from which hospital
> - Supplies and consumables preferable from a hospital so cuts us out of the supply chain[85]

52. There were no documents before the Inquiry that showed what response, if any, Mr Hogan received to this request. I, therefore, infer there was no documented response. While Mr Hogan's affidavit notes that he sought to have a model of care developed as identified in the emails, it is silent as to whether that actually occurred.[86]

53. On the same day, 8 April 2020, Ms Febey sought information about the specific practices to be put in place at Rydges. Ms Febey asked whether there would be 'any additional requirements for the service model (e.g. additional security, people housed on different floors)' and sought confirmation about cleaning requirements as follows:[87]

> - Cleaning requirements for rooms once vacated, specifically those that have had confirmed COVID-19 cases.
> - Whether the disposal of rubbish should be treated any differently in hotels that are housing quarantined or isolated guests. We have been advised through hotels that in NSW this is treated as medical grade waste.
> - Any other steps that are required from a DHHS perspective before rooms are returned to general stock.

54. Mr Hogan replied to this email and noted 'DHHS is developing a more robust model of care for this hotel and linked in with a Hospital'[88] and provided two documents with information, but that was limited to information about cleaning requirements only. Mr Hogan referred Ms Febey to page 25 of the *Guidelines for health services and general practitioners* (v 17 5 April 2020), which provided information on 'environmental cleaning and disinfection in an outpatient or community setting (for example a general practice.)'[89] He also included DHHS guidelines on *Cleaning and disinfecting to reduce COVID-19 transmission — Tips for non-health care settings* (20 March 2020). Mr Hogan indicated this information would 'work for every space **aside from those with COVID positive people in the rooms** (emphasis added)'.[90]

55. Mr Hogan's email to Ms Febey was copied to Ms Spiteri, Deputy State Controller Chris Eagle, Ms Williams and Director Health and Human Services Regulation and Reform, Meena Naidu. However, it was not copied to any members of PHC or the IPC Cell.

56. It was unfortunate that Mr Hogan's prompting on the model of care did not draw substantive responses from those to whom it was directed. For those responsible for the standing-up and operating of the hot hotel, this was an opportunity lost. Had minds turned — collectively or individually — to the types of considerations commensurate with concentrating known cases in the one location, the model may have had the necessary improvements to it prior to the outbreaks. What was subsequently observed, in the wake of the Rydges outbreak, demonstrated obvious shortcomings, especially around infection prevention and control measures and practices at that location.

57. This decision to implement a cohorting model at a dedicated hot hotel provided a distinct opportunity to reflect on the systems that were then in play across the Program, with a focus specifically on the known risk posed by confirmed positive cases (as opposed to merely presumed positive cases, as should be the case in any quarantine program). Mr Hogan seemed, at least in part, alive to that issue. Notwithstanding his raising it expressly, it appears to have passed others by.

58. The evidence leads me to the conclusion that there was no meaningful response by anyone within Operation Soteria or the public health team to the issues raised by Mr Hogan or Ms Febey, specifically key considerations about the model of care needed in the context of cohorting COVID-positive travellers in the one place. Indeed, it would appear that, beyond the question being posed by Mr Hogan, and raised again in correspondence with the COVID-19 Project Management Office and Ms Febey later in April, that no further consideration was given to that question until, at the earliest, the advent of the health hotel model with the involvement of Alfred Health in mid-June.

59. There was no evidence available to the Inquiry that a 'model of care' specific to Rydges was ever established or implemented despite this having been the intention of both DHHS and DJPR staff at early points in the process of identifying and standing up a hot hotel.

INFECTION PREVENTION AND CONTROL ADVICE

60. Ms Peake gave evidence that, around the time that it had been determined that Rydges would be a hot hotel, an IPC expert was engaged to provide advice and that the IPC Cell gave assurances that what had been recommended was appropriate.[91] She went on to explain that DHHS commissioned advice from Infection Prevention Australia (IPA) that, in her view, involved:[92]

> ... a risk assessment about operationalising health and wellbeing services and entering and exit and the IPC measures that were important for that hotel and that was the advice that we relied on.

61. DHHS's Infection Prevention Consultant provided evidence that, on 10 April 2020, she was copied into an email from the Deputy Manager, Emergency Operations at DHHS, explaining that Rydges had been designated as the COVID-positive site. It was requested that an Infection Prevention Consultant from DHHS attend Rydges on Sunday 12 April 2020 to provide a briefing to nurses and General Practitioners working on-site.[93]

62. DHHS's own Infection Prevention Consultant gave evidence that she did not have capacity, at that time, to meet the request and instead provided the contact details of a private IPC consultant from IPA.[94]

63. The IPC consultant from IPA subsequently conducted a site visit to Rydges on 11 April 2020.[95] The visit resulted in a number of recommendations being made.[96] Those recommendations were circulated to the IPC Cell, the SEMC, Dr Romanes and Coralie Hadingham, Acting Manager Emergency Operations at DHHS. They included recommendations that: [97]

A. passengers disembark in groups of two and undertake the check-in and medical history process over the phone once in their rooms to reduce risk of exposure for healthcare workers and staff

B. there be a donning and doffing station on each floor

C. all staff, on entering the building, be required to change into their provided uniforms

D. there be no movement of clients out of their room for the 14 days as this created a high-risk of exposure to healthcare workers and other staff.

64. Email correspondence between operational staff, including Mr Helps, on 12 April 2020, confirmed that the IPA consultant had been engaged to 'support the onboarding of Rydges hotel' and had informed operational staff that 'all nurses are feeling confident and comfortable with the current arrangements (from an infection control perspective). Nurses are clear on the process of physical distancing, donning and doffing of PPE, and process for undertaking health assessments'.[98]

65. On 5 May 2020, IPA provided a further document titled *Summary of findings — Review of Hotel accommodation for OS travellers in quarantine*. This included a review of PPE practices across the quarantine hotels and a discussion of a subsequent visit to Rydges to 'ensure staff are well prepared for the quarantine of any future confirmed cases of COVID-19'.[99] It is not clear when the subsequent site visit was undertaken. The document noted concern among staff about the allocation of healthcare workers at the site and included concerns that staff were not rostered to work at the same hotel during a 14-day period and that some staff were junior and had not worked in the Hotel Quarantine Program previously or were inexperienced in donning and doffing.[100]

66. IPA made two further recommendations, which focused on ensuring nursing staff be allocated to the same hotel for a minimum of 14 days to cover the entire quarantine period and that only staff who demonstrated competence in donning and doffing be rostered. IPA's review concluded:[101]

> ... there are no other recommendations that I could make to improve the position of the hotel in accepting confirmed cases. **It does however rely on all staff working in the service to comply with policy and procedure** (emphasis added).

67. Ms Bamert gave evidence that, on receipt of IPA's report, DHHS met with security services provider, Unified, and provided it with a copy of the document *PPE advice for hotel security personnel for COVID-19 quarantine clients*.[102] DHHS also contacted Your Nursing Agency and requested that it 'attempt to reduce the movement of staff across hotels' but this was to be 'balanced with ensuring we were able to staff the hotels'.[103]

68. Given the decision to cohort positive cases at Rydges, IPC expertise should have been embedded at the hotel to oversee the necessary measures and monitor what was happening. That was not done. I note, in particular, evidence from the following witnesses in this regard:

A. Dr Stuart Garrow, Clinical Lead Medical Practitioner for Onsite Doctors, who provided clinical services at various hotels, including Rydges, gave evidence that 'a clear line of command for infection control was not available' and that relevant policies, standards and arrangements were adapted from hospitals and general practice where doctors and nurses had worked outside the hotels.[104]

B. Dr van Diemen, who gave evidence that, while she had responsibility for the availability of IPC advice and guidance, she did not have accountability for or any direct understanding of its implementation.[105]

C. Dr Romanes, who gave evidence that, despite his role in developing policies and procedures for the Hotel Quarantine Program, he was not involved in overseeing IPC and, therefore, was unaware of whether specific control measures were in place, generally, or at Rydges.[106]

D. The Infection Control Consultant, DHHS, who gave evidence that while she was involved in the preparation of IPC practices and procedures they held no formal role in the Hotel Quarantine Program and were not involved in the implementation of infection control policies on the ground.[107]

Training was not sufficient

69. Ms Peake gave evidence that, on 11 April 2020, the Department decided that all hotel staff at Rydges, including security, would do a 'short tutorial on infection prevention, organised by DHHS'.[108] Ms Bamert's evidence was that a PPE briefing had been arranged 'for GPs and nurses working at the Rydges Hotel'.[109] However, the email of 12 April 2020, referred to above at paragraph 61, indicated that any briefing carried out by the IPA consultant was only provided to nursing staff. Further, the evidence was that the nurses were supplied via agencies and, consequently, were not necessarily being present for episodic training.

70. It was, therefore, unclear whether Ms Peake and Ms Bamert were speaking of the same training in these parts of their evidence. If so, it would seem to be incongruent that Ms Bamert would describe the training being delivered to GPs and nurses only, while Ms Peake thought that it was delivered to 'all staff' including security and hotel staff. In any event, for the reasons that follow, it is not necessary to resolve this discrepancy. It was clear from the findings of the outbreak squad's investigations that the training was not sufficient in the initial phase[110] of the Program, or thereafter, at Rydges or Stamford. Given there were no general safety audits being conducted across the quarantine sites, it is not possible to know how widespread the issues were.

71. Email correspondence from 10 April 2020 suggested that the PPE briefing for GPs and nurses was arranged at their, and not DHHS's, request.[111] Another email about the arrangements for that PPE briefing on around 11 April 2020 said 'Training was raised in our conversation but I have left that with the [DHHS Team Leader] and the [IPA Consultant] to work through'.[112]

72. Rosswyn Menezes, General Manager at Rydges, gave evidence that, on 11 and 12 April 2020, DHHS IPC staff visited the site and showed him, as well as a limited number of his staff, how to don and doff PPE and told them to pass this information on to other staff.[113] He gave evidence that, in the following weeks, there were ad hoc occasions when on-site nurses would provide refreshers on how to don and doff PPE but that, to his knowledge, the only training the hotel staff received from DHHS was in relation to donning and doffing.[114]

73. It was Ms Spiteri's evidence that there were 'ongoing reminders' and there was 'ongoing training' for staff in the hotels. She said that the staff in the hotels were 'occasionally refreshed' but that the IPC consultant 'had spent quite a bit of time in the Rydges Hotel retraining new security staff in particular, that had come into that environment'.[115]

74. Ms Spiteri observed:

> So, while I was satisfied that the appropriate and most up-to-date infection prevention and control measures were in place, it was a constant education process. We have seen that in hospitals and in other settings as well, that you need to continually refresh that education and training to keep it at the forefront of people's minds, particularly when they are working in environments for a long period of time.[116]

75. IPA's review of Rydges, dated 5 May 2020, noted that '[o]n entry to the hotel, security staff were not wearing PPE as is the recommendation. This is a major improvement'.[117] It went on to say, 'the Health care teams compliance with PPE and HH [hand hygiene] has been excellent, and they are working to educate the security and AO [Authorised Officer] staff about appropriate PPE and HH'.[118]

76. Ms Peake described the review as being 'generally positive' while drawing attention to 'overuse of PPE and gaps in hand hygiene by security guards'.[119]

77. On 13 May 2020, the head contractor for security at Rydges stood down its entire security team.[120] It was Ms Peake's evidence that the impetus for this was complaints from healthcare workers and departmental staff at Rydges that security guards were overusing PPE and not observing social distancing requirements.[121] It was unclear whether the IPA consultant, or anyone else, was brought in at this time to provide training to the new cohort of security guards at Rydges. Ultimately, it was noted in the Outbreak Management Report for Rydges that the risk of transmission the site posed was due to 'inadequate education and cleaning procedures' in place.[122]

78. On 17 June 2020, three days after the first reported diagnosed case in a worker from Stamford,[123] Outbreak Squad nurses attended Stamford and prepared an interim report.[124] There were a number of matters raised, including that hotel personnel and security were not adequately educated in simple things such as hand hygiene and PPE use.[125] Dr Sarah McGuinness, Outbreaks Lead at DHHS, said that those matters, as identified in the outbreak squad report, would have increased, or, at least, would not have sufficiently guarded against, the risk of COVID-19 transmission at Stamford.[126]

79. There was also evidence that (notwithstanding the outbreak at Rydges on 25 May 2020)[127] it was only following the outbreak at Stamford on 14 June 2020[128], that face-to-face training was provided to 87 security guards. A summary report of the training session, conducted on 24 June 2020, noted:

> ... for most this was their first face-to-face training in this area, some who had been working for several weeks had only just completed online training of which they indicated to me personally that they did not totally comprehend the learning.[129]

80. It was apparent that infection prevention control advice and PPE training provided to those staffing the Hotel Quarantine Program (including at the 'hot hotels') was insufficient to guard against the risk posed by those environments, particularly at the time of their establishment. It was also apparent that more appropriate training was only provided after the outbreaks had occurred at Rydges and Stamford.

