Review of the COVID-19 Response Operating Model

ACT Health Directorate

27 June 2023

nous

Nous Group acknowledges Aboriginal and Torres Strait Islander peoples as the First Australians and the Traditional Custodians of country throughout Australia. We pay our respect to Elders past, present and emerging, who maintain their culture, country and spiritual connection to the land, sea and community.

This artwork was developed by Marcus Lee Design to reflect Nous Group's Reconciliation Action Plan and our aspirations for respectful and productive engagement with Aboriginal and Torres Strait Islander peoples and communities.

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1 Executive summary

The ACT Health Directorate (ACT Health) engaged Nous Group (Nous) to conduct a review of the operating model implemented from 2020 to 2023 to respond to the COVID-19 pandemic, and to distil recommendations for an effective, proportionate and targeted future public health emergency management capability.

The COVID-19 pandemic changed the way that international and Australian jurisdictions respond to public health emergencies which entail significant threat to our health, economic and social systems. With global public health threats likely to become inherent risks of the future because of climate change, urbanisation and migration, this Review has found that ACT Health requires additional capability — distinct from its current disease surveillance and management capabilities — to both plan for and manage increasingly complex, and often novel, public health emergencies. The pandemic highlighted the need to develop a highly responsive planning and preparedness capability which anticipates cycles of surge, super surge and step-down transitional arrangements to reflect the lifecycle of a public health emergency with waves of amplified risk and highly distributed impact.

The headline recommendation of this Review is that an enhanced ACT Health operating model is required to respond to prolonged, large scale public health emergencies caused by an environmental hazard, infectious disease or anthropogenic event that threatens to overwhelm the normal business-as-usual mechanisms of the health system or health infrastructure and/or endangers the broader community, where significant input from a whole-of-Government perspective is required to manage the threat.

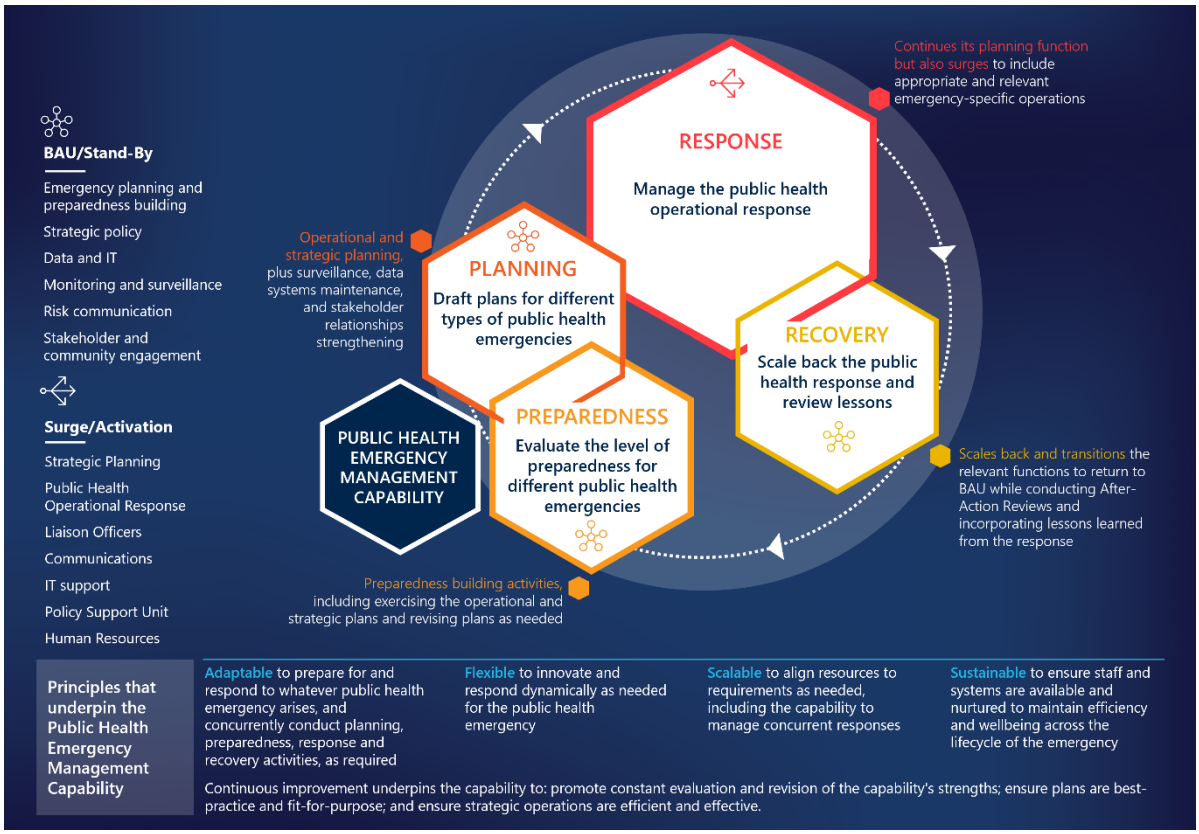
The business case for this enhanced ACT Health operating model is informed by key lessons learnt from management of the COVID-19 pandemic. One critical lesson is that government and community expectations of future public health emergency management have fundamentally changed. All governments and the broader community will now apply a lens which expects a base operating model that can deliver rapid technical decision-making and nuanced risk communication to build and maintain community trust and confidence. There is a standing expectation of transparency of data and point in time reporting capability. In addition, ACT Health's operating model must have the capability to engage and align with the evolving future role of the Australian Government as a result of the prospective establishment of the Australian Centre for Disease Control (CDC). The ACT operating model must provide local capacity and credibility to actively engage in national coordination of the Australian public health system to protect Australia from nationally significant health threats and public health emergencies.

This future public health emergency management capability should be embedded within Population Health Division to augment the work of ACT Health's current public health emergency management teams. However, its purpose, roles and functions should be clearly defined and scoped to ensure it has the bandwidth to focus on preparing for and managing complex, prolonged public health emergencies. Broadly speaking, the capability should operate across:

- Planning and Preparedness phases, in a business-as-usual (BAU) capacity to develop fit-for-purpose emergency response plans for public health emergencies, and ensure arrangements are in place to action these swiftly.
- Response and Recovery phases, in a surged and then BAU capacity, to deliver an effective, efficient public health operational response, and guide ACT Health through post-emergency recovery.

Figure 1 (overleaf) summarises the key functions that should be resourced, designed and delivered through this enhanced public health emergency management capability.

Figure 1 | Proposed operating model for an enhanced public health emergency management capability



This report presents the Review's key findings and recommendations. It is structured as follows:

- **Section 3** provides an overview of the context for the COVID-19 Response, including the governing legislation and governance structure, as well as factors that are unique to the ACT operating environment.
- **Section 4** presents our key findings against each of the COVID-19 Response's key operating model elements, as well as a brief outline of the conceptual framework that guided our analysis.
- **Section 5** outlines the need for ACT Health to develop additional capability to respond to emerging threats, and the functions this capability would need to perform across the planning, preparedness, response and recovery phases of a public health emergency.
- **Section 6** summarises the Review's key recommendations to assist ACT Health to be better prepared for future public health emergencies.

2 Introduction

The ACT Health Directorate (ACT Health) engaged Nous Group (Nous) to conduct a review of the operating model implemented from 2020 to 2023 to respond to the COVID-19 pandemic, and distil recommendations for an effective, proportionate and targeted future public health emergency management capability.

Nous notes that the Review was not designed to assess the Clinical Health Emergency Coordination Centre's (CHECC) clinical services strategy[1] for the COVID-19 Response, nor did it assess the decisions or impact of the actions taken during the Response.

Nous adopted a future-focused lens to conduct the Review. Through a combination of desktop analysis and extensive stakeholder consultation, we examined the COVID-19 Response's systems, processes, governance arrangements and structure to identify what worked and what could have been improved from an organisational design perspective. In doing so, the Review sought to provide ACT Health with a clear picture of how to incorporate lessons from the COVID-19 Response to build its capability and capacity to respond effectively to future public health emergencies.