81. The evidence before the Inquiry did not provide a clear picture of what training was provided to who and when at Rydges as there were no documents provided to make it clear, and conflicting evidence from witnesses. Even accepting that training was provided to security and hotel staff, as well as nurses and GPs, at about 11 April 2020, the benefit of any such training was quickly lost. As noted above, the evidence plainly established that, by 13 May 2020, the head contractor at Unified, responsible for staffing the security guards at Rydges, stood down the entire security team that had been working there.[130] If any security guards had received the 'short tutorial on infection prevention organised by DHHS'[131] or benefitted from follow-up visits by the IPC consultant, the benefits of such training were lost to Rydges almost immediately.

82. In any event, and as Ms Peake said when asked, based on what transpired in the Hotel Quarantine Program, it would be prudent to have an IPC expert at each premises used for quarantine in the future.[132]

83. Furthermore, as many staff and personnel working in the Hotel Quarantine Program were engaged on a rotating rostered basis until at least 28 May 2020, the provision of a single training session, provided on a single date, was inadequate to mitigate against the risks posed by not only a 'hot hotel' environment, but any quarantine hotel. I described the particular challenges that security guards, as a cohort, posed to implementing proper infection control measures within a quarantine environment in Chapter 6 of this Report. The casualised nature of security guards, the manner in which large numbers of security guards could be sourced and stood up quickly, meant that there could be a different set of guards at each hotel each day. Every guard rostered on from time to time, should have had the benefit of that training.

84. While the matters described above specifically relate to the training and advice provided at Rydges and Stamford, there was evidence of systemic issues in the delivery of training and guidance to security guards and others working on other hotel quarantine sites.

85. There was evidence that indicated that even nurses and GPs working in the hotels were not given adequate infection prevention advice and guidance. On 8 June 2020, Dr Garrow noted that there was 'some debate amongst the doctors and nurses around PPE practices'. He requested a copy of DHHS policy on PPE and infection control procedures for use in the hotels and asked that an IPC officer meet with the doctors to discuss those issues.[133] He was subsequently provided with a copy of the *PPE Advice for Health Care Workers Policy*. It was unclear whether a member of the IPC Cell or the IPA consultant ever attended a meeting with the doctors as was requested.

86. Further, the DHHS Infection Control Consultant gave evidence that it was not until 16 June 2020 that updated cleaning advice, specifically for hotels accommodating quarantined close contacts and confirmed COVID-19 guests, was prepared and issued.[134] It was, then, not until 20 June 2020 that the DHHS IPC Cell prepared version 0.1 of the *DHHS COVID-19 Infection Prevention and Control Training — Security Guards.*[135] This training program was described in email correspondence from the time as being an 'interim measure (pending Alfred coming on board) to address an immediate identified need.'[136]

87. This evidence combined to demonstrate that there was little specific attention paid to developing and implementing sound IPC practices at Rydges during the set-up phase, that there was insufficient contribution by PHC or infection control experts to the design of Rydges as a 'hot hotel' and that there was insufficient training provided by DHHS to relevant security and hotel staff and personnel working in these high-risk environments.

Additional safeguards required in a 'hot hotel' environment

88. Prof. Grayson explained that quarantine environments are self-evidently 'dangerous spaces'. He opined that 'the rigour and processes in place need to reflect and reinforce this'.[137]

89. The 'danger' is increased in a cohorted, 'hot hotel'.

90. Following the outbreaks, Prof. Sutton formed the view that a COVID-positive hotel 'clearly represented a risk of transmission from quarantined individuals to contracted staff'[138] and agreed that the risk was greater than that posed by a 'pure quarantine hotel'.[139]

91. There was a general consensus among (both medical and lay) witnesses that they understood the concentration of positive cases in one location posed a greater infection risk, in particular to staff, than was posed at other quarantine hotels.[140]

92. Prof. Grayson identified the quantum of risk by reference to a broadly analogous setting: a COVID ward of a hospital.[141]

93. Dr Crouch noted that the starting premise for people in hotel quarantine was that they should all be treated as being potentially positive,[142] and 'therefore the precautions being taken in those environments should be essentially the same'.[143] This comparison can only be sensibly understood to mean that infection controls across all quarantine facilities should be as required for a known COVID-positive environment.

94. Dr Crouch expected that hot hotels (and by logical extension, all quarantine sites) would have appropriate cleaning practices[144] and that staff would not work across multiple sites.[145] He stated that 'having a hot hotel wouldn't negate the fact that you need to be doing suitable environmental cleaning or whatever measures as appropriate for that potential for environmental transmission'.[146]

95. Dr Crouch said that had he been consulted, he would have agreed that the establishment of a hot hotel 'was a good idea'.[147] He concurred with this idea, in theory, assuming that:

   A. staff managing those in quarantine were trained appropriately to manage the confirmed cases

   B. those staff members have the knowledge and skills to do that effectively.[148]

96. When asked about the set-up of a hot hotel, Prof. Sutton outlined that, while not an IPC expert himself, he would have sought 'the input of the IPC team and the broader groups that they engage with around what step-up level of infection prevention and control might be required'.[149] He would have expected the implementation of the following appropriate measures:

   A. increased requirements for PPE because staff are dealing with a high number of known positive cases or suspected cases[150]

   B. the establishment of infrastructural and structural elements to minimise the risk of transmission, which include:

      I. creating a greater distance between those staff supporting the program and anyone who was a client of the program

      II. stratifying, separate to staff, the zones where those positive individuals were located

      III. addressing ventilation and air[151]

   C. the oversight of all of those elements, in terms of training, auditing, review and revision.[152]

97. Ms Williams's evidence was that safeguards at Rydges were 'designed to minimise any time that people spent in common areas'.[153] She explained that specialised or limited forms of access were intended to ensure that people had a rapid means of ingress and egress.[154] Nevertheless, as evidenced by the Outbreak Report, the common areas, including lifts that were required to transport COVID-positive guests in and out of the hotel, were not cleaned appropriately or by specialist cleaners.[155] This increased the risk of environmental transmission.

98. In relation to PPE, Prof. Grayson stated that all staff working with COVID patients should have been required to undertake training in infection control procedures and PPE usage.[156] He specified that the **minimum** PPE required in **any** hotel quarantine setting should be a Level 2 surgical mask, eye protection, long-sleeved single-use disposable gown and appropriate hand hygiene measures (using a TGA-approved hospital-grade alcohol-based hand rub or soap/water handwashing). He would expect those minimum standards to apply to staff undertaking duties such as patrolling hotel corridors to 'enforce' quarantine by non-contact measures. He added that, if there was a likelihood of patient contact, gloves should also be worn.[157]

99. In order to ensure that people were wearing their PPE effectively and otherwise complying with infection control protocols, Prof. Grayson explained that regular monitoring and enforcement, similar to a hospital setting, was imperative.[158] He provided a useful summary of the ways in which monitoring and enforcement was implemented at the Austin Hospital, including:

   A. regular reinforcement to staff about COVID-19 infection control measures through weekly CEO-led webinar presentations with the Infectious Diseases Department

   B. direct monitoring of adherence by the Nurse Unit Manager in each clinical area

   C. regular visits by infection control staff to observe behaviour

   D. widely displayed infection control signage throughout the hospital

   E. biannual re-credentialing in hand hygiene.[159]

100. He further outlined that educational signs alone have 'limited value in reinforcing behaviour, unless they are updated frequently, since they quickly become ignored. In addition, if the signs are only in English, they may not be fully understood by people where English is not their first language'.[160]

101. This evidence typifies the point that effectively managing transmission risks in these environments requires that communication to staff and guests be accessible and clear to all. Ms Williams acknowledged that DHHS 'were really struggling to get the message across' to security guards who 'wanted as many barriers as they could between them and what they perceived as this invisible threat'.[161] Ms Skilbeck gave evidence that the poor adherence to physical distancing policies and hand hygiene observed at Rydges and Stamford indicated that neither the policies in place nor the extensive community messaging on these issues was getting through to workers on the ground.[162] This prompted DHHS, on 17 June 2020, to engage the Behavioural Insights Unit at the Department of Premier and Cabinet for the purpose of 'better engaging the security companies and the security personnel around why it was that we were giving this advice and how it would protect them'.[163]

102. Additional safeguards implemented in the hot hotels, as discussed in Ms Bamert's oral evidence, included:

    A. a higher ratio of nurses to returned travellers, with those nurses having effective training and experience to deal with COVID-positive patients, including an understanding of the rapid nature in which a COVID patient can deteriorate[164]

    B. introducing staff with specific skills and qualifications, including an emergency nurse[165]

    C. linking the hot hotel with a range of metropolitan hospitals, depending on the demographics of the cohort, in order to support the escalation of care for people who may require hospitalisation.[166]

103. According to Ms Bamert, there was no consideration, at the time the decision was made to nominate a COVID-positive hotel, of linking that hotel in with a health service for expert guidance and direction, including around IPC.[167] As mentioned earlier in this chapter, that suggestion was raised by Mr Hogan on 7 April 2020, but it appeared that suggestion fell away.[168]

Subsequent 'hot hotel' arrangements

104. Although not immediately, the outbreak at Rydges resulted in the hotel being temporarily closed from around 1 June 2020. It was, therefore, necessary to establish an alternative COVID-positive site for returned travellers.[169] Novotel South Wharf was designated as the replacement hot hotel.[170]

105. Separately, and prompted by the outbreak, DHHS contracted Alfred Health for the management of a 'health hotel' at the Brady, which commenced operation as such from 17 June 2020.[171] Alfred Health's role within the Hotel Quarantine Program then expanded to encompass the running of all quarantine hotels. This resulted in the 'health hotel' model discussed in Chapter 11 of this report.

9.2 Epidemiological and genomic evidence

106. In order to appreciate the full impact and effect of the outbreaks at the Rydges and Stamford Plaza hotels, it was necessary to consider the epidemiological and genomic evidence. This evidence offered an insight into how the virus spread, initially within the hotel quarantine environment and then beyond into the community at large.

107. For a more comprehensive exploration of the epidemiological methods and the science of genomic sequencing as touched upon below, see Chapter 2.

Rydges outbreak

108. By 31 July 2020, DHHS had received the final genomic sequencing reports for 14 of the 17 cases epidemiologically linked to the outbreak at Rydges, although the preliminary results making the link were available in mid-June.[172] Those final reports revealed that all 14 of those cases clustered genomically together and uniquely[173] with the family of returned travellers.[174] At the time of the outbreak, there were only a few other Victorian cases of COVID-19 that had been acquired in Australia, none of which had any known links to the cases at Rydges.[175]

109. In light of the genomic and epidemiological evidence available to him, Dr Charles Alpren, an expert epidemiologist within DHHS, concluded that it was highly likely that all 17 cases epidemiologically linked to Rydges, including those for which no genomic sequence was available, belonged to the same transmission network and could be traced to the family of returned travellers that was transferred to Rydges on 15 May.[176] In short, those 17 cases could be 'sourced' back to the identified family of returned travellers.

Stamford outbreak

110. Unlike the Rydges outbreak, where all cases were linked to one family, the genomic sequencing performed by MDU PHL showed that the Stamford outbreak consisted of two distinct chains of transmission.[177] This was indicated by two genomic clusters among the cases linked to the outbreak. One of the clusters was connected with the returned traveller who arrived on 1 June 2020, while the other was linked to the couple who returned on 11 June 2020.[178]

111. By 4 August 2020, DHHS had received genomic sequencing reports for 35 of the 46 cases linked to the Stamford outbreak. All 35 of those cases clustered genomically within one of the two chains of transmission identified above.[179] At the time of the Stamford outbreak, there were no other Victorian cases of COVID-19 acquired in Australia other than those linked to the Rydges outbreak. By the time that Dr Alpren gave evidence before the Inquiry, on 18 August 2020, no epidemiological or genomic links between the cases in the Rydges outbreak and the cases in the Stamford outbreak had been identified.[180] The Inquiry is not aware of any links having been made subsequently.