In considering the types of public health emergencies ACT Health may be required to respond to in the future, the Review made an important distinction between prolonged, complex public health emergencies similar in scale and scope to COVID-19, and more readily contained public health threats of a shorter-term duration, which typically arise from a known cause and can be managed by routine BAU processes and systems. These are different scenarios requiring distinct operating models.

The Review was guided by Nous' Organisational Architecture Framework (NOAF) — the conceptual framework Nous uses to think about the environment in which organisations operate. Section 4 provides an overview of the NOAF. In line with the NOAF, we designed Key Lines of Enquiry (KLEs) to guide our research and analysis, and answer the project's key questions:

- What worked across the COVID-19 Response systems, structures, processes and governance arrangements to enable an effective and efficient response?
- What systems, structures, processes and governance arrangements does ACT Health require moving forward, to enable it to respond to future public health emergency threats?
- What role should ACT Health's health emergency response capability play as part of the broader ACT whole-of-Government emergency response moving forward?
- What are the key elements of a public health emergency operating model that could be further developed by ACT Health?

Nous used qualitative research methods to answer these questions, conducting both an extensive document review, and broad stakeholder consultation. In total, we conducted 51 interviews with both senior members of the COVID-19 Response team, and staff from other ACT and Australian Government agencies who worked closely with the COVID-19 Response. We also held six focus groups with current and former COVID-19 Response staff members to generate nuanced insights on the specifics of the operations of the Response. Shared discussion was encouraged by testing themes and ideas heard in interviews regarding day-to-day issues, such as communication processes, data collection systems, role clarity, authorising environments and staff wellbeing.

[1] A formalised clinical services sector governance model was established in March 2020 to support the response to COVID-19, with the appointment of the CEO, Canberra Health Service to be the Deputy Health Controller of clinical services. The Deputy Health Controller was responsible for the development and implementation of a sector wide clinical services strategy, which resulted in the establishment of the CHECC.

3 ACT Health plays a leading role in identifying and managing public health threats in the ACT

Under the *Public Health Act 1997,* ACT Health is responsible for identifying and managing a range of public health threats of varying complexity and duration. This section provides an overview of the ACT's current public health emergency management arrangements, and the operating model ACT Health implemented to respond to COVID-19.

3.1 ACT Health's management of the COVID-19 pandemic was guided by legislation

In the ACT, the management of public health emergencies is governed by two core pieces of legislation:[2]

1. The ACT's ***Public Health Act 1997*** provides the base legal framework for the management of public health threats, including public health emergencies. It establishes the circumstances in which a Public Health Emergency Declaration can be made which enables the Chief Health Officer (CHO) to take necessary steps to reduce threats to public health, including by issuing public health directions.

   Prior to passage of the *Public Health Amendment Act 2022* in June 2022, public health directions issued by the CHO set out actions to limit the spread of COVID-19 in the ACT. These public health directions gave effect to the original formulation of test, trace, isolate and quarantine (TTIQ) measures and public health and social measures (PHSM) including isolation and quarantine requirements.

   The *Public Health Amendment Act* established a new regulatory framework for protecting the community from risks to public health presented by COVID-19 under the ACT's *Public Health Act.* It enabled public health directions to be issued outside of a Public Health Emergency Declaration by Executive government declaration of a COVID-19 Management Declaration. These declarations apply for a period of 90 days, but can be extended, and are disallowable instruments so are subject to closer parliamentary scrutiny than a Public Health Emergency Declaration. They provide for the government to respond to ongoing risk by issuing:

   - Ministerial directions for public health and social measures including regulation of entry into the ACT, gatherings and activities and use of personal protective equipment
   - CHO directions for testing, isolation and segregation of a person
   - Vaccination directions by the Executive relating to vaccination requirements applying to particular types of work, activities or places.

   Each of these directions is subject to consultation with the ACT Human Rights Commissioner to confirm that directions are consistent with human rights. Decisions on whether to approve exemptions to directions are subject to internal review. In addition, internal review decisions relating to segregation, isolation or entry into the ACT on medical or compassionate grounds are eligible for further review by an external reviewer.

   These more transparent and contestable provisions are specific to COVID-19 Management Declarations. A key issue is whether a similar framework should apply to any future operating model for a serious public health emergency as part of an additional targeted review of further amendment to the ACT's *Public Health Act 1997.*

[2] Public health emergency management in the ACT is also informed by the *Biosecurity Act 2015* and *National Health Security Act 2007*

2. The ACT's ***Emergencies Act 2004*** which provides the legal framework for broader environmental emergency management, including fire and ambulance incidents and other emergencies. It outlines protocols for ambulance services, fire and rescue, bushfire control and prevention, emergency governance structures and the declaration of emergencies. The Act establishes the criteria for declaring a state of emergency and the requirement to develop an ACT Emergency Plan in accordance with the Act.

To support emergency responses, the ACT Government has also developed a series of emergency response plans which provide guidance about how to rapidly scale up an Incident Response Team structure, including high-level governance arrangements and operational responsibilities. These plans include:

1. **The ACT Emergency Plan,** which is the primary document for emergency management in the ACT. It describes the responsibilities and authority different organisations and individuals have in preventing and managing emergencies and their consequences in the ACT in accordance with the requirements of the ACT's *Emergencies Act 2004*. The Plan was endorsed by the chair of the Security and Emergency Management Senior Officials Group (SEMSOG) and approved by the ESA Commissioner and the Minister for Police and Emergency Services. The ACT Emergency Plan names ACT Health as the lead agency for a whole-of-ACT health sector response to emergencies, and outlines the ACT Government and Australian Government arrangements that oversaw the COVID-19 Response in the ACT.
2. **The ACT Health Emergency Sub-Plan (HEP)**, which provides a framework for a coordinated ACT Health Sector emergency response, in accordance with the ACT's *Emergencies Act 2004* and the ACT Emergency Plan. It is a supporting sub-plan of the ACT Emergency Plan and was prepared by the Health Sector Emergency Management Committee (HSEMC), which is chaired by the CHO. The HEP outlines a framework to set up a Health Emergency Control Centre (HECC) at the start of an emergency response, the responsibilities of the CHO as Health Controller, and the responsibilities of other supporting agencies involved in a public health emergency response.
3. **Emergency-specific ACT Health Sector Plans**, which provide further guidance on specific hazards, risks and operational requirements. These include:
    a. The Epidemic Infectious Disease Plan, which was activated for the COVID-19 Response. It outlines public health measures required to manage a pandemic and provided guidance for the management of COVID-19, utilising the ACT emergency management governance structure.
    b. The Mass Casualty Incident Plan.
    c. The Healthcare Facility Medical Evacuation Coordination Plan.