112. In his evidence, Dr Alpren explained that he had concluded that it was **highly likely** (emphasis added) that all 46 cases epidemiologically linked to Stamford, including those for which no genomic sequence was then available, belonged to one of the two transmission networks and can, therefore, be traced to the three returned travellers identified above.[181]

Genomic clustering since Rydges and Stamford outbreaks

113. Since the time of the initial outbreak at Rydges, with only two exceptions, all subsequent reported genomic sequences for Victorian cases of COVID-19 have clustered with transmission networks emanating from the returned travellers observed as the sources for the Rydges and Stamford outbreaks.[182] The first exception involved a returned traveller whose symptoms started on 29 June 2020. The returned traveller clustered genomically with a resident of metropolitan Melbourne who began to experience symptoms on 28 June 2020.[183] The second exception involved a healthcare worker who clustered genomically with a returned traveller who the worker had cared for following their admission to hospital with COVID-19 for the period 19 June to 9 July 2020.[184] Further on-spreading of those clusters had not been reported or observed.[185]

114. As of 29 July 2020, DHHS had received reports of sequences pertaining to 827 currently active cases. Of those, 817 (99 per cent) sequenced with Rydges-associated genomic clusters[186] and 10 (1 per cent) sequenced with the Stamford-associated genomic clusters.[187] As of 31 July 2020, of the 2,109 sequenced cases since 26 May 2020 (the date of the first confirmed case from the Rydges outbreak), 1,996 clustered with Rydges-associated genomic profiles and 96 clustered with those from Stamford.[188]

115. At the time of Dr Alpren giving evidence to the Inquiry (18 August 2020), further sequencing had been performed so he was able to provide updated figures. In total, sequencing had been successfully performed for 4,981 cases. Of those cases, 3,594 cases clustered with Rydges-associated genomic clusters and 110 clustered genomically with Stamford-associated genomic clusters.[189]

116. From the 12,000 cases within the previous month (as at 18 August 2020), sequence data was available for 3,234 cases. Of those, 3,183 were genomically linked to the Rydges-associated cluster.[190] Of cases with symptom onset in the previous month (again, as of 18 August 2020), 1,589 cases had been sequenced. Of those, 1,577 cases (99.2 per cent) clustered genomically with Rydges and the other 12 cases (0.8 per cent) clustered genomically with Stamford.[191]

117. Given the level of genomic sequencing that had occurred by that time, Dr Alpren agreed that he would have expected to see some evidence if there were any other independent clusters occurring.[192] He had not seen any such evidence. Dr Alpren was therefore of the opinion, based on the genomic sequencing and epidemiological investigation, that there was '**high level of certainty that almost all current COVID-19 cases in Victoria can be traced to the outbreaks at the Rydges and Stamford Plaza hotels** (emphasis added)'.[193]

118. Dr Alpren noted that he could not precisely indicate the number or proportion of cases that had separately arisen from each outbreak. However, he stated that it was likely that the large majority (approximately 90 per cent or more) of COVID-19 infections in Victoria at that time could be traced to the Rydges outbreak, while a smaller proportion (approximately 10 per cent or less) of COVID-19 infections in Victoria at that time could be traced to the Stamford outbreak.[194]

119. I accept the validity of the genomic and epidemiological evidence, and the conclusions drawn from that evidence by Dr Alpren, and note that it was not the subject of any challenge or contradiction.

120. As of 15 June 2020, Victoria had recorded 1,732 confirmed cases of COVID-19.[195] As of 24 November 2020, that number had increased to 20,345.[196]

121. On 23 May 2020, Victoria's COVID-19 death toll was 19.[197] There were no deaths attributed to COVID infection between 23 May and 24 June 2020.[198] The latter date was just under a month after the first cases were identified in connection with the Rydges outbreak and about a week after the first cases were identified in connection with the Stamford outbreak.[199]

122. According to publicly available information, the overall death toll attributed to Victoria's second wave was 801 people at the time of writing. Further, the publicly available information estimated that about 80 per cent of those deaths related to Victoria's aged care homes.[200]

9.3 The genesis of each outbreak

123. The movement of COVID-19 from hotel quarantine into the community can be understood as having been transmitted from returned travellers being held in quarantine to people working on-site in hotel quarantine and then into the community via those infected workers.

124. While the epidemiological and genomic sequencing evidence provided the scientific basis for the link between the workers who became infected and the returned travellers who were the original sources of the virus, the state of the science, together with the available evidence, did not allow for specific transmission 'events' to be identified at either Rydges or Stamford as to the actual moment that transmission happened, either as between returned travellers and workers or from worker to worker.[201] For example, the state of the science was not able to give a sequence as to which worker became infected first and then may have transmitted to another worker or workers on-site.

125. Importantly, however, there was evidence of environmental and behavioural factors that were likely to have contributed to the outbreaks at both hotels.

Transmission events

RYDGES

126. The epidemiological and genomic evidence provided the basis for a conclusion that a transmission event (or multiple transmission events) occurred at Rydges during the Hotel Quarantine Program.[202] However, and notwithstanding investigation, as set out above, the state of the science and the expert evidence did not allow a finding as to a specific occurrence of the virus moving from infected traveller (either directly or indirectly) to worker in the Program.[203]

127. In her statement, Dr McGuinness said the following: 'Ultimately, the Deputy Public Health Commanders and I were unable to draw a firm conclusion about the transmission event(s) that precipitated the outbreak'.[204] Similarly, Dr Alpren's position was that no specific transmission event was able to be identified in respect of the Rydges outbreak.[205]

128. The investigations at Rydges revealed several opportunities for transmission to have occurred at different times.[206] By way of example, records of the outbreak response team investigation indicated that an episode of likely environmental contamination occurred in the family's room on 18 May 2020, which required assistance from nursing staff to rectify.[207] There was also a suggestion that the index family walked outside its room and through common areas of the hotel, on which occasion they were accompanied by security guards.[208] It is possible a transmission event or events occurred at this point.[209]

STAMFORD

129. From the epidemiological and genomic data presented above, Dr Alpren concluded that at least two transmission events occurred at Stamford during the Hotel Quarantine Program.[210] However, as with Rydges, the expert evidence and the available information was unable to pinpoint the specific transmission events.[211]

Mode of transmission?

RYDGES

130. While the mode of transmission could not be categorically determined, there was evidence before the Inquiry, as detailed below, which makes environmental transmission a more likely explanation for the Rydges outbreak than person-to-person transmission.

131. It is acknowledged that it could not be definitively ruled out that the virus was spread from person-to-person. In his evidence, Dr Crouch was unable to say which was the most likely form of transmission from the returned traveller.[212]

132. However, in her evidence, Dr Looker referred to the tightly clustered symptom onset date for the first six cases at the Rydges, and the common work shift times, as supporting a 'point-source' transmission event, rather than a staggered person-to-person transmission.[213] There was also information that the person who was assessed as the index case at Rydges was involved in cleaning common areas at the hotel.[214] Both these factors, along with the patent risks identified by the inadequate cleaning practices adopted at Rydges, added to the possibility of environmental transmission.[215]

133. In her statement, Dr McGuinness said the following:[216]

> In my opinion, the possibility that the outbreak was precipitated by person-to-person transmission **is less likely** than the outbreak being precipitated by an environmental source (emphasis added).

134. Although the evidence does not conclusively establish the mode of transmission to the degree to which scientists would be satisfied, I accept the reasoning and conclusion arrived at by Dr McGuinness. The possibility that the outbreak was precipitated by person-to-person transmission is 'less likely' than the outbreak being precipitated by an environmental source.

135. That finding draws upon the observations made in the Outbreak Management Report, which was expressly adopted by Dr Crouch:[217]

> [T]here is a **high likelihood** of fomite spread from poor cleaning products being utilised, poor PPE used by security staff, and a lack of education surrounding cleaning practices (emphasis added).[218]

136. The findings of that report are discussed in greater detail below.

STAMFORD

137. In respect of the Stamford outbreak, the evidence established the equal possibility that there was environmental or person-to-person transmission.[219]

138. Dr McGuinness stated that, in her opinion, person-to-person transmission was more of a possibility in the context of the Stamford outbreak compared with the Rydges outbreak.[220] This was due to the various opportunities for person-to-person transmission to have occurred, including large gatherings of up to 70 security guards in a single room and instances of car-pooling by security guards.[221]

139. Being unable to distinguish the respective probabilities of person-to-person transmission versus environmental transmission, Dr McGuinness concluded in respect of the Stamford outbreak that:[222]

> Transmission from a COVID-19-positive case in quarantine may have occurred directly (through person-to-person transmission) or via fomites. There is insufficient evidence to support one mode of transmission over the other and both are possible.

140. Based on the expert opinions, I am unable to prefer one method of transfer over another. In respect of the Stamford outbreak, I find that it is not possible to say that one mode of transmission was more likely than the other. What I can conclude, based on the expert evidence, is that both possible modes of transmission were a source of danger.

Contributing factors

141. Despite the fact that specific transmission events were not identified, and the mode of transmission could not be pinpointed with scientific certainty,[223] there was ample evidence that highlighted specific environmental and behavioural factors that likely contributed to the outbreaks at both hotels.

142. This evidence largely comes from the Outbreak Management Plan reports as prepared by the Outbreak Management Teams (OMTs), a subset of DHHS Case Contact and Outbreak Management Team (CCOMT), which had overall responsibility for managing and investigating the outbreaks.[224] Each OMT directed an outbreak squad that deployed specialists, including IPC nurses, to the sites.[225] According to Dr Crouch, outbreak squads facilitated rapid testing, IPC, isolation of close contacts and generally supported the containment of a public health risk.[226]

143. The Inquiry received evidence from key DHHS personnel involved in investigating the outbreaks in Drs Crouch, Looker and McGuinness. The overall picture that emerged from their evidence (which was also reflected in other evidence) was that IPC measures at both hotels were ad hoc and inadequate, and that those inadequacies led to the transmission of the COVID-19 virus from returned travellers to those working in the Program. In particular, there were pervasive issues identified with **cleaning, PPE use, and staff training and knowledge**.[227]

144. There was also evidence that, despite the identification of these issues in the investigation of the Rydges outbreak in late May 2020, similar inadequacies were identified at Stamford up until mid-June 2020.[228] Indeed, the failure to heed the lessons from the Rydges outbreak was expressly cited as a factor in the decision by DEWLP to withdraw its entire staff from the Program.[229]

RYDGES

145. Investigation of the Rydges outbreak by the OMT revealed several significant problems with IPC practices, including inappropriate cleaning, inappropriate use of PPE and deficits in staff knowledge about hand hygiene and social distancing.[230]

146. The Outbreak Management Plan report from Rydges, authored by the OMT,[231] concluded that:

> There is a high risk of transmission from COVID positive cases being detained in the hotel to the staff members working at the hotel. This is due to the inadequate education and cleaning procedures that are currently in place. The cleaning duties of communal areas were the responsibility of the security staff; specifically, for the elevators used to transport COVID positive cases. Because of this, there is a high likelihood of fomite spread from poor cleaning products being utilised, poor PPE used by security staff, and a lack of education surrounding cleaning practices. At risk populations include staff members from the hotel, DHHS staff, nurses, and various other HCWs that were onsite to attend to the people in hotel detention.[232]

147. As discussed in Chapter 2, fomite transmission involves infection via surfaces or objects (including hands) that have become contaminated.[233] The evidence was that there was clearly an increased risk in a hot hotel that staff may come into contact with potentially infected surfaces or environments.

148. Considering Dr Alpren's evidence that '(i)t is likely that the large majority, approximately 90% or more, of current COVID-19 infections in Victoria can be traced to the Rydges Hotel,'[234] it is abundantly clear that effectively managing this transmission risk was paramount.

149. In respect of cleaning, a number of issues of concern were highlighted.

150. First, the hotel had no dedicated cleaning staff. As a result, general hotel staff and security staff were undertaking cleaning of common and thoroughfare areas of the hotel,[235] notwithstanding it was known that COVID-positive guests were travelling through those areas. This included evidence that one of the first security guards to contract COVID-19 had been performing a range of cleaning duties, including cleaning of the elevators used by COVID-positive guests, and evidence that a hotel staff member had removed likely contaminated rubbish from rooms occupied by COVID-positive guests.[236]

151. Secondly, and in addition to the absence of specialist trained cleaners, cleaning products and cleaning methods were inappropriate. The evidence from Dr McGuinness was that the cleaning products identified as being used by the OMT were unlikely to be effective against COVID-19.[237] Further, it was unclear whether cleaning cloths were being disposed of and replaced after use.[238] This evidence was not the subject of challenge or cross-examination when the witnesses who adopted the reports were called.

152. It should be noted, however, that Rydges Hotels Ltd sought to impugn this evidence, for the first time, in its written submissions, asserting:

> [T]he 'Environmental Investigation' within [the Rydges Outbreak Management Plan] contains both assumptions and clear errors. One significant error is the conclusion that cleaning products used were 'unlikely to be effective against SARS-CoV-2'. The author names two cleaning products. One of those products is specifically confirmed by the Therapeutic Goods Administration to be a 'disinfectant for use against COVID-19 in the ARTG for legal supply in Australia'.[239]

153. The website entry relied upon by Rydges in its final submission was not put in evidence before the Inquiry nor were its contents put to any witness. In any event, it does not stand for the evidential foundation in respect of which, I infer, it is called in aid. Rather, the website lists a range of products that have specific permission for the purposes of advertising claims.[240] I do not, therefore, accept Rydges' submissions in this regard and rely upon the evidence given by Dr McGuinness.