3.2 In early 2020, ACT Health rapidly stood up a HECC to lead the ACT Health System response to COVID-19

COVID-19 spread across international borders so quickly that all countries and jurisdictions were forced to respond in a matter of weeks. Within 10 days of the first case of COVID-19 being detected outside China, and before the virus had even reached Australia, ACT Health had initiated its public health emergency managements arrangements. The initial response was ramped up following confirmed cases in Australia, with the full-scale response put in place by 29 January 2020. The key early developments in the response to COVID-19 include:

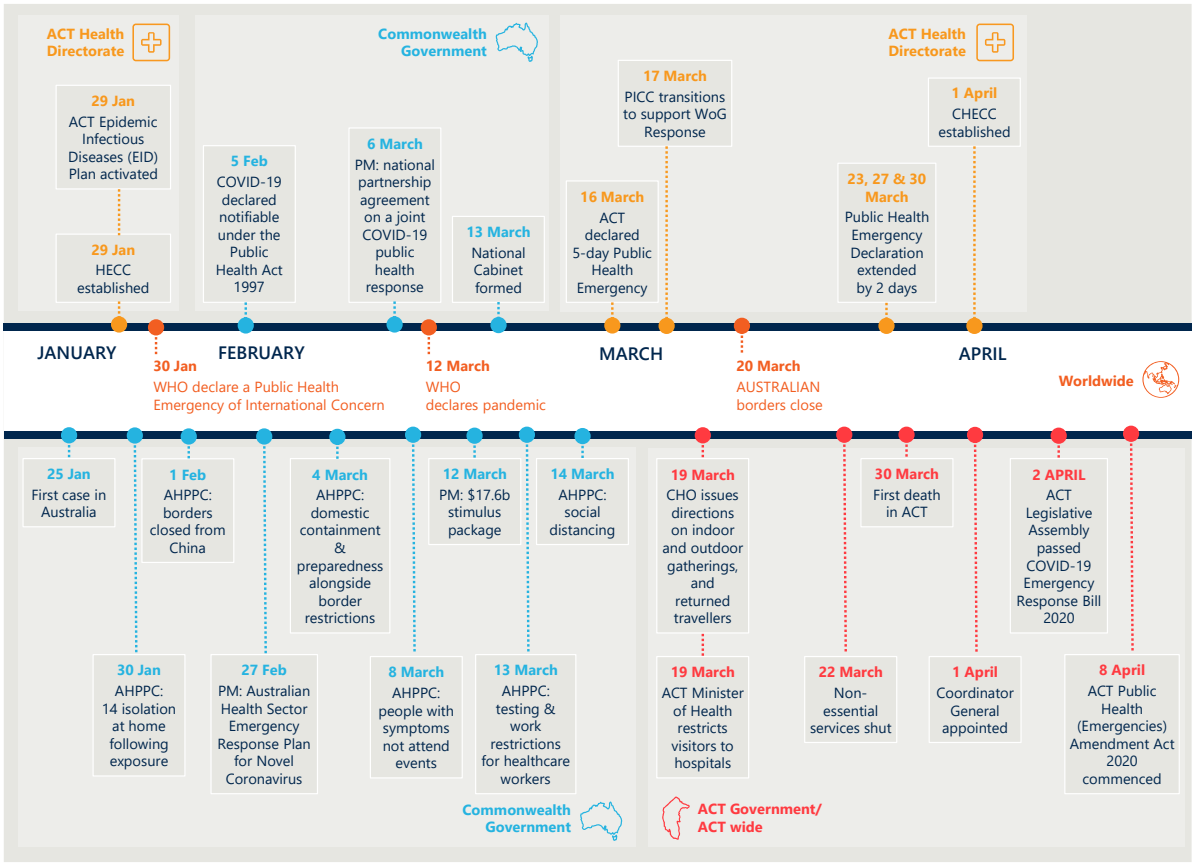
- **23 January 2020 –** In response to the evolving COVID-19 situation overseas, ACT Health convened an Acute Response Team (ART) to review the ACT's pandemic preparedness, undertake forward planning and review legislative requirements for responding to a novel infectious disease.
- **23 January 2020 –** The ACT Health Sector Emergency Management Committee (HSEMC) held a meeting with stakeholders to confirm sector wide preparedness activities and coordination arrangements. The HSEMC was chaired by the Chief Health Officer, and included public and private

hospitals, General Practice peak bodies, ACT Pathology, the Health Protection Service (HPS) and the ACT Ambulance Service (ACTAS).

- **25 January 2020 –** The first cases of COVID-19 were detected in Australia.
- **29 January 2020 –** The ART escalated into the Health Emergency Control Centre (HECC) to enhance situational monitoring of the COVID-19 outbreak and manage the increased community and intra-government information requirements within the ACT.
- **16 March 2020** – The ACT Minister for Health declared a Public Health Emergency in response to the rapidly evolving COVID-19 situation across Australia. This declaration enabled the Chief Health Officer to take any action, or give any Direction, considered to be necessary to protect Canberrans and minimise the spread of COVID-19 in the ACT. With these additional powers under the Public Health Emergency Declaration, the Chief Health Officer led ACT Health COVID-19 Response as the lead decision maker for the HECC.

Figure 2 presents a timeline of key events from January 2020 to April 2020, to highlight the rapid pace of the COVID-19 Response's establishment.

Figure 2 | Timeline of the first four months of COVID-19 in the ACT



The HECC was comprised of two main entities and was established within ACT Health's Population Health Division. In line with the HEP, the HECC was initially established in the ACT Health Protection Service in Holder, ACT. Following an increase in staffing and activities, the HECC was relocated to the Health Directorate offices in Woden, ACT, in April 2020.

Figure 3 overleaf outlines the two entities of the HECC — the Public Health Emergency Coordination Centre (PHECC) and the Clinical Health Emergency Coordination Centre (CHECC) — and their role in the COVID-19 Response.

Figure 3 | Entities of the HECC

PHECC – Public Health Emergency Coordination Centre

The PHECC planned and delivered the public health response to COVID-19. In addition to implementing public health measures such as Test, Trace, Isolate and Quarantine measures, and the vaccination program, the PHECC assumed a wide range of functions including policy development, community engagement, data analysis, reporting, epidemiological modelling and surveillance, and logistical support. The PHECC also included executive support staff and staff from the office of the CHO.

CHECC – Clinical Health Emergency Coordination Centre

The CHECC was on the clinical frontline against COVID-19, coordinating with stakeholders from clinical settings in the ACT to provide advice and support to the clinical workforce on the evolving COVID-19 situation.

The HECC was resourced with seconded staff from areas across ACT Health including Communicable Disease Control, the Health Emergency Management Unit (HEMU) and Communications and Government Relations, as well as other officers from the Health Protection Service and Public Health Physicians/Registrars. Resourcing was subsequently broadened to include seconded staff from across ACT Government.

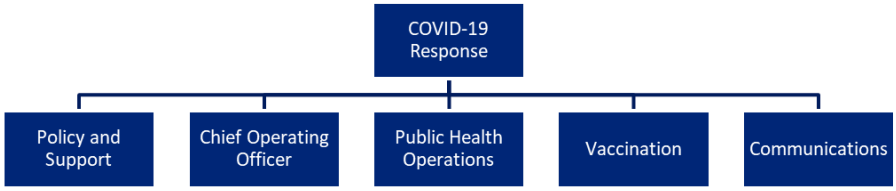
3.3 The COVID-19 Response operating model evolved as the pandemic progressed, but core elements stayed the same

Over the course of the pandemic, the COVID-19 Response scaled its functions up and down in accordance with public health need. However, the primary focus of the Response — strategic and operational planning, and the delivery of the public health response to COVID-19 — remained consistent over the pandemic.

The HECC was initially established in accordance with the operating model outlined in the HEP, which is based upon the Australasian Inter-Service Incident Management System (AIIMS). AIIMS is an incident management framework commonly used across Australia to manage emergencies. The HECC initially included five core functional units: operations, planning, logistics, public communication, and liaison officers. While these functions continued to be performed as the pandemic progressed, the complexity, scale and longevity of the COVID-19 pandemic required ACT Health to evolve to allow for stability of funding and staffing, and to support ongoing business cases to Cabinet. Accordingly, from October 2020 the HECC transitioned into a more sustainable organisational model (later called the COVID-19 Response Branch), but still retained the AIIMS structure.

The HECC was situated within ACT Health's Population Health Division, but drew upon resources from across Government where required to minimise duplication of effort. The Branch's structure morphed several times, as evolving priorities intensified the work of particular areas, but broadly encompassed the functional areas outlined in Figure 4.

Figure 4 | Organisational structure of the COVID-19 Response Branch[3]



Just as the structure of the COVID-19 Response evolved in accordance with the dynamic nature of the public health response, so too did its resourcing requirements. Figure 5 captures the change in staffing levels in the PHECC over the course of the pandemic, to demonstrate the fluctuating scale of the response. For example, in the months following the 2020 lockdown, the PHECC consisted of approximately 40 staff, but this increased tenfold during the Delta variant outbreak in late 2021. Nous notes that these estimates do not include CHECC staff members or volunteer staff.

Figure 5 | Estimated PHECC FTE across the COVID-19 pandemic

3.4 The COVID-19 Response worked alongside other ACT Government agencies as part of a whole-of-Government response to COVID-19

In recognition of the complexity of responding to COVID-19, the ACT Government implemented a whole-of-Government emergency response to COVID-19. Under these arrangements, the CHO led the health response and a Coordinator-General was appointed to lead the whole-of-Government (Non-Health) COVID-19 Response (Coordinator-General). This role was established on 30 March 2020 and remained in place throughout the pandemic. The primary focus of this position was to both:

- Coordinate the efforts of all ACT Government Directorates to ensure the health and non-health arms of the Response were aligned and working efficiently, and
- Maintain sound governance around decision-making and support a more strategic approach on longer term issues.[4]

To support the non-Health response, the ACT Government assembled a Director-General Forum, chaired by the Head of Service, that met daily to support the COVID-19 Response. In addition, the Coordinator-General convened and led a Deputy Director-General Coordination Group, called the Coordinator-

[3] ACT Health COVID-19 Response Division Governance Framework, 2022

[4] ACT Government, Annual Report 2019-20, Coordinator-General for the whole-of-Government (Non-Health) COVID-19 Response. Accessible at: https://www.cmtedd.act.gov.au/functions/publications/2019-20annualreport/volume-1/b.-2-performance-analysis/coordinator-generalfor-the-whole-of-government-non-health-covid-19-response

General's Group (CGG). This group was comprised of representatives from each ACT Government Directorate and was formed to enable a nimble and fit for purpose whole-of-Government forum in place of the Security and Emergency Management Senior Officials Group (SEMSOG) that would otherwise be established under the ACT's *Emergencies Act 2004*.

In addition to working alongside the CGG, the COVID-19 Response also worked closely with:

- the Public Information Coordination Centre (PICC) to coordinate the development, clearance and delivery of information to the community. As COVID-19 progressed and demanded a whole-of-Government response, the PICC transitioned from working solely with the PHECC to supporting the entire whole-of-Government Response.
- The Security and Emergency Management Committee of Cabinet (SEMC), who supported the CHO in decision making for the COVID-19 response.

Importantly, the ACT COVID-19 Response aligned with the broader Australian Government response to COVID-19. While state and territory health authorities were responsible for managing on-the-ground responses to COVID-19 within their jurisdictions, the Australian Government convened the National Cabinet and other national public health coordination mechanisms to support collaboration, communication and alignment of approach across the country.

Figure 6 (overleaf) provides an overview of the key decision-making bodies and advisory groups the COVID-19 Response worked with to deliver a coordinated response, at both the ACT and Commonwealth levels.

Figure 6 | The ACT and Commonwealth stakeholders that worked with ACT Health to respond to COVID-19 in the ACT

ACT GOVERNMENT

Security and Emergency Management Committee of Cabinet (SEMC)

The SEMC provides general strategic direction to the ACT Government's prevention and preparedness arrangements for emergencies under the all-hazards planning framework. During the COVID-19 Response, the SEMC supported the CHO in decision making.

Director Generals Forum/Management Executive

The Director-General from every Directorate of the ACTPS met daily to form the Management Executive that guided the COVID-19 Response. The DG Forum also included relevant experts.

Health Sector Emergency Management Committee (HSEMC)

The HSEMC is tasked with emergency management discussion and collaboration across the ACT Health Sector, including preparation, testing and maintenance of the HEP and enhancing ACT Health Sector information sharing before, during, and after an emergency event.

Coordinator-General's Group (CGG)

The Coordinator-General's Group (CGG) was responsible for developing strategic whole of government advice in response to the COVID-19 Pandemic to ensure the ACT was well positioned to respond quickly. The CGG coordinated and liaised with the HECC. The CGG was made up of the Deputy Director-General from each ACT Public Service Directorate and some government agencies and was chaired by the Coordinator-General. The CGG was established in response to COVID-19 as an alternative arrangement to SEMSOG (Security and Emergency Management Officials Group). The CGG has been extended in the aftermath of COVID-19 and continues to meet weekly to discuss strategic priorities in the ACT.

Public Information Coordination Centre (PICC)

The ACT Emergency Plan outlines that all public information from the ACT Government will be managed through the PICC during an emergency. The PICC's role is to coordinate the development, clearance and delivery of information to the community. According to the ACT Emergency Plan, the PICC is designed to be embedded into the lead agency for the emergency response. During COVID-19, the PICC served ACTHD for the first month of the Response before transitioning to support the Whole-of-Government Response.

Other ACT Government Directorates and Agencies

The COVID-19 Response worked closely with many Directorates including Education, Chief Minister, Treasury and Economic Development Directorate (CMTEDD), Transport Canberra and City Services (TCCS) and Justice and Community Safety (JACS) to provide advice and guidance about the implementation of public health directions. The COVID-19 Response also worked with many ACT Government agencies, including Major Projects Canberra, ACT Policing, WorkSafe ACT and Access Canberra.

COMMONWEALTH GOVERNMENT

Health Chief Executive Forum (HCEF)

The HCEF is an intergovernmental forum for joint decision-making and strategic policy discussions that helps to efficiently deliver health services in Australia. It is made up of the health department chief executive officer from each state and territory and the Australian Government. The HCEF is advised by the AHPPC. The ACTHD Director-General is a member of the HCEF.

Department of Health and Aged Care

The Department of Health and Aged Care develops and delivers policies and programs, and advises the Australian Government on health, aged care and sport. Part of their role is overseeing The National Partnership Agreement on COVID-19 Response with all states and territories to support the management of COVID-19. Under the National Partnership, the Australian Government partially subsidized costs incurred by hospitals and state public health authorities to assess, diagnose, treat and contain COVID-19. The Commonwealth support ensured states and territories effectively blended their public and private systems to proactively manage outbreaks. This was especially relevant in supporting aged care facilities when residents needed to be transferred to hospital.

Australian Health Protection Principal Committee (AHPPC)

The AHPPC is the key decision-making committee for health emergencies at a national level. It is chaired by Australia's Chief Medical Officer and is comprised of all state and territory Chief Health Officers (CHOs). It has an ongoing role to advise the Health Chief Executives Forum (HCEF) on health protection matters and national priorities, as well as mitigating emerging health threats related to infectious diseases and the environment, and natural and human made disasters. The committee works with states and territories to develop and adopt national health protection policies, guidelines, and alignment of plans. The ACT CHO sits on the AHPPC and therefore during COVID-19 was able to connect with other states and territories for support and advice throughout the Response.

Communicable Diseases Network Australia (CDNA)

The CDNA provides national public health coordination and leadership, particularly around disease surveillance. It supports best practice for the prevention and control of communicable diseases.

The CDNA Series of National Guidelines (SoNG) are guidelines for Public Health Units that provide nationally consistent guidance on how to respond to notifiable diseases, including COVID-19.

National Incident Centre (NIC)

The NIC coordinates national responses to health emergencies, significant events and emerging threats, where there is an impact on human health or health systems. The NIC ensures a consistent, coordinated response to health emergencies in Australia, minimising duplication of effort across government agencies. Meetings of the AHPPC are hosted by the NIC. The NIC had several main activities throughout the Commonwealth's COVID-19 Response as the 24/7 communication and coordination centre within the Department of Health.

National Cabinet

National Cabinet is a forum for the Prime Minister, Premiers and Chief Ministers to meet and work collaboratively. National Cabinet was established on 13 March 2020 and is chaired by the Prime Minister. The Commonwealth and state and territory governments individually have flexibility to determine the best way to achieve any agreed outcomes made by National Cabinet in their jurisdiction.