154. A third key area of concern identified was the inappropriate use of PPE. In particular, observations were reported to the OMT of security staff using vinyl gloves and unapproved masks.[241] There were also concerns that masks were not being changed as regularly as required.[242]

155. Finally, linked to the above, it was identified that comprehension was poor among hotel and security staff around hand hygiene, PPE, social distancing and other IPC measures.[243]

156. According to Dr Crouch, each of these factors would increase the risk of transmission.[244]

157. As well as the factors that increased the risk of transmission of the virus from those in quarantine at Rydges to those working in the Program, I find there were further issues that likely contributed to the spread and growth of the outbreak more generally into the community. They included the delays in undertaking deep cleaning, delays in quarantining staff and issues with contact tracing.

Delays in cleaning

158. Despite direction being given on 26 May 2020, with a clarification on 27 May 2020 that a full commercial bioclean was required, that clean was not thoroughly completed until the afternoon of 28 May 2020.[245] On 26 May 2020, the OMT identified that an immediate thorough clean of the site was to be undertaken as an initial control measure.[246] Some cleaning to common areas of the hotel was undertaken between 26 and 27 May 2020, however, it was not done to the satisfaction of the OMT, leaving the site 'uncontrolled' for longer than it may have otherwise been.[247]

159. On the afternoon of 27 May 2020, a request was made to IKON Services Australia Pty Ltd (IKON), at that time the only provider of specialist contract cleaning services to the Program.[248] It was requested to clean the common areas of Rydges,[249] but was not informed why this clean was being requested or what had precipitated this change to the areas it was being engaged to clean.[250]

160. Michael Girgis, General Manager of IKON, gave evidence that agreement was reached to conduct the clean the next day as IKON was unable to complete it that night.[251] The clean was subsequently undertaken on the afternoon of 28 May 2020.[252] According to Dr McGuinness, it was only after that had occurred that she could be confident the site no longer posed a risk of environmental transmission to staff.[253] Moreover, it was not until 1 June 2020 that quarantined guests at Rydges were relocated to the Novotel South Wharf.[254]

Delays in isolating staff

161. There was also a delay in quarantining or isolating people who had worked — and, thus, may have been exposed to the source of the outbreak — at the hotel. By 27 May 2020, only those staff identified as positive cases of COVID-19 and people deemed close contacts were told to quarantine. Other staff who had been on-site for 30 minutes or more from 11 May 2020, but who were not considered close contacts, were notified and asked to undergo testing.[255] Eventually, a decision was taken by the OMT to direct people who were not deemed close contacts, but who had attended the site for 30 minutes or more between 18 May 2020 and 28 May 2020, to quarantine for 14 days.[256] However, this direction did not occur until 30 May 2020.[257]

162. In her evidence, Dr McGuinness agreed that the delay between 27 and 30 May 2020 in deciding to quarantine staff may have had an impact on controlling the outbreak.[258] Dr Crouch also agreed that if a broader group had been quarantined at that time it may have helped.[259]

163. In light of the awareness of the significant risk of environmental transmission, those exposed to the site should have been quarantined immediately. The risk of fomite or environmental transmission had been flagged by the World Health Organization (WHO) in late-March 2020.[260] Ostensibly, it was this advice, and the advice from peak national bodies, that informed the policies and protocols that applied to the Hotel Quarantine Program.

164. In its final submissions to this Inquiry, DHHS stated that '… while fomite transmission was considered possible in late March 2020, the evidence from Dr Crouch, consistent with the position of WHO, is that it was considered secondary (WHO) and rare (Dr Crouch) and droplet transmission was considered more likely'.[261] While environmental transmission may not have been observed to have been responsible for significant transmissions in Victoria prior to late May 2020,[262] knowledge of the possibility of fomite transmission existed at the time of the Program's inception. That risk should have been given due attention.

165. Indeed, DHHS personnel in the public health team who wrote the policies were aware of the possibility of fomite transmission, even as early as the time of inception of the Hotel Quarantine Program. Appendix 2 of DHHS's Physical Distancing Plan (last updated on 27 March 2020) included the following:

> Early evidence suggests that SARS-CoV-2 (the virus that causes COVID-19) is primarily transmitted via respiratory droplets transmitted during close contact, **and via fomites**[263] (emphasis added).

Contact tracing

166. As explained by Dr Alpren, contact tracing refers to the identification, assessment and management of people who potentially have been exposed to disease (and so at higher risk of developing and spreading it) and working with them to interrupt the spread of the disease.[264] It allows the contact tracers to identify people who could have been exposed to the disease and to advise them to isolate.[265] The CCOMT was responsible for contact tracing.[266]

167. The efficacy of contact tracing relies on a number of factors, including good quality information being given to contact tracers. Contact tracers work with people to ascertain information from them, but they are limited to obtaining information that people are prepared to divulge.[267] Dr Alpren identified a challenge to contact tracers where a person interviewed had 'competing priorities', that is, they want to limit others from getting sick, but they also want to remain in a position where they can meet their financial obligations, such as the need to keep working and earning an income.[268] These 'competing priorities' may affect how forthcoming people are with the information about their health status or with whom they have been in contact.

168. The OMT encountered difficulties in performing effective contact tracing in these outbreaks. This was partly due to poor record-keeping, which created difficulty in obtaining reliable and timely information about security guards' and other staff movements within the hotel. Staff records and rosters made available to the OMT did not identify, for example, which guards accompanied guests on breaks, including the family of four that clustered genomically with the subsequent staff cases. This complicated (and inhibited) the tracing of close contacts.[269]

169. Further complications can arise from households of those who are infected by the COVID-19 virus. The Inquiry heard evidence that contact tracing is made much more difficult when people are living in the same household and are not well known to each other.[270] This challenge was particularly evident in the context of security guards. Dr Looker, for example, gave evidence about security guards, as a cohort, being likely to impede contact tracing efforts by nature of their employment and living arrangements. I have considered the vulnerabilities of security guards as a cohort earlier, in Chapter 6, but suffice to say that according to Dr Looker: '[c]ontact tracing efforts were impeded by a workforce [that is, the security workforce] that often worked in multiple jobs and in many cases lived in large or dense housing'.[271]

170. In addition, the OMT noted that there were issues with the provision of reliable and truthful information. Dr Crouch said that a number of those who tested positive were less than forthcoming about their close contacts.[272] For example, one of the cases linked to the Rydges outbreak failed to disclose that they had been in close contact with a housemate during the infectious period. The housemate subsequently travelled to Queensland where they became symptomatic and tested positive.[273] In Dr Crouch's view, the efforts undertaken by the OMT were hampered by the information provided and the challenges they faced in getting accurate information.[274] Drs McGuinness and Looker agreed that a key limitation in identifying contacts was that it depended on the quality of the information being provided.[275]

171. Contact tracing is overwhelmingly done through a voluntary and cooperative engagement with the infected or potentially infected people.[276] The question becomes whether that is a sufficient method by which to obtain critical information, the truthfulness of which, so says the evidence, may have significant consequences on the spread of the virus.

172. Section 188(1) of the *Public Health and Wellbeing Act 2008* (Vic) permits the CHO to direct a person to provide information specified in a direction, which the CHO believes is necessary to investigate whether there is a risk to public health or to manage or control a risk to public health. If a person fails or refuses to comply with that direction (without reasonable excuse) that person could be subject to a maximum penalty of around $10,000.[277] It is an offence to give information that is false or misleading in a material particular to the CHO under this Act. The penalty for doing so is also around $10,000.[278]

173. Despite this statutory power, it was not used as a way to overcome the risks of truthful information not being forthcoming. Rather, the evidence was that focus was on building trust, rapport and an ongoing engagement with the people from whom information was being sought. [279] The evidence from the experts was that this method of engagement, rather than a punitive and threatening one, was more conducive to obtaining reliable information efficiently.

174. Prof. Sutton's evidence was that he had not used his powers to compel information. He presumed that was because the OMT had not recommended he do so.[280]

175. I accept that it is necessary to build trust and familiarity with relevant people to enhance good and accurate information being collected. It is for this reason I recommended embedding a contact tracing team in the facility-based model in the Interim Report and adopted this recommendation in this Final Report (see Recommendation 38).

THE CASE CONTACT AND OUTBREAK MANAGEMENT TEAM

176. Dr Alpren explained that, as at early 2020, the Health Protection Branch of DHHS housed the Communicable Disease section.[281] He stated that the Communicable Disease section was responsible for the collection and management of incoming notifications and any relevant public health actions. In response to the novel coronavirus being listed as a notifiable disease in January 2020, the Public Health arm of the COVID-19 response was set up. It was within this newly set up Public Health arm where the collection of information and contact tracing was performed by the CCOMT. Dr Alpren explained that this team was not part of the Intelligence Team.[282]

177. He went on to explain, in his statement, that the duties of the Intelligence Team contained the management, development and maintenance of the infectious disease passive surveillance database used by the department, the Public Health Event Surveillance System (PHESS) in as far as its use pertained to COVID-19, data entry, classification and checking, and provision of data to assist case, contact and outbreak management and compliance with quarantine and isolation and development of centralised, integrated reporting of COVID-19. According to Dr Alpren, both the CCOMT and Intelligence Team 'evolved' from teams within the Communicable Disease section of the Health Protection Branch in response to the COVID-19 pandemic.

178. Dr Alpren made his statement on 4 August 2020. In that statement, in response to questions asked of him about workloads and resourcing, he said: 'Intelligence and Pathology are a [sic] new teams and did not exist prior to January 2020. The Incident Management Team was established in mid-January at which point I joined as Intelligence Officer in addition to my regular work as Principal Epidemiologist in Blood-Borne Viruses and Sexually Transmissible Infections. During February three people with regular positions in CDES (Communicable Disease Epidemiology and Surveillance) also worked on novel coronavirus. This has increased and we now have over 200 people in the Intelligence team, that I manage. It has been a significant scale up. Workloads have substantially increased. In order to fulfill [sic] the requirements of the response, Intelligence and CCOM are staffed 24hrs a day, 7 days a week'.[283]

179. Dr Alpren identified a list of six factors that affected the accuracy and completeness of information available to DHHS about the rate of COVID-19 cases. He noted among that list 'the capacity of the Department to enter cases and contacts to PHESS in a timely manner' and 'the capacity of the Department to review PHESS records for accuracy and ensure records reflect the content of the interview'.[284]

180. The above figures speak for themselves with respect to the 'significant scale up' of resources needed to respond to the contact tracing response to COVID-19. Inside DHHS, the response to the second wave was still unfolding throughout the course of the Inquiry. I understand that issues as to the adequacy of the data collections systems supporting those efforts have become the subject of a Parliamentary Inquiry. While not within the Terms of Reference or time constraints of this Inquiry, I do not consider it a 'long bow' to draw an inference that data management issues had an impact on the ability of the CCOMT to respond to the 'second wave' outbreaks from Hotel Quarantine.

ASYMPTOMATIC TRANSMISSION

181. I do not underestimate the difficulty for epidemiologists and contact tracing posed by COVID-19 not only being a highly infectious disease but that it can be transmitted from person-to-person despite the infectious person not experiencing any symptoms. It was estimated by Dr Alpren that about 17.9 per cent of cases will be asymptomatic.[285] This makes the disease difficult to control from an epidemiological perspective.[286] This, put together with the evidence that a person may be infectious for up to two days prior to experiencing symptoms, also adds its own complexity.

STAMFORD

182. During the investigation of the Stamford outbreak, a significant area of concern identified was that hotel and security personnel were not adequately educated in hand hygiene and the correct use of PPE. This included reports of irregular and inconsistent use by security guards of the alcohol-based hand sanitiser available on-site.[287] In addition, DHHS staff were concerned with guards incorrectly using PPE and wearing gloves for long periods of time, including while touching their phones and going to the bathroom.[288]

183. Another identified issue involved the lack of clearly designated areas or zones for handling clean and soiled items. For example, hotel staff removed rubbish and dirty, bagged linen from the rooms of positive cases and transported these items in a service elevator that was also used to deliver food.[289]

184. Failure to comply with social distancing requirements was another key concern. According to evidence given by Ms Peake, on 14 June 2020, a DHHS team leader at Stamford reported concerns about security guards hugging and approximately 70 people attending a handover meeting in a small room.[290] That meeting was held in a six-by-six metre room where the required physical distancing was plainly not possible. These activities all increased the risk of person-to-person transmission of COVID-19.[291]

185. Other concerns as to potential cross-contamination at Stamford were also identified. Particular points of concerns identified by Dr McGuinness included:[292]

> - the common use of a security guard room (including by other staff)
> - the use of non-disposable food utensils
> - the use of a shared coffee machine in the security guard room
> - security staff having access to the room used by nurses and other Department staff
> - shared use of elevators
> - shared use of some bathrooms.

186. Dr McGuinness observed that each of these matters may have increased the risk of COVID-19 transmission at Stamford, or at least would not have adequately protected against that risk.[293]

187. Dr McGuinness also agreed, in her evidence, that the poor IPC practices seen at Stamford mirrored what had been observed in relation to the Rydges outbreak.[294] Dr McGuinness stated it was ‘disappointing’ that such practices continued to present in the Program at that time.[295]

188. That said, it appeared that some of lessons were learned from the management of the Rydges outbreak. Dr McGuinness stated that swifter, more decisive action was taken at the Stamford as a result of what was learned from the Rydges outbreak.[296]

189. A full clean occurred almost immediately upon learning of the first COVID-positive staff member on 16 June 2020,[297] having been undertaken at 1.00 pm on 17 June 2020.[298] Importantly, on 16 June 2020, a decision was made that all staff who had worked from 1 June 2020 were required to be tested and all staff who had worked since 7 June 2020 were immediately stood down, with new staff deployed to the hotel following the deep clean.[299] By 18 June 2020, all staff members and contractors who had spent 30 minutes or more at Stamford from 8 June–17 June 2020 were considered close contacts and required to isolate for 14 days.[300]

190. As with the Rydges outbreak, difficulties in contact tracing were apparent. By way of example, the first case from the Stamford outbreak was identified by DHHS on 16 June 2020, after having reported symptom onset on 15 June 2020. It was later discovered that a case notified to the Department on 14 June 2020 after reporting symptom onset on 10 June 2020 was, in fact, also a Stamford worker.[301] When this person was first interviewed, they falsely stated that they did not work outside of the home.[302] This misinformation, undoubtedly, impeded the prompt identification and proper investigation of the Stamford outbreak.

9.4 Conclusions as to the impact of inadequate infection prevention and control measures on the outbreak

191. The specific factors that led to the transmission of COVID-19 from people in quarantine to workers in the Program, and beyond, to other members of the community, mirror some of the inherent problems with the Program as identified and explored in detail in this Report. Without repeating the detail of each of those systemic factors, it is important to focus attention on the ways in which those shortcomings created the conditions for the outbreaks that eventuated.

192. As has been noted, the Hotel Quarantine Program was predominately approached as a logistical or compliance exercise, rather than a health program.[303] Although the Program had important logistical and compliance aspects, those were to be called in aid of, and were necessarily ancillary to, its primary objective as a public health program: to prevent the further spread of COVID-19.

193. It appears that one of the consequences of the failure to conceive of the Program as, first and foremost, a health response was that inadequate attention was given to the primacy of IPC measures on the ground at quarantine hotels. This resulted in inadequate cleaning practices, unsafe PPE practices, risks of cross-contamination between different 'zones' and insufficient training in infection prevention and control, especially for those who were most at risk of exposure.[304]

194. Related to this, and as discussed in Chapter 8, there was insufficient public health, specifically IPC, expertise embedded in the Program. It was absent in the high-level management of the Program and in the personnel with the day-to-day implementation of the Program at hotel sites.

195. Infection prevention and control was inadequate across the Hotel Quarantine Program, and was particularly inadequate at Rydges following its designation as a hot hotel. The outbreaks that occurred, and the findings that emerged from their OMT investigation, are demonstrative of those inadequacies.

196. Those inadequacies, specifically as they materialised at Rydges, increased or, at least, substantially failed to mitigate the known risks presented at the hot hotel.

197. At all material times in the Hotel Quarantine Program, while scientific knowledge has continued to grow and develop throughout 2020, there was scientific guidance as to COVID-19 modes of transmission, including the possibility of environmental transmission.[305] Had public health experts in infection prevention and control played a greater role in the design and operation of the program, it is likely that IPC practices would have been more rigorous and more effective.

198. The proliferation of policies, without operational line of sight into the implementation of those policies, was insufficient to guard against what was known to be a pernicious virus.

199. The presence of a full-time designated IPC monitor at each quarantine hotel would have undoubtedly improved compliance with necessary practices and procedures.

200. The deficiencies in practices and procedures were plainly evident to the Outbreak Squads when they investigated the outbreaks at Rydges and Stamford.[306] Had IPC experts been present at each hotel throughout the program, those deficiencies would likely have been observed and addressed, and the risk of outbreaks reduced.[307]

201. I conclude that many of the deficiencies identified in IPC practices, which increased the risk of outbreaks, would have been detected and remedied, perhaps preventing the consequences that have flowed, had this relatively modest, but critically important, resource been appreciated.

202. A further systemic issue that emerged from the evidence concerned the nature of the workforce called upon to staff the Hotel Quarantine Program. Some of the characteristics of this workforce[308] exacerbated the risk created by the deficiencies in the IPC practices I have referred to in Chapter 6 and further interacted, in turn, to increase the risk that infected workers would transmit the virus into the community.

203. At the frontlines of the Program, agency nursing staff and private security contractors were used. It has been recognised that the private security workforce that was engaged, through a web of subcontracting arrangements, represented an inherently vulnerable cohort. Their vulnerabilities certainly bear emphasis in terms of their impact on the outbreak:

    A. Dr Crouch observed that, with hindsight, as a cohort, security guards, (through no fault of the individual workers) did not have an adequate understanding of necessary precautions, had poor health literacy, and were more likely to work multiple jobs or to have personal and employment circumstances that limited their ability to take leave when sick[309]

    B. there was also evidence before the Inquiry of 'potential cultural and language issues with respect to understanding the policies and procedures of physical distancing and the broader infection prevention and control measures that were in place'.[310]

204. These factors all drove difficulties with contact tracing, with personnel working across multiple sites within the Program and presenting a higher risk of further spread of the virus into the broader community.

205. The role of these systemic factors in the outbreaks is evident in the high proportion of transmission to private security guards (as opposed to other frontline workers)[311] and in the Outbreak Squad's concerns about security guards' misuse of PPE and non-compliance with IPC practices.[312] The use of the 'wrong cohort', including the highly casualised nature of much of the private security workforce,[313] exposed those people and, in turn, the broader Victorian community to a significant and increased risk. (See Chapter 6 for a more detailed discussion on the use of private security guards.)

9.5 Causation at law

206. The outbreaks at Rydges and Stamford — and their causal connection to the ensuing devastation on the Victorian community — was the subject of some controversy.

207. Counsel Assisting the Inquiry invited me to find that the failure by the Hotel Quarantine Program to contain the COVID-19 virus was responsible for the deaths of 786 people and the infection of some 18,418 others.[314] Counsel Assisting submitted such a finding was open to be made 'in light of the epidemiological, genomic sequencing, positive case data and mortality rates'[315] before the Inquiry.

208. DHHS, however, submitted that such a finding was not open on the evidence.[316]

209. It submitted that the Inquiry had only limited evidence before it and so there was no basis on which to make any reliable finding as to the mechanism of transmission from hotel guests at Rydges and Stamford to staff, nor as to what occurred after there was transmission and the chain of events that led to the spread in the community.[317]

210. DHHS contended that the evidence before the Inquiry did not include categories of evidence that would be relevant to the question of causation:

    A. whether the transmission event came about from environmental contamination or from the family to case 1, an intermediary person or to one or any of cases 2–5

    B. the consequences of deciding, on 30 May 2020, to cohort staff that had worked at Rydges, as opposed to making that decision earlier

    C. whether the eight hotel workers, and the other staff members that were so asked to isolate did, or did not, and whether they thus caused onward transmission

    D. how COVID-19 spread from the eight personnel that worked at Rydges and tested positive to the wider Victorian community, including to their household contacts

    E. the consequences of the delay in cleaning the hotel, from the evening of 26 May to the evening of 28 May

    F. the consequences of the timing of the outbreak and the general easing of restrictions in the Victorian community at that time

    G. whether the index family quarantined appropriately on release or caused onward transmission in the community.[318]

211. DHHS also noted difficulties faced by its OMT, such as with respect to contact tracing for some of the security guards and some continuing to work while symptomatic.

212. It would be unsafe, so submitted DHHS, to make a finding that 'the movement of the virus through the barriers of quarantining is responsible for some 99 per cent of the recent COVID-19 infections in Victoria', nor indeed any reliable finding as to the relationship of the events examined in the Program and the ultimate consequences in the community.[319] DHHS submitted that there were various matters that contributed to the community spread, and cautioned against making a finding as to why these transmission events spread in the way that they did.[320]

213. No doubt DHHS had in mind such factors, among others, as the high percentage of loss of life in the second wave being related to aged care facilities and, therefore, what other factors in that environment contributed to that loss and should be considered as part of the 'chain of causation'.

214. As to who, or what, was responsible for the Rydges outbreak and its impact on the community, Rydges submitted that the Inquiry did not explore many other points in time that the family of four (to whom the Rydges outbreak was traced) may have passed on the genomic strain to others.[321] It submitted that there was no way of determining whether one of the security guards, the hotel employee or the nurse first contracted COVID-19 from the family of returned travellers or passed COVID-19 on to any other person in the broader community.[322] Rydges, further, submitted that there were many points at which the family of four would have come into contact with others, both before and after their time at Rydges.[323]

215. Unified contended that there was no causal link between the conduct of any security worker engaged by Unified and the outbreak.[324] In particular, it submitted there was no causal link between Unified's reliance on subcontractors or not having received prior approval to use those subcontractors, or its training and supervision measures and the virus outbreak.[325]

216. Rather, it submitted that the 'second wave' of COVID-19 in Victoria was caused by systemic failures at the highest levels of government, in particular the failure of DHHS to adequately consider and assess the risks involved in the Program and the need to take responsibility for the Program as the agency in charge.[326] Unified stated another contributing factor was that Rydges was a hot hotel without necessary infection controls.[327]

217. Unified invited me to make a positive finding that Unified did not cause the outbreak at Rydges.[328]

218. MSS, on the other hand, submitted that, in considering the circumstances of the outbreak, the evidence did not afford a positive finding from a scientific perspective as to the cause of the outbreak.[329] MSS submitted that there was 'no direct evidence which conclusively illustrates the precise circumstances in which COVID-19 made its way from infected travellers to private security staff and beyond'.[330]

219. At their foundation, these submissions invited me to make findings as to what were the precise events in a chain of causation that led to the second wave of COVID-19 in Victoria.

220. The question of causation, in the way in which the law grapples with this issue, is a legally and factually complex one as all who have ventured into it will agree. The question of causation as a matter of law is one, if it is to be pursued, that must be properly pleaded before a court, seized of the jurisdiction, where the rules of evidence and procedure apply and arguments and submissions on the law can be made and ruled upon.

221. But what I can, and do, find is that the 'second wave' of COVID-19 that so catastrophically affected Victoria was linked to transmission events out of both Rydges and Stamford via returned travellers to personnel on-site, who then transmitted COVID-19 into the community. I do so having accepted the uncontroverted genomic and epidemiological evidence of Dr Howden and Dr Alpren and their conclusions from that evidence.

222. In terms of factors which contributed to those transmission events and the proliferation into the community, I rely on all of the contributing factors I have identified both in this Chapter, and throughout this Report.

9.6 Conclusions

The designation of a 'hot hotel'

223. The idea of cohorting positive COVID-19 cases together in a single location or a 'hot hotel' was a sound public health measure. If effectively and appropriately done, it would have ensured that others in quarantine who were not infected had a reduced chance of being infected by reason of their quarantine. In principle, a COVID-positive hotel should have had in place the same IPC measures as were implemented at all hotel quarantine sites. That is because the presumption for all quarantine facilities is that all people should be treated as carrying the virus. However, that does not set the bar for a COVID-positive hotel according to the lowest common standard. Rather, it requires that all quarantine sites employ the high standards expected of a COVID-positive environment.

224. Once the decision was made to establish a hot hotel, it behoved those involved in deciding to implement that concept to pay particular attention to the IPC measures deployed at that location to ensure that the standards and policies were appropriate and that there was appropriate compliance and adherence to them. They were to have particular regard to the make-up of the workforce and habits of those undertaking duties there.

225. I am unable to make a firm conclusion as to who made the decision to use Rydges as a 'hot hotel' (as between DHHS and DJPR), and why that decision was made, because there are no documents before the Inquiry that clearly answer those questions, and a dispute among the witnesses on this issue. There should be documents that record not only this significant decision, but the rationale for doing so and why this particular facility was considered appropriate, what investigations were made, what criteria was considered, including risks and benefits and risk mitigation strategies for this facility and the personnel on-site, and who was consulted. Falling short of documents setting this out, at least the witnesses involved in the decision-making should agree on what was decided and on what basis. This is another instance of where it could not be made clear to the Inquiry who was responsible for critical decisions in the Program.

226. At the time the decision was made to cohort COVID-positive cases at Rydges, insufficient regard was being paid to the IPC standards across the entire Program and, in particular, to that location, given the appreciable and known increased risk of transmission at that location commensurate with concentrating positive cases in one location.

Consultation regarding infection prevention and control at Rydges

227. Mr Hogan raised his view about the need to establish a model of care for guests in hot hotels. His view was a sound one. Mr Hogan's proposal for a model of care was not heeded, it seemed, which led to DHHS having missed an opportunity to develop, at an earlier opportunity, a quarantine environment at hot hotels that better protected against virus transmission.