3.5 ACT Health operates in a unique environment

As a small jurisdiction located within NSW, that also houses the Australian Government, the ACT is unique among Australia's states and territories. Stakeholders reflected that these contextual factors combined to create a unique operating environment which influenced the COVID-19 Response. Specifically, stakeholders noted that:

- **The ACT's geographic position within NSW required ACT Health to closely align its public health arrangements with those implemented in NSW.** Many people live in NSW but rely on the ACT as a regional hub for work and/or access to services. As a result, many of the hazards that threaten the ACT will have cross-jurisdictional implications, and vice versa. During emergencies, this necessitates close cross-border policy collaboration and calibration between the ACT and NSW Governments. The two jurisdictions share the ACT-NSW Memorandum of Understanding (MoU) on Regional Collaboration, which provides a framework for collaboration, practical actions and improved outcomes for ACT/NSW border communities, including healthcare.[5] The ACT Health Sector works closely with neighbouring Southern and Murrumbidgee Local Health Districts (LHDs) on a routine basis and provide mutual aid and support during emergencies. The ACT Health Sector and NSW LHDs work collaboratively to plan and prepare for effective cross border emergency response and assistance. In recognition of the need for a coordinated response to COVID-19, CMTEDD worked closely with the NSW Department of Premier and Cabinet and the Cross Border Commissioner, supporting a collaborative effort in response to the pandemic.
- **The ACT is experiencing a chronic health workforce shortage** in both the private and public sectors, with emergency departments, walk-in centres and general practices all reporting a strain on resources.[6,7] Additionally, as a small jurisdiction, the ACT has a limited pool from which to draw public health experts, such as epidemiologists. These labour market constraints are exacerbated during an emergency when additional resources are required to respond, and are therefore an important consideration when planning for a public health emergency.
- **As the geographical home of Parliament House, and many other key Australian Government institutions, the COVID-19 Response had to align with Commonwealth policies.** For example, the COVID-19 Response supported Australian Government Officials and Members of Parliament to return from overseas travel safely into quarantine and worked closely with Parliament House to ensure elected members were still able to convene. ACT Health also had to collaborate with the Australian Government to ensure adherence to diplomatic relations provisions such as the Vienna Convention.

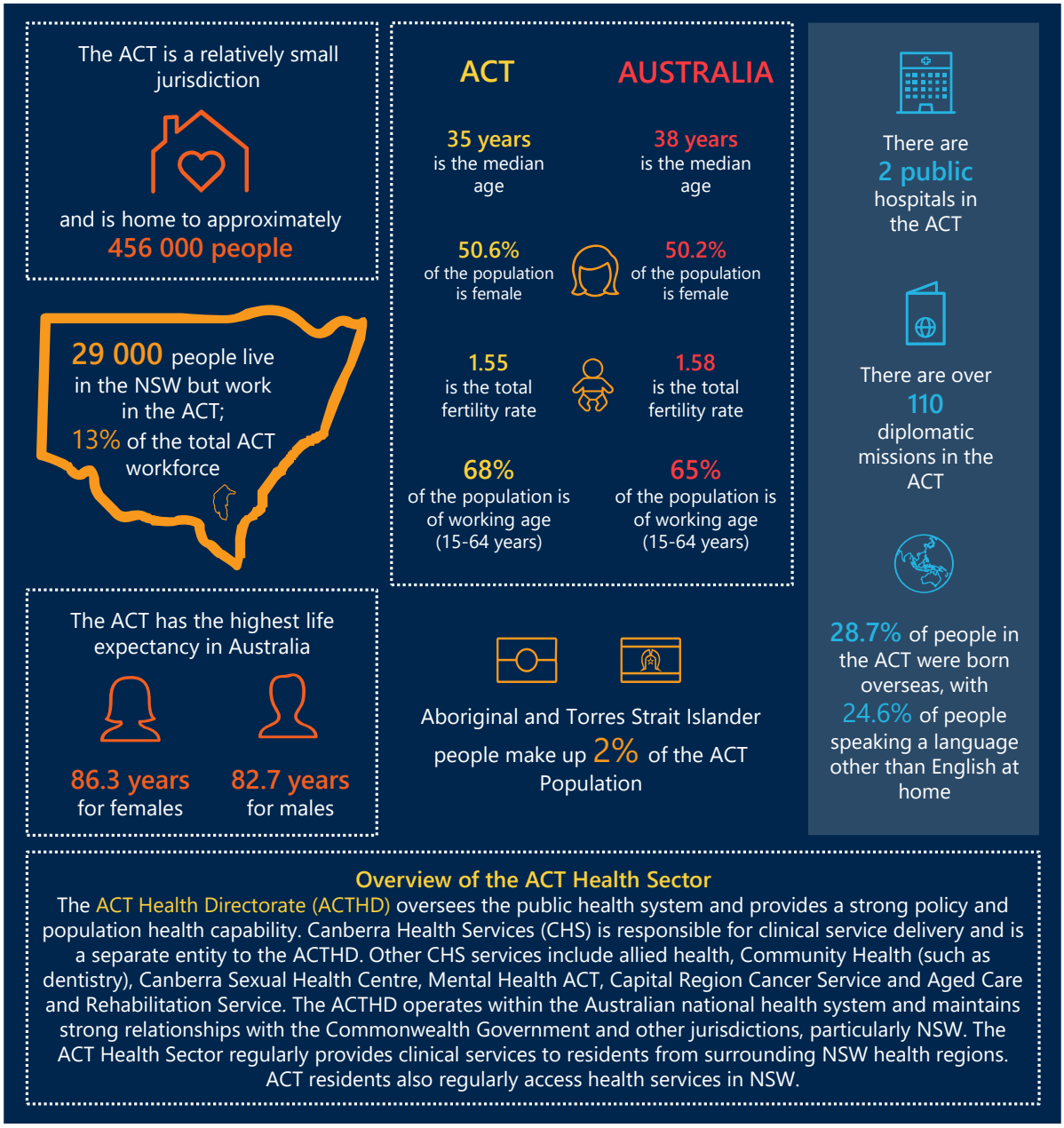
Figure 7 overleaf, illustrates some of the demographic factors unique to the ACT.

[5] ACT Government, ACT-NSW MoU on Regional Collaboration. Accessible at: https://www.cmtedd.act.gov.au/policystrategic/regional/nsw

[6] The Riotact, More than 300 new recruits join Canberra's healthcare workforce but 'chronic shortage' remains, Feb 2023. Accessible at: https://the-riotact.com/more-than-300-new-recruits-join-canberras-healthcare-workforce-but-chronic-shortage-remains/637054

[7] The Canberra Times, Canberra GP workforce shortage 'time bomb' as ageing doctors retire, Next Practice Deakin Dr Paresh Dawda says, Oct 2022. Accessible at: https://www.canberratimes.com.au/story/7930923/act-only-has-one-gp-per-1073-residents-report-says/

Figure 7 | Key demographic factors of the ACT



3.6 Cross jurisdictional perspectives are relevant to a future ACT public health emergency operating model

Below we discuss the implications of the proposed Australian Centre for Disease Control (CDC) for the ACT and highlight the key findings from NSW's recently released report, *As one system: The NSW Health System's Response to COVID-19*.

Implications of the Australian Centre for Disease Control (CDC) for the ACT

In October 2022 the Australian Government announced its intention to establish an Australian CDC following a period of consultation. On 16 December 2022, a CDC Stakeholder Consultation report was released setting out a summary of stakeholder views intended to inform Commonwealth consideration of the potential scope and function of the CDC.[8]

The current statement of purpose published on the Department of Health and Aged Care website is that the Australian CDC is intended to improve Australia's preparedness and response to future public health emergencies. This includes:

- Building national capability to protect Australia from nationally significant health threats.
- Efforts to improve pandemic preparedness and lead the federal response to future infectious disease outbreaks.
- Ensuring national coordination of the public health sector.
- Collaboration on a One Health approach to respond to future health threats and bridge gaps in preparedness and response capability.