Additional safeguards required in a 'hot hotel' environment

228. IPC measures, including advice and ongoing training, were not well-managed in practice. The training that was provided to security guards was provided far too late, being only after the outbreaks had occurred at both Rydges and Stamford in June 2020.

229. Nurses, GPs and security guards working at Rydges were not given adequate and timely infection prevention advice and guidance. IPC expertise was not sufficiently embedded in the design of Rydges as a 'hot hotel.'

230. Furthermore, as many staff working in the Hotel Quarantine Program were engaged on a rotating rostered basis until at least 28 May 2020, the provision of episodic training sessions was inadequate to mitigate against the risks posed by not only a hot hotel environment, but any quarantine hotel.

Epidemiological and genomic evidence

231. Breaches of containment in the program, in May and June 2020, contributed to the 'second wave' of COVID-19 cases in Victoria, with all of its catastrophic consequences to life, health, wellbeing and the economy of the State.

232. Around ninety per cent of cases of COVID in Victoria since late May 2020 were attributable to that outbreak at Rydges.

233. Just under 10 per cent of positive cases in Victoria were attributable to the outbreak at the Stamford in mid-June.

234. The limits of the scientific evidence did not allow me to find, with certainty, what specific event caused the transmission from infected traveller to worker. But I do consider the likely mode of transmission at Rydges was through environmental transmission, particularly in light of the evidence from the outbreak team of poor cleaning products, poor PPE use by security staff and the lack of education around cleaning practices.

235. The evidence does not permit me to find, conclusively, whether the Stamford outbreak was due to person-to-person contact on the one hand or environmental transmission on the other.

236. Issues in respect of poor IPC practices at Stamford mirrored what had been observed during the investigation into the Rydges outbreak.

237. Notwithstanding the considerably higher number of frontline staff who became infected at the Stamford, measures taken, whether by way of prompt and appropriate cleaning or because of the immediate and swift quarantining of all staff, or both, were more effective in preventing the spread of the virus into the community.

Contributing factors to each outbreak

238. IPC measures at both hotels were inadequate, namely in terms of **cleaning, PPE use, and staff training and knowledge**. Those inadequacies contributed to the transmission of the COVID-19 virus from returned travellers to those working in the Program. In particular, there were pervasive issues identified with delays in deep cleans and in quarantining exposed staff, which may have also contributed to the outbreaks.

239. The need to quickly quarantine exposed staff was significant. As DHHS was aware of the risk posed by fomite transmission and given there was no reliable data to exclude or limit its likelihood, I am of the view that a more prudent, safety-based approach would have been to furlough every member of staff that had been exposed to all reasonably perceived primary and secondary sources of transmission. This was a reasonable option that would have been apparent to those with the mandate to contain the virus. That this would have required effectively shutting down the hotel or bringing in a replacement cohort of staff (with corresponding substantially increased PPE and IPC measures) ought not to have been persuasive arguments against such cautious measures. The former approach was taken merely days later, without apparent adverse consequence.

240. With respect to contact tracing, timely and accurate information is vital to efforts to contain outbreaks. In particular, detailed information about the movements of cases and close contacts is vital to the work of the contact tracers.[331]

241. A 'two way' flow of information is important for contact tracing. Just as it is important for individuals to be forthcoming with public health authorities, it is important for health authorities to provide all on-site entities and personnel with information that will enable those individuals and entities to understand and accept their obligations to provide accurate and timely information in the event of a possible or actual infectious outbreak. Developing those relationships enhances trust and understanding and, thereby, enhances safety for workers and the community alike.

242. Although the use of hotels as a setting for mass quarantine may have been unprecedented, factors that played a part in the outbreaks from Rydges and Stamford were not unique to hotels as environments and these factors all contributed to an increased risk that eventuated, with tragic consequences.

243. These risks were foreseeable and may have actually been foreseen had there been an appropriate level of health focus in the program from the top down to the sites themselves.

9.7 Recommendations

Recommendations 24, 27–30, 33 and 38 of the Interim Report, and adopted in this Final Report apply directly to this chapter:

INFECTION PREVENTION AND CONTROL UNIT ON EACH SITE

24. The Quarantine Governing Body ensures that each quarantine facility has a properly resourced infection prevention and control unit embedded in the facility with the necessary expertise and resources to perform its work.

TRAINING AND WORKPLACE CULTURE

27. The Site Manager be responsible for ensuring that all personnel working on-site are engaged in ongoing training in infection prevention and control provided by those with the expertise to deliver such training tailored to the specific roles to be performed on-site.
28. The Site Manager ensures that the personnel on-site who have the expertise in infection prevention and control are engaged in ongoing monitoring and supervision of all of the requirements in place for infection prevention and control, which includes matters such as individual behaviour, the use of personal protective equipment (PPE) and cleaning practices.

ACQUISITION AND USE OF PPE

29. The Site Manager ensures that the infection prevention and control experts direct the acquisition, distribution and use of PPE with specific, clear and accessible directions to all personnel on-site (acknowledging that such instructions may vary according to role).

CLEANING PRACTICES IN QUARANTINE FACILITIES

30. The Site Manager ensures that all cleaning practices throughout the site are developed, directed and overseen by personnel with infection prevention and control expertise, and include 'swab' testing as directed by the infection prevention and control experts.

COHORTING OF POSITIVE CASES

33. Any decision to cohort known positive cases at a particular quarantine facility should only occur after proper consultation with the appropriate experts as to suitability of the facility, any necessary adjustments to the facility, and the experts being satisfied that all necessary infection prevention and control precautions are in place at that facility.

CONTACT TRACING UNIT

38. That the Quarantine Governing Body ensures that each quarantine facility has a contact tracing unit embedded in the facility that can build familiarity and trust with on-site personnel and has accurate and up-to-date information for such personnel, to enable a rapid and efficient response to any possible outbreak and provide ongoing training to all personnel as to what is required in the event of potential or actual infection.

Endnotes

1 Exhibit HQI0144_P First witness statement of Commissioner Andrew Crisp, 27 [62].
2 Exhibit HQI0130_RP Witness statement of Ms Pam Williams, 5 [15].
3 Exhibit HQI0049_RP Witness statement of Mr Unni Menon, 7 [22]–[23]; 17.
4 Exhibit HQI0099_RP Witness statement of Ms Simone Alexander, 2 [11]–[14].
5 Exhibit HQO0100_RP Appendix to the witness statement of Ms Simone Alexander, ALFH.0001.0001.0025-0029.
6 Exhibit HQI0008a_RP Witness statement of Dr Charles Alpren, 19 [81].
7 Ibid 19-20 [81]–[85].
8 Ibid 20 [83].
9 Ibid [86].
10 Exhibit HQI00104_RP Outbreak Management Plan Rydges Swanston, DHS.0001.0036.0147.
11 Exhibit HQI0008_RP Witness statement of Dr Charles Alpren, 20 [86].
12 Exhibit HQI0008 Witness statement of Dr Charles Alpren, 20 [87]; Exhibit HQI0104_RP Outbreak Management Plan Rydges Swanston, DHS.0001.0036.0149.
13 Transcript of day 14 hearing 8 September 2020, 1095; Exhibit HQI0104_RP Outbreak Management Plan Rydges Swanston, DHS.0001.0036.0147.
14 Exhibit HQI0104_RP Outbreak Management Plan Rydges Swanston, DHS.0001.0036.0147-0149; 0161; 0166.
15 Ibid DHS.0001.0036.0147; Exhibit HQI0008a_RP Witness statement of Dr Charles Alpren, 20 [87].
16 Exhibit HQI0008a_RP Witness statement of Dr Charles Alpren, 21 [95].
17 Ibid [97]; Exhibit HQI0106_RP Witness statement of Dr Sarah McGuinness 28 [98].
18 Ibid [96].
19 Ibid 22 [98].
20 Exhibit HQI0155_RP Annexures to witness statement of Prof. Brett Sutton, DHS.0001.0032.0204 (Outbreak Management Plan Stamford Plaza Hotel).
21 Exhibit HQI0008a_RP Witness statement of Dr Charles Alpren 22 [98].
22 While Rydges was the primary 'hot hotel' the Novotel South Wharf was used temporarily following closure of the Rydges Hotel, see Exhibit HQI0082_RP Second witness statement of Ms Rachaele May, 7 [32].
23 Exhibit HQI0113_P Witness statement of Dr Finn Romanes, 12 [57].
24 Transcript of day 12 hearing 3 September 2020, 869; Exhibit HQI0153_P Witness statement of Prof. Brett Sutton, 27 [148]; Exhibit HQI0113_P Witness statement of Dr Finn Romanes, 12 [59].
25 Transcript of day 12 hearing 3 September 2020, 869.
26 Exhibit HQI0116_RP Annexures to witness statement of Dr Finn Romanes, DHS.5000.0054.6660.
27 Exhibit HQI116_RP Annexures to witness statement of Dr Finn Romanes, DHS.5000.0054.9039.
28 Exhibit HQI0160_RP Witness statement of Dr Annaliese van Diemen, 29 [135].
29 Exhibit HQI0164 Affidavit of Mr Jason Helps, 9 [34].
30 Exhibit HQI0153_P Witness statement of Prof. Brett Sutton, 27–28 [146]; Transcript of day 18 hearing 16 September 2020, 1498.
31 HQI0160_RP Witness statement of Dr Annaliese van Diemen, 29 [136].
32 HQI0160_RP Witness statement of Dr Annaliese van Diemen, 29 [136].
33 Exhibit HQI0114_RP Annexures to witness statement of Dr Finn Romanes, DHS.5000.0131.0505.
34 Transcript of day 14 hearing 8 September 2020, 1066–1067.
35 Ibid 1066.
36 Exhibit HQI0153_RP Witness statement of Prof. Brett Sutton, 28 [151].
37 Transcript of day 3 hearing 17 August 2020, 43.
38 Exhibit HQI0153_RP Witness statement of Prof. Brett Sutton, 27 [150].
39 Ibid [149].
40 Exhibit HQI0114_RP Annexures to witness statement of Dr Finn Romanes, DHS.5000.0131.0505.
41 Transcript of day 23 hearing 23 September 2020, 2026.
42 Exhibit HQI0045_RP Witness statement of Mr Rosswyn Menezes 4 [11].
43 Ibid.
44 Exhibit HQI0185(2)_RP Further attachments to witness statement of Mr Simon Phemister, DJP102.007.9311–9313.
45 HQI0162 Witness statement of Ms Andrea Spiteri, 16 [66].
46 Ibid [67].
47 Exhibit HQI0163(1)_RP Annexures to witness statement of Ms Andrea Spiteri, DHS.5000.0001.1240.
48 Ibid.
49 Exhibit HQI0033(1)_RP Annexures to witness statement of Ms Claire Febey, DJP.102.009.3461.
50 Exhibit HQI0185(2)_RP Further Annexures to Witness Statement of Mr Simon Phemister, DJP.102.007.5658.