When constituted this national entity is intended to work closely with state and territory governments, with health and aged care stakeholders, the academic and research sector and to forge international partnerships to realise the One Health approach to future public health emergencies. The ACT government and Health Directorate must be prepared and able to substantively engage with this national oversight and coordination mechanism. Planning and preparedness for public health emergencies will continue to be a priority for the national and international public health sector and the ACT must be prepared to engage as a partner in this process.

Implications of NSW Health's Review of its COVID-19 Response for the ACT

In April 2023, NSW Health published its Public Health review of the COVID-19 Response. The report is based on a comprehensive debrief process undertaken with people across the NSW public health network to identify best practice and areas for improvement arising from the NSW COVID-19 response and to make recommendations for a stronger, more integrated public health network into the future.

The key lessons learnt, which resonate with this Review of a future operating model for the ACT, are:[9]

1. A sophisticated test, trace, isolate and quarantine (TTIQ) strategy is critical to a future public health emergency capability.
2. Strong embedded epidemiology, surveillance and reporting capability is a cornerstone of prevention and control measures.
3. A more targeted and nuanced approach is required to priority setting for at-risk populations including First Nations communities, culturally and linguistically diverse populations, education settings, residential aged care and disability care settings and correctional settings.

[8] Australian Government Department of Health and Aged Care, Centre for Disease Control stakeholder consultation report, 2023. Accessible at: https://www.health.gov.au/resources/publications/centre-for-disease-control-stakeholder-consultation-report

[9] NSW Health, As one system, 2023. Accessible at: https://www.health.nsw.gov.au/Infectious/covid-19/evidence-hub/Publications/as-one-report.PDF

4. Effective governance structures and processes are key enablers of the NSW public health emergency response, requiring review and update of the NSW Public Health Incident Control system to integrate the emergency response preparedness and response functions into business-as-usual capability.
5. Workforce capability and surge capability is essential to an effective public health emergency response.
6. It is vital to integrate the NSW public health response with clinical partnerships, including clinicians and peak bodies at a system level, to establish scalable and flexible emergency response capability.
7. Effective risk communication is essential to inform and empower the community in any future public health response.
8. Information and technology systems must be flexible, established and adaptable to manage data and inform decision-making in a future public health emergency response.

The ACT Government, ACT Health and CMTEDD must be prepared to work with the Commonwealth and fellow state governments on integration of future public health emergency strategy and capability development. Collaboration is vital and will be an ongoing national priority.

4 Lessons from the COVID-19 Response should frame the future ACT public health emergency capability

For many jurisdictions, including the ACT, the COVID-19 pandemic was the first public health threat in living memory to demand such a complex, dynamic and sustained public health response. COVID-19 required a whole-of-government emergency response at an unprecedented scale, forced ACT Health to make decisions with incomplete information in a rapidly evolving environment, and tested the practicality of existing emergency management arrangements.

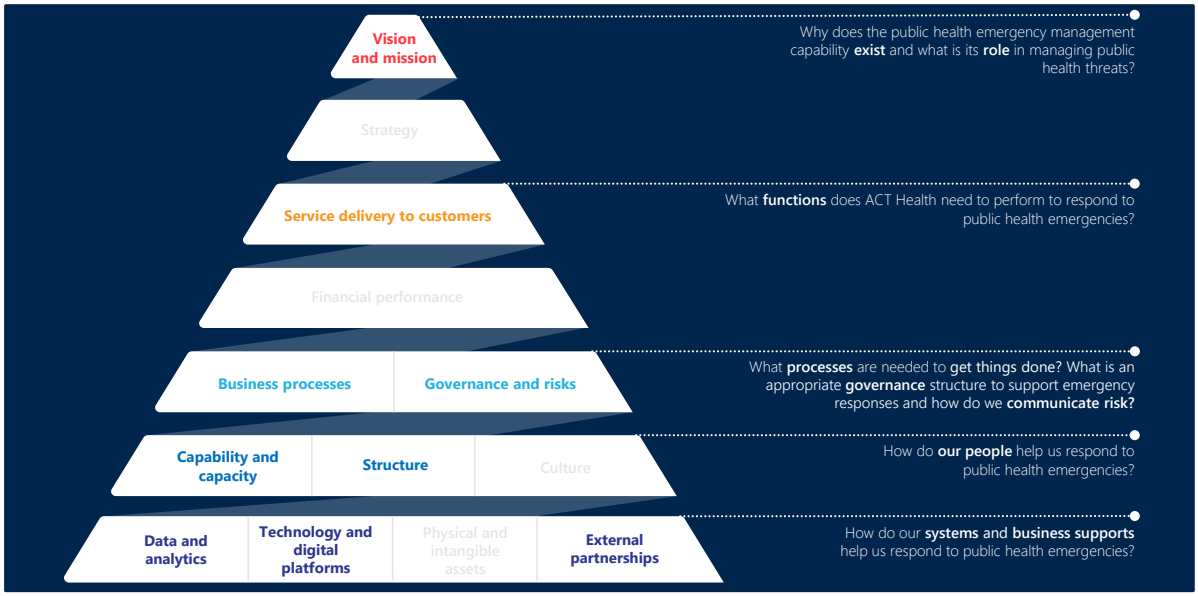
As Australia transitions to managing COVID-19 in a similar way to other respiratory viruses in accordance with the *National COVID-19 Health Management Plan for 2023*, it is timely for ACT Health to reflect on the operating model it implemented to respond to COVID-19. To inform ACT Health's development of an enhanced capability to effectively respond to future public health emergencies, Nous has reviewed key elements of the COVID-19 Response operating model, to identify what worked well and what could be improved to enhance ACT Health's preparedness for future public health emergency responses.

This section presents our key findings against each operating model element, as well as a brief outline of the conceptual framework that guided our analysis.

4.1 Nous' Organisational Architecture Framework provided the conceptual framework for our Review

Nous used the Organisational Architecture Framework (NOAF) presented in Figure 8 to evaluate the COVID-19 Response operating model. The NOAF provides a conceptual framework for thinking about how each element of an organisation influences its ability to deliver its intended outcomes. In this instance, we have used the NOAF to structure our analysis and inform our recommendations about a future emergency management capability operating model. The coloured elements are what we focused on through this Review—the systems, processes, structures and governance of the COVID-19 Response, as well as its vision and mission, the functions it performs to manage prolonged, large-scale public health emergencies, and the workforce capability and capacity required to respond to these systemic challenges.

Figure 8 | Nous' Organisational Architecture Framework being used for this Review.



4.2 Managing prolonged, large-scale public health emergencies requires an enhanced operating model

ACT Health has well-established capabilities for managing a wide range of public health threats. Much of this capability is centred within the Health Protection Service (HPS), however depending on the nature and severity of the threat, additional capability may be drawn from the broader Population Health Division.

While these units are well-equipped to respond to short-term, contained public health incidents arising from a known cause, such as notifiable diseases like measles, and food poisoning outbreaks, the COVID-19 pandemic tested their ability to respond to more complex, prolonged public health emergencies. The pre-existing model was not fit for purpose to respond to a prolonged pandemic. The scale and duration of the public health response required for COVID-19 demanded a more sophisticated governance, policy and operational model than previously existed within ACT Health. As a result, ACT Health had to stand up a HECC, and then Branch, to maintain sustained capability and enable the investment of additional resources, in response to the waves of the pandemic.

With global public health threats likely to become inherent risks of the future because of climate change, urbanisation and migration, stakeholders agreed that ACT Health requires additional capability—distinct from its current disease surveillance and management capabilities—to both plan for and manage increasingly complex, and often novel, public health emergencies. The pandemic highlighted the need to develop a highly responsive planning capability which anticipates cycles of surge, super surge and step-down transitional arrangements to reflect the pandemic with waves of infection.

ACT Health is currently resourced to plan for and respond to small scale public health incidents, however it lacks the long-term sustainable resourcing required to prepare for complex public health emergencies. A new operating model should therefore be designed and resourced to prepare ACT Health to be able to respond to prolonged, systemic public health emergencies which meet the criteria set out in the following definition.

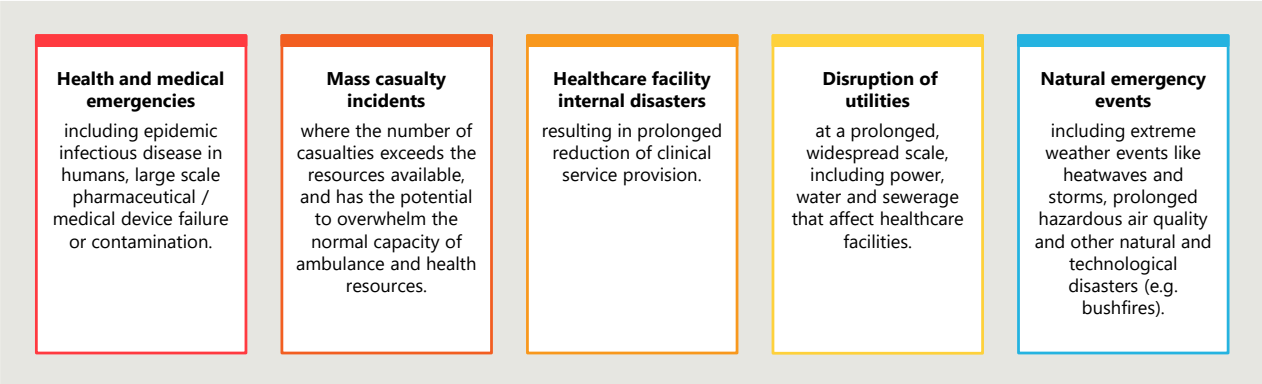
An enhanced ACT Health operating model is required to respond to prolonged, large scale public health emergencies caused by an environmental hazard, infectious disease or anthropogenic event that threatens to overwhelm the normal business-as-usual mechanisms of the health system or health infrastructure and/or endangers the broader community, where significant input from a whole-of-Government perspective is required to manage the threat.

Importantly, these types of public health emergencies are characterised by being prolonged, complex and increasingly novel. They also differ from more contained public health threats in that they strain the healthcare system to such a degree that coordination outside of standard business processes is required to effectively manage them.

This definition aligns with the broad definition used by the Australian Government Department of Health and Aged Care, which considers a public health emergency to be any national emergency with potential human health impacts.[10] Figure 9 illustrates some examples of health emergencies currently outlined in the Health Emergency Sub-Plan which, depending on their severity, could meet the above definition. In providing these examples, we note that whether ACT Health plays a leading role or a supporting role in responding depends on the nature of the emergency. Typically, ACT Health will lead the response to complex, long-term emergencies, where the ACT Government requires an enhanced capacity to respond, but will play a supportive role in shorter, sharper emergencies like mass casualty incidents.

[10] Department of Health and Aged Care, 2022, About emergency health management. Accessible at: https://www.health.gov.au/topics/emergency-health-management/about

Figure 9 | Examples of health emergencies (as referenced in the HEP)[11]



There was broad consensus among stakeholders that the primary purpose of any enhanced public health emergency management capability should be building ACT Health's preparedness to respond to future public health emergencies of this magnitude.

Stakeholders agreed that its mission should centre on ensuring ACT Health is confident in its state of preparedness heading into an emergency response, and well-placed to rapidly build an agile, flexible public health emergency response that is tailored to the nature and scale of the emergency, that delivers positive public health outcomes for the community, while also protecting the ACT health system's staff.

Stakeholders emphasised the need for an enhanced capability to adopt a life-cycle approach to public health emergency management, by building ACT Health's capability across the key emergency management stages of planning, preparedness, response and recovery. In this way, the capability should not only ensure that arrangements are in place to facilitate the rapid operationalisation of emergency plans, but also guide the scaling back of responses as and when required, and incorporate lessons learned from previous emergencies to enable continuous improvement.

[11] ACT Health Emergency Sub-Plan

4.3 COVID-19 reinforced the importance of maintaining a strong public health emergency planning function within ACT Health

Unprecedented in scale and complexity, COVID-19 tested ACT Health's preparedness to respond to such a sustained public health emergency. It was the first time the ACT's emergency management arrangements were activated to respond to such a novel and prolonged public health emergency, and in many respects required ACT Health to build its response on the fly. As it did across the world, COVID-19 reinforced the important role that planning—both before and during public health emergencies—plays in enabling an effective response.

Planning underpins effective emergency management across each stage of the PPRR cycle

Thorough, robust planning during 'peacetime' is important for enabling the rapid operationalisation of a public health response. As outlined in the White Paper on Singapore's Response to COVID-19, 'while we cannot anticipate all curveballs, we can grow our ability to adapt and respond effectively to all kinds of changes.'[12] Emergency planning across each stage of the Prevention, Preparedness, Response, Recovery (PPRR) emergency management lifecycle is central to building this resilience. As defined by the Australian Institute for Disaster Resilience, emergency planning:

- 'involves identifying and documenting strategies for preventing, preparing for, responding to and recovering from emergencies. Effective emergency planning contributes to reducing the likelihood and consequence of emergencies for individuals, communities, entities, and the environment and can have positive economic benefits.'[13]

COVID-19 tested the suitability of existing emergency management arrangements to respond to prolonged public health emergencies

As outlined in Section 3, ACT Health's response to COVID-19 was guided by a series of existing plans, including the HEP and the EID. However, there was widespread consensus across stakeholder groups that these plans provided limited guidance about how to manage the broad health, social and economic impacts arising from the pandemic. While stakeholders acknowledged that plans should be flexible enough to support a variety of public health emergency responses, they found these plans lacked the detail required to guide key elements of the Response, including its structure, governance arrangements and key processes such as surge workforce recruitment. This created challenges as stakeholders reported having to deliver the public health response while simultaneously putting plans and structures in place.

In calling out these limitations, it is important to note that COVID-19 exposed gaps in the pandemic plans of jurisdictions around the world. Nevertheless, these plans should be revised to incorporate lessons from the pandemic, so that future responses are better prepared to hit the ground running. Importantly, these plans should be evidence-based, and regularly evaluated and updated as new management approaches emerge. Revision of the plans could reflect the key features of pandemic preparedness planning identified in 2023 by the European Centre for Disease Prevention and Control[14] which stress that the planning process, including testing and revising plans with key stakeholders, is critical. This includes preparation of business continuity plans as well as surge capacity plans developed with the health sector and all other sectors that could be affected to ensure sustained capacity in the event of a public health emergency.

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[12] Singapore Government, White Paper on Singapore's Response to COVID-19, 2023, pg. 85. Accessible at: https://www.gov.sg/docs/default-source/media/gov/covid-19-white-paper/publication/white_paper_on_singapore_response_to_covid19_130323.pdf?sfvrsn=c33ec046_1

[13] National Emergency Management Agency, Emergency Planning Quick Guides. Accessible at: https://knowledge.aidr.org.au/resources/quick-guides-emergency-planning/

[14] ECDC Why is Pandemic preparedness planning important?. Accessible at: https://www.ecdc.europa.eu/en/seasonal-influenza/preparedness/why-pandemic-preparedness

Recommendation 1

ACT Health should work with relevant stakeholders to revise the Health Emergency Sub-Plan, and associated sector sub-plans, in accordance with the key lessons learned during COVID-19 to ensure they are fit-for-purpose for future responses, and aligned with contemporary whole-of-government approaches.