51 Exhibit HQI0133(1)_RP Annexures to witness statement of Ms Claire Febey, DJP.102.006.9546.
52 Exhibit HQI0258_RP Annexure to Affidavit of Mr Braedan Hogan, DHS.5000.0053.6633.
53 Transcript of day 16 hearing, 11 September 2020, 1282.
54 Transcript of day 24 hearing 24 September 2020, 2076.
55 Exhibit HQI0199_RP DHHS emails re returning passengers from Greg Mortimer cruise, DHS.0001.0013.2566; Exhibit HQI0161_RP Annexures to witness statement of Dr Annaliese van Diemen, DHS.0001.0013.2566.
56 Exhibit HQI0199_RP DHHS emails re returning passengers from Greg Mortimer cruise, DHS.0001.0013.2566; Exhibit HQI0161_RP Attachments to Witness Statement of Dr Annaliese van Diemen, DHS.0001.0013.2566; Transcript of day 23 hearing 23 September 2020, 1985.
57 Transcript of day 23 hearing 23 September 2020, 1987.
58 Transcript of day 16 hearing 11 September 2020, 1282.
59 Exhibit HQI0160_P Witness statement of Dr Annaliese van Diemen, 28 [134].
60 Transcript of day 13 hearing 4 September 2020, 959.
61 Ibid; Exhibit HQI0199_RP DHHS emails re returning passengers from Greg Mortimer cruise, DHS.0001.0013.2566.
62 Exhibit HQI0133_RP Minutes of Operation Soteria Meeting 10 April 2020, DJP.102.007.3065.
63 Transcript of day 23 hearing 23 September 2020, 2023; 2027.
64 Transcript of day 23 hearing 23 September 2020, 2026. See also evidence of Ms Bamert, transcript of day 16 hearing 17 September 2020, 1320-1321.
65 Exhibit HQI0165_RP Annexures to affidavit of Mr Jason Helps, DHS.0001.0131.0073.
66 Exhibit HQI0199_RP DHHS emails re returning passengers from Greg Mortimer cruise, DHS.0001.0013.2566; Exhibit HQI0033(1)_RP Annexures to witness statement of Ms Claire Febey, DJP.102.006.9546; Exhibit HQI0204, Annexures to witness statement of 'DHHS Infection Control Consultant', DHS.5000.0087.4479; Exhibit HQI0258_RP Annexures to Affidavit of Mr Braedan Hogan, DHS.5000.0053.6633; Exhibit HQI0133_RP Minutes of Operation Soteria Meeting 10 April 2020, DJP.102.007.3065.
67 Exhibit HQI0130_RP Witness statement of Ms Pam Williams, 20 [41(f)].
68 Exhibit HQI0165_RP Annexures to affidavit of Mr Jason Helps, DHS.0001.0131.0073.
69 Ibid.
70 Exhibit HQI0162_P witness statement of Ms Andrea Spiteri, 16 [68].
71 Acknowledging that DHHS did engage Infection Prevention Australia to review the environment at the Rydges Hotel, which is discussed further below at [58]–[65].
72 Exhibit HQI0160_P Witness statement of Dr Annaliese van Diemen, 20 [94]–[95].
73 Ibid 21 [97].
74 Transcript of day 18 hearing 16 September 2020, 1531.
75 Exhibit HQI0033(1)_RP Annexures to witness statement of Ms Claire Febey, DJP.102.007.2385.
76 Exhibit HQI0098_RP Annexures to witness statement of Dr Clare Looker, DHS.5000.0054.4766-–4769.
77 Ibid.
78 Ibid.
79 Exhibit HQI0097_RP Witness statement of Dr Clare Looker, 3 [20].
80 Exhibit HQI0114_RP Annexures to witness statement of Dr Finn Romanes, DHS.5000.0131.0504.
81 Exhibit HQI0257_RP Affidavit of Mr Braedan Hogan, 8 [46].
82 Exhibit HQI0114_RP Annexures to witness statement of Dr Finn Romanes, DHS.5000.0131.0504.
83 Transcript of day 16 hearing 11 September 2020, 1324.
84 Exhibit HQI0258_RP Annexures to affidavit of Mr Braedan Hogan, 5000.0053.6633.
85 Ibid 5000.0053.6632.
86 Exhibit HQI0257 Affidavit of Mr Braedan Hogan, 4 [43]–5 [47]. .
87 Exhibit HQI0033_RP Annexures to witness statement of Ms Claire Febey, DJP.102.006.9546.
88 Exhibit HQI0033_RP Annexures to witness statement of Ms Claire Febey, DJP.102.006.9545.
89 Available at Exhibit HQI0033_RP Annexures to witness statement of Ms Claire Febey, DJP.102.006.9548.
90 Exhibit HQI0033_RP Annexures to witness statement of Ms Claire Febey, DJP.102.006.9545.
91 Transcript of day 23 hearing 23 September 2020, 2004.
92 Ibid.
93 Exhibit HQI0204_RP Annexures to witness statement of 'DHHS Infection Control Consultant', DHS.5000.0087.4479.
94 Exhibit HQI0203_RP Witness statement of 'DHHS Infection Control Consultant', 19 [89].
95 Exhibit HQI0204_RP Annexures to witness statement of 'DHHS Infection Control Consultant', DHS.5000.0128.7672–7673.
96 Ibid.
97 Ibid.

98 Exhibit HQI0256_RP Annexures to Affidavit of Mr Jason Helps, DHS.5000.0072.9119.
99 Exhibit HQI0136_RP Annexures to witness statement of Ms Merrin Bamert, DHS.0001.0021.0020–0021.
100 Ibid DHS.0001.0021.0021.
101 Ibid.
102 Exhibit HQI0135_RP Witness statement of Ms Merrin Bamert, 13 [40(a)].
103 Ibid [40(b)].
104 Exhibit HQI0088_RP Witness statement of Dr Stuart Garrow, 9 [29]–10 [30].
105 Exhibit HQI0160_P Witness statement of Dr Annaliese van Diemen, 22 [103]; Transcript of day 18 hearing 16 September 2020, 1552.
106 Exhibit HQI0113_P Witness statement of Dr Finn Romanes, 13 [63].
107 Exhibit HQI0203_RP Witness statement of 'DHHS Infection Control Consultant', 6 [26]–[28].
108 Exhibit HQI0186_RP First witness statement of Ms Kym Peake, 44 [229].
109 Exhibit HQI0135_RP Witness statement of Ms Merrin Bamert 10 [28].
110 Up to the time when the outbreaks occurred.
111 Exhibit HQI0204, Annexures to witness statement of 'DHHS Infection Control Consultant', DHS.5000.0087.4479.
112 Ibid DHS.5000.0087.8605.
113 Exhibit HQI0045_RP, Witness statement of Mr Rosswyn Menezes, 14 [44]–[45].
114 Ibid.
115 Transcript day 19 hearing 17 September 2020, 1599.
116 Ibid.
117 Exhibit HQI0136_RP Annexures to witness statement of Ms Merrin Bamert, DHS.0001.0021.0021.
118 Ibid.
119 Exhibit HQI0186_RP First witness statement of Ms Kym Peake, 44 [230].
120 Ibid 45 [234.3].
121 Ibid 44 [231].
122 Exhibit HQI0104_RP Outbreak Management Plan Rydges Swanston, DHS.0001.0036.0156.
123 Exhibit HQI0008a_RP Witness statement of Dr Charles Alpren, 22 [97].
124 Exhibit HQI0204_RP Witness statement of Dr Sarah McGuinness, 21 [73].
125 Ibid [73]–[74].
126 Ibid [73].
127 Exhibit HQI0008a_RP Witness statement of Dr Charles Alpren, 20 [86].
128 Ibid 22 [97].
129 Exhibit HQI0204_RP Annexures to witness statement of 'DHHS Infection Control Consultant', DHS.5000.0095.6927.
130 Exhibit HQI0186_RP First witness statement of Ms Kym Peake, 45 [234.3].
131 Ibid 44 [229].
132 Transcript of day 23 hearing 23 September 2020, 2007–2008.
133 HQI0204_RP Annexures to witness statement of 'DHHS Infection Control Consultant', DHS.5000.0108.1504.
134 Exhibit HQI0203_RP Witness statement of 'DHHS Infection Control Consultant', 9–10, [40].
135 Ibid 16 [72]; Exhibit HQI0204_RP Annexures to witness statement of 'DHHS Infection Control Consultant', DHS.5000.0099.6387; DHS.5000.0095.6935.
136 Exhibit HQI0204_RP Annexures to witness statement of 'DHHS Infection Control Consultant', DHS.5000.0099.6387.
137 Exhibit HQI0001a_P Witness statement of Prof. Lindsay Grayson, 15 [65].
138 Exhibit HQI0153_RP Witness statement of Prof. Brett Sutton, 28 [152].
139 Transcript of day 18 hearing 16 September 2020, 1499.
140 Exhibit HQI0153_P Witness statement of Prof. Brett Sutton 28 [151]–[152]; Transcript of day 18 hearing 16 September 2020, 1498-1499; Transcript of day 16 hearing 11 September 2020, 1282.; Exhibit HQI0104_RP Outbreak Management Plan Rydges Swanston, DHS.0001.0036.0156–0157.
141 Exhibit HQI0001_P Witness statement of Prof. Lindsay Grayson, 17 [68(c)].
142 Transcript of day 14 hearing 8 September 2020, 1069; See also Exhibit HQI0001a_P Witness statement of Prof. Lindsay Grayson 19 [76].
143 Transcript of day 14 hearing 8 September 2020, 1069. Transcript of day 14 hearing, 8 September 2020, examination of Dr Crouch, 1069.17–22; on the point that all returned travellers should be treated as potentially positive see Exhibit HQI0001a_P Witness statement of Prof. Lindsay Grayson, [76].
144 Transcript of day 14 hearing 8 September 2020, 1069.
145 Ibid 1069–1070.
146 Transcript of day 14 hearing, 8 September 2020, examination of Dr Crouch, Ibid 1069.17–22
147 Ibid 1065; Exhibit HQI0103_RP Witness statement of Dr Simon Crouch, 9 [42(a)].

148 Transcript of day 14 hearing 8 September 2020, 1066.
149 Transcript of day 18 hearing, 16 September 2020, 1499.
150 Ibid.
151 Ibid.
152 Ibid.
153 Transcript day 16 hearing 11 September 2020, 1281.
154 Ibid.
155 Exhibit HQI0104_RP Outbreak Management Plan Rydges Swanston, DHS.0001.0036.0154.
156 Exhibit HQI0001a_P Witness statement of Prof. Lindsay Grayson, 14–15 [61].
157 Ibid 19 [76].
158 Ibid [75].
159 Ibid.
160 Ibid.
161 Transcript day 16 hearing 11 September 2020.
162 Exhibit HQI0125_RP Witness statement of Ms Melissa Skilbeck, 24–25 [135].
163 Ibid 1288; Exhibit HQI0130_RP Witness statement of Ms Pam Williams, 23 [49(d)].
164 Transcript day 16 hearing 11 September 2020, 1321.
165 Ibid 1321.
166 Ibid 1324.
167 Ibid 1321.
168 Exhibit HQI0114_RP Annexures to witness statement of Dr Finn Romanes, DHS.5000.0131.0504.
169 Exhibit HQI0186 First witness statement of Ms Kym Peake, 46 [240].
170 Exhibit HQI0082_RP Second witness statement of Ms Rachaele May, 7 [32]; Transcript of day 13 hearing 4 September 2020, 974.
171 Exhibit HQI0099_RP Witness statement of Ms Simone Alexander, 2 [11].
172 Exhibit HQI0008a_RP Witness statement of Dr Charles Alpren, 21 [90].
173 That is, they did not share any sufficient genomic similarity to link them with any other known cases in Victoria.
174 Transcript of day 4 hearing 18 August 2020, 103; Exhibit HQI0008a_RP Witness statement of Dr Charles Alpren, 21 [90].
175 Transcript of day 4 hearing 18 August 2020, 104; Exhibit HQI0008a_RP Witness statement of Dr Charles Alpren, 21 [91].
176 Exhibit HQI0008a_RP Witness statement of Dr Charles Alpren, 20–21 [87]–[94].
177 Ibid [99].
178 Ibid.
179 Ibid [100].
180 Ibid [101]; Transcript of day 4 hearing 18 August 2020, 104.
181 Ibid, 23 [105]–[106]; 25 [113]–[114]; Transcript of day 4 hearing 18 August 2020, 104.
182 Exhibit HQI0008a_RP Witness statement of Dr Charles Alpren, 23 [105].
183 Ibid 24 [108].
184 Ibid 23 [109].
185 By the time the genomic and epidemiological evidence was presented to the Inquiry in mid-August, by the close of evidence in September, or subsequently.
186 Exhibit HQI0008a_RP Witness statement of Dr Charles Alpren, 26 [119].
187 Ibid 28 [127].
188 Ibid 23 [106].
189 Transcript of day 4 hearing 18 August 2020, 106.
190 Ibid.
191 Ibid.
192 Ibid 107.
193 Exhibit HQI0008a_RP Witness statement of Dr Charles Alpren, 25 [114].
194 Ibid 27 [122]; 28 [130].
195 Transcript of day 26 hearing 28 September 2020, 2234; DHHS 'Media release–Coronavirus update for Victoria — Monday 15 June' (Media Release, 15 June 2020) <dhhs.vic.gov.au/updates/coronavirus-covid-19/media-release-coronavirus-update-victoria-monday-15-june>.

196 DHHS, ‘Coronavirus update for Victoria — 24 November 2020’ (Media Release, 24 November 2020) <https://www.dhhs.vic.gov.au/coronavirus-update-Victoria-24-November-2020>.
197 DHHS ‘Coronavirus update for Victoria — 23 May 2020 (Media Release, 23 May 2020) <https://www.dhhs.vic.gov.au/coronavirus-update-victoria-23-may-2020>.
198 DHHS ‘Coronavirus update for Victoria — 24 June 2020’ (Media Release, 24 June 2020), <https://www.dhhs.vic.gov.au/coronavirus-update-victoria-24-june-2020>.
199 Exhibit HQI0008a_RP Witness statement of Dr Charles Alpren, 20 [82]-[87].
200 DHHS ‘Victorian coronavirus (COVID-19) data’ (web page, 15 December 2020) <https://www.dhhs.vic.gov.au/victorian-coronavirus-covid-19-data>; DHHS ‘Coronavirus update for Victoria — 30 November 2020’ (Media Release, 30 November 2020) <https://www.dhhs.vic.gov.au/coronavirus-update-victoria-30-november-2020>; DHHS ‘Case locations and outbreaks’ (web page, 15 December 2020) < https://www.dhhs.vic.gov.au/case-locations-and-outbreaks>; The Age ‘Ten graphs that show the rise and fall of Victoria’s COVID-19 second wave’ (Article, 27 October 2020) < https://www.theage.com.au/national/victoria/ten-graphs-that-show-the-rise-and-fall-of-victoria-s-covid-19-second-wave-20201027-p5694b.html>.
201 Exhibit HQI0008a_RP Witness statement of Dr Charles Alpren, 25 [117]; 27 [123]; 28 [126].
202 Ibid 25 [115].
203 Ibid 26 [117–118].
204 Exhibit HQI0106_RP, Witness statement of Ms McGuinness, dated 21 August 2020, DHS.9999.0004.0001 at 17 [64].
205 Exhibit HQI0008a_RP Witness statement of Dr Charles Alpren, 26 [118]; Transcript of day 4 hearing 108–10918 August 2020, 108–109.
206 Transcript of day 4 hearing 18 August 2020, 110.
207 Exhibit HQI0008a_RP Witness statement of Dr Charles Alpren, 26 [118].
208 Ibid.
209 Ibid.
210 Ibid 27 [123].
211 Ibid 27 [123]; 28 [126].
212 Transcript of day 14 hearing 8 September 2020, 1075.
213 Exhibit HQI0097_RP Witness statement of Dr Clare Looker, 17 [83].
214 Transcript of day 14 hearing 8 September 2020, 1075.
215 Transcript of day 14 hearing 8 September 2020, 1075–1076.
216 Exhibit HQI0106_RP Witness statement of Dr Sarah McGuinness, 17 [64].
217 Transcript of day 14 hearing 8 September 2020, 1076–1077.
218 Exhibit HQI0104_RP Outbreak Management Plan Rydges Swanston, DHS.0001.0036.0156.0157.
219 Transcript of day 14 hearing 8 September 2020, 1114.
220 Ibid.
221 Ibid.
222 Exhibit HQI0106_RP Witness statement of Dr Sarah McGuinness, 24–25 [89].
223 Exhibit HQI0008a_RP Witness statement of Dr Charles Alpren [118].
224 Exhibit HQI0105_RP Annexures to the witness statement of Dr Simon Crouch, DHS.0001.0003.0054.
225 Exhibit HQI0103_RP Witness statement of Dr Simon Crouch, [31]–[32].
226 Exhibit HQI0105_RP Annexures to the witness statement of Dr Simon Crouch, DHS.0001.0003.0070.
227 See eg: Exhibit HQI0104_RP Outbreak Management Plan Rydges Swanston, DHS.0001.0036.0156.0157; Exhibit HQI0155_RP Annexures to witness statement of Prof. Brett Sutton, DHS.0001.0032.0205 (Outbreak Management Plan Stamford Plaza Hotel).
228 Transcript of day 14 hearing 8 September 2020, 1109.
229 Exhibit HQI0112_RP Annexures to the witness statement of Ms Kate Gavens, DELW.0001.0001.0653; Exhibit HQI0111_RP Witness statement of Ms Kate Gavens, 10 [42]–[43].
230 Exhibit HQI0104_RP Outbreak Management Plan Rydges Swanston, DHS.0001.0036.0156-0157.
231 Dated 13 July 2020.
232 Exhibit HQI0104_RP Outbreak Management Plan Rydges Swanston, DHS.0001.0036.0156-0157.
233 Exhibit HQI0001_P Witness statement of Prof. Lindsay Grayson, 9 [42].
234 Ibid 27 [122].
235 Exhibit HQI0106_RP Witness statement of Dr Sarah McGuinness, 13 [48].
236 Exhibit HQI0103_RP Witness statement of Dr Simon Crouch, 12 [54(a)].
237 Ibid 12 [54(c)]; Exhibit HQI0106_RP Witness statement of Dr Sarah McGuinness, 13 [48].
238 HQI0103_RP Witness statement of Dr Simon Crouch, 12 [54(c)].
239 Submission 08 Rydges Hotel Ltd, 19 [62].

240 Therapeutic Goods Administration, Disinfectants for use against COVID-19 in the ARTG for legal supply in Australia Department of Health (Cth), 12 November 2020 <https://www.tga.gov.au/disinfectants-use-against-covid-19-artg-legal-supply-australia>.
241 Exhibit HQI0106_RP Witness statement of Dr Sarah McGuinness, 14 [50].
242 Exhibit HQI0103_RP Witness statement of Dr Simon Crouch, 12 [54(b)].
243 Exhibit HQI0106_RP Witness statement of Dr Sarah McGuinness, 14 [51].
244 Transcript of day 14 hearing 8 September 2020, 1072-1073.
245 Exhibit HQI0106_RP Witness statement of Dr Sarah McGuinness, 13 [49].
246 Exhibit HQI0141 Rydges Outbreak Management Plan, DHS.0001.0036.0159; Transcript of day 14 hearing 8 September 2020, 1114–1115; Exhibit HQI0106_RP Witness statement of Dr Sarah McGuinness, 13 [49].
247 Transcript of day 14 hearing 8 September 2020, 1083; 1115.
248 Transcript of day 16 hearing 11 September 2020, 1257.
249 Ibid; Transcript of day 14 hearing 8 September 2020, 1115; Exhibit HQI0106_RP Witness statement of Dr Sarah McGuinness, 13 [49].
250 Transcript of day 16 hearing 11 September 2020, 1256.
251 Transcript of day 16 hearing 11 September 2020, 1257.
252 Transcript of day 16 hearing, 11 September 2020, 1255; Exhibit HQI0106_RP Witness statement of Dr Sarah McGuiness, 13 [49].
253 Transcript of day 14 hearing 8 September 2020, 1115.
254 Exhibit HQI0045_RP Witness statement of Mr Rosswyn Menezes, 12 [38(c)]; Exhibit HQI0046_RP Annexures to witness statement of Mr Rosswyn Menezes, RYD.0001.0001.0104.
255 Exhibit HQI0097_RP Witness statement of Dr Clare Looker, 7 [33]–[34]; Transcript of day 14 hearing 8 September 2020, 1084.
256 Exhibit HQI0104_RP Outbreak Management Plan Rydges Swanston, DHS.0001.0036.0164.
257 Ibid.
258 Transcript of day 14 hearing 8 September 2020, 1122.
259 Transcript of day 14 hearing 8 September 2020, 1090.
260 WHO, 'Modes of transmission of virus causing COVID-19: implication for IPC precaution recommendations' (Scientific Brief, 29 March 2020) <https://www.who.int/news-room/commentaries/detail/modes-of-transmission-of-virus-causing-covid-19-implications-for-ipc-precaution-recommendations>.
261 Submissions 03 Department of Health and Human Services 32 [172].
262 Exhibit HQI0103 Witness statement of Dr Simon Crouch, 8 [39]; Transcript of day 14 hearing 8 September 2020, 1066–1067.
263 Exhibit HQI0114_RP Annexures to witness statement of Dr Finn Romanes, DHS.5000.0123.3279.
264 Transcript of day 4 hearing 18 August 2020, 96.
265 Exhibit HQI0008_RP Witness statement of Dr. Charles Alpren, 9–10 [40]–[41].
266 Transcript of day 4 hearing 18 August 2020, 96.
267 Ibid.
268 Ibid.
269 Exhibit HQI0106_RP Witness statement of Dr Sarah McGuinness, 14 [52].
270 Transcript of hearing day 14, 8 September 2020, 1103.
271 Ibid.
272 Transcript of day 14 hearing 8 September 2020, 1090.
273 Exhibit HQI0106_RP Witness statement of Dr Sarah McGuinness, 28 [99].
274 Transcript of day 14 hearing 8 September 2020, 1090.
275 Transcript of day 14 hearing 8 September 2020, 11021103.; Exhibit HQI0097_RP Witness statement of Dr Clare Looker, 18 [86].
276 Transcript of day 18 hearing 16 September 2020, 1462.
277 PHW Act, s 188(2): at 1 July 2020, the value of a penalty unit is $165.22 (see Government Gazette No G16, 23 April 2020).
278 PHW Act, s 210(1): it is no offence if the person indicates in respect of which the information is false or misleading and if practicable, providing the correct information, or the person otherwise believed on reasonable grounds that the information was true and was not misleading.
279 Transcript of day 18 hearing 16 September 2020, 1462.
280 Ibid.
281 Exhibit HQI0008_RP Witness Statement of Dr Charles Alpren, 5 [25].
282 Ibid 5 [26] – [27].
283 Ibid 8-9 [36] – [37].
284 Ibid 18 [77].

285 Ibid 14 [57].
286 Ibid 13 [54] – [56].
287 Exhibit HQI0106_RP Witness statement of Dr Sarah McGuinness, 21 [74].
288 Exhibit HQI0186_RP First witness statement of Ms Kym Peake, 246–247 [243].
289 Exhibit HQI0106_RP Witness statement of Dr Sarah McGuinness, 21[76].
290 Exhibit HQI0186_RP First witness statement of Ms Kym Peake, 246–247 [243].
291 Exhibit HQI0106_RP Witness statement of Dr Sarah McGuinness, 21–22 [77].
292 Ibid 22 [78].
293 Ibid [79].
294 Transcript of day 14 hearing 8 September 2020, 1109.
295 Ibid.
296 Ibid 1120.
297 Exhibit HQI0097_RP Witness statement of Dr Clare Looker, 11 [55]; Exhibit HQI0155_RP Annexures to witness statement of Prof. Brett Sutton, DHS.0001.0036.0212.
298 Exhibit HQI0097_RP Witness statement of Dr Clare Looker 14 [63]; Exhibit HQI0155_RP Annexures to witness statement of Prof. Brett Sutton, DHS.0001.0036.0212.
299 Exhibit HQI0155_RP Annexures to Witness Statement of Prof. Brett Sutton, DHS.5000.0036.0212; DHS.5000.0036.3558–3559; Transcript of day 14 hearing 8 September 2020, 1118–1119.
300 Exhibit HQI0155_RP Annexures to Witness Statement of Prof. Brett Sutton, DHS.5000.0036.0212; Exhibit HQI0097_RP Witness statement of Dr Clare Looker, 14 [69].
301 Exhibit HQI0106_RP, witness statement of Dr Sarah McGuinness, 28, [98].
302 Ibid.
303 See eg Exhibit HQI0160_RP Witness statement of Dr Annaliese van Diemen, 32 [147].
304 Exhibit HQI0140 Outbreak Management Plan Rydges Hotel, DHS.0001.0036.0156–0157 Exhibit HQI0155_RP Annexures to Witness Statement of Prof. Brett Sutton, DHS.0001.0036.0205.
305 Exhibit HQI0106_RP Witness statement of Dr Sarah McGuinness, 17 [64].
306 Exhibit HQI0106_RP Witness statement of Dr Sarah McGuinness, 21–23 [73]–[79].
307 See e.g. Ms Peake's evidence in which she agrees it would be prudent to have a dedicated infection prevention and control person on-site as a feature of any model going forward: Transcript of day 23 hearing 23 September 2020, 2007–2008.
308 Review of Victoria's Private Security Industry–Victoria's Private Security Industry: Issues Paper for consultation Police Policy and Strategy (15 June 2020) <https://engage.vic.gov.au/private-security-review-2020>
309 Exhibit HQI0103_RP Witness statement of Dr Simon Crouch, 9 [42(d)].
310 Transcript of day 18 hearing 16 September 2020, 1494–1495.
311 Exhibit HQI0140_RP Outbreak Management Plan Rydges Hotel, DHS.0001.0036.0148; Exhibit HQI0155_RP Annexures to Witness Statement of Prof. Brett Sutton, DHS.0001.0036.0205 (Changed to the Outbreak Management Plan Stamford Plaza contained in Sutton material as this has been cited above consistently).
312 Exhibit HQI0097_RP Witness Statement of Dr Clare Looker 21 [95]; HQI0103_RP Witness statement of Dr Simon Crouch, 9 [42(d)]; 13 [57].
313 Transcript of day 18 hearing 16 September 2020, 1496.
314 Transcript of heading day 26, 28 September 2020, 2234.
315 Ibid.
316 03 Submissions, Department of Health and Human Services, 52 [282].
317 Ibid 18 [96]
318 Ibid 52 [282].
319 Ibid.
320 Ibid.
321 Submissions on Behalf of Rydges Hotel Ltd dated 5 October 2020, 4 [14].
322 Ibid, 4 [15].
323 Ibid, 18 [60]
324 Ibid, [1.11].
325 Ibid, 8–9 [3.4].
326 Board of Inquiry into the COVID-19 Hotel Quarantine Program–Submissions on behalf of Unified Security Group (Australia) Pty Ltd, 2 [1.5]
327 Ibid, [3.3]
328 Unified submissions, 28-29 [5.2].
329 Submissions of MSS Security Pty Ltd dated 5 October 2020, 47 [170].
330 Ibid, 47 [169].
331 Ibid 27 [96].