The COVID-19 Response's resourcing did not enable strategic planning during the pandemic

Clearly articulated plans provide a strong starting point for best practice operational responses. However, planning is not static; it's a dynamic function that should be performed throughout an emergency response. During the Prevention and Preparedness phases of hazard management, planning should focus on mitigating risk and developing strategies to manage residual risk. However, the focus of planning must shift during the Response phase to centre on more active situational forecasting to support operational decision making.

The COVID-19 Response's ability to undertake strategic planning over the course of the pandemic was hampered by both COVID-19's unprecedented nature, and capacity constraints within the COVID-19 Response. Numerous stakeholders reflected that the planning function was inadequately resourced, with several staff members noting that planning regularly fell to operational leads who had insufficient bandwidth to take a long-term strategic view. Without sufficient capacity to undertake strategic planning, there was a sense among some COVID-19 Response staff of being on the back foot and unprepared for the rolling waves of the pandemic.

ACT Health requires additional planning capability to augment the work of existing emergency management units

The Health Emergency Management Unit (HEMU) plays a key role within the Population Health Division, contributing to the planning and management of public health emergencies. During COVID-19, a number of HEMU staff were seconded to key support and planning roles within the HECC, while a skeleton staff remained in HEMU to support non-COVID related public health matters. This included supporting ARTs to manage non-COVID related public health outbreaks.

While most stakeholders reflected that HEMU provided valuable support to the HECC, numerous stakeholders felt HEMU's role in undertaking planning during the Response was unclear. While HEMU had clear responsibility for maintaining pre-existing emergency management plans, many people reflected their role during the emergency shifted to one of operational support, rather than planning, which created a degree of confusion across the Response. Nous notes that this may have been the result of ACT Health's decision to have a separate planning function within the HECC, in addition to HEMU.

As discussed on page 18, COVID-19 highlighted limitations within ACT Health's existing emergency planning frameworks. To ensure that future responses enable more agile planning, ACT Health must develop additional public health emergency planning capability. While ACT Health is well resourced to plan for and manage short, sharp emergencies, the scale of the response required during COVID-19 reinforced the need to bolster existing planning units, to ensure they have the capacity to focus specifically on strategic planning in the context of increasingly complex public health threats. Importantly, this planning capability must be structured and resourced to both undertake future scenario planning during BAU, and support active emergency responses through strategic operational planning geared towards robust consequence management. As recommended in the recent *As One System* report for NSW Health, this planning capability should work closely with existing epidemiological surveillance teams, to realise the benefits that can be gained from bringing together predictive case modelling, surge resource planning, future scenario planning, and risk assessment and mitigation.

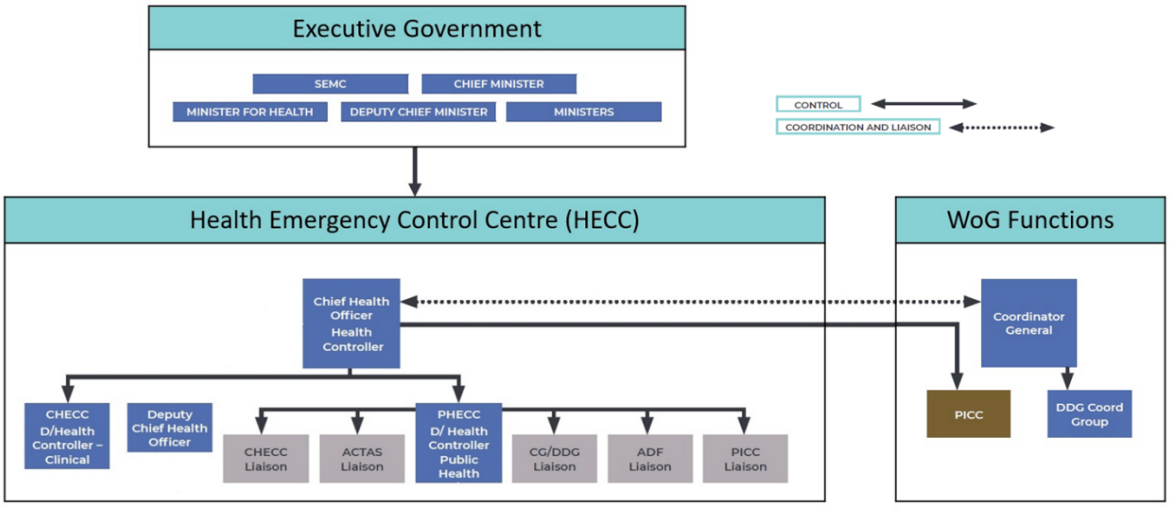
4.4 Strong, clear governance is a crucial enabler of effective public health emergency responses

High quality governance during an emergency is essential for enabling individuals, teams and organisations to work together effectively to achieve desired public health outcomes. Strong governance arrangements create clear lines of authority, which help to support efficient decision making and ensure appropriate accountability. Fit-for-purpose governance arrangements also support role clarity and help to build a system-wide understanding of how each part of the response impacts its broader function and goals. In recognition of the importance of clear governance, the *National Contact Tracing Review* recommended that clearly articulated, non-conflicting leadership roles be well identified in public health emergency legislation and broader emergency management plans.[15]

Figure 10 provides an overview of the COVID-19 Response's governance arrangements. In accordance with the ACT's *Public Health Act 1997*, the CHO led the public health response to COVID-19 and had the authority, under the ACT's Public Health Emergency Declaration, to take any action, or give any direction, considered to be necessary to protect Canberrans and minimise the spread of COVID-19 in the ACT. The powers of the CHO were subsequently moderated by the 2022 *Public Health Amendment Act* to establish the new regulatory framework specific to COVID-19 Management Declarations to provide for a more nuanced allocation of responsibility between Ministerial and CHO directions. Both the Security and Emergency Management Cabinet (SEMC) and Coordinator-General whole-of-Government (Non-Health) Response to COVID-19, supported the CHO in decision making.

Within the HECC, the Deputy Chief Health Officer, Deputy Health Controller Clinical, and Deputy Health Controller Public Health, each reported directly to the CHO.

Figure 10 | COVID-19 Response Governance structure



The COVID-19 Response's governance arrangements were generally effective, and enabled strong intergovernmental collaboration

The ACT Emergency Plan sets out clear governance structures that should be adopted during emergencies to minimise ambiguity and enable decisive leadership. While these arrangements had been road-tested by the Emergency Services Agency (ESA), they had not previously been implemented in the context of a public health emergency response with ACT Health appointed as the lead agency. As a result, there was no clear governance framework for ACT Health to rapidly implement. Rather, ACT Health had to design the

[15] Australian Government Department of Health and Aged Care, National Contact Tracing Review, 2020. Accessible at: https://www.health.gov.au/sites/default/files/documents/2020/11/national-contact-tracing-review-national-contact-tracing-review.pdf

governance arrangements for the COVID-19 Response at the start of 2020, using The ACT Emergency Plan and Health Emergency Sub-Plan as a guide.

Despite early challenges in establishing these governance arrangements, the majority of stakeholders found the COVID-19 Response's governance to be effective. Most stakeholders agreed that it was appropriate for ACT Health to lead the emergency response, given its expertise and resources, and that appointing the CHO as Emergency Controller was an appropriate decision, given the legislated powers and responsibilities held by the office. However, a minority of stakeholders felt that appointing an Emergency Controller from an emergency services background to lead a whole-of-Government response, with the ACT Health Sector Response a supporting component led by the CHO, would have enabled stronger cross-government coordination, and better enabled the CHO to direct their focus to the public health response.

The majority of stakeholders agreed that having a Coordinator-General, whole-of-Government (Non-Health) COVID 19 Response, was an effective mechanism for ensuring alignment across government. Importantly, stakeholders agreed that the establishment of the Coordinator-General's Group (CGG), in place of SEMSOG was an effective mechanism. In particular, stakeholders felt that the CGG fostered a 'single objective' mindset across the ACT Public Service which was vital for delivering a coordinated response. Stakeholders also found benefit in having the CGG convened centrally through CMTEDD, rather than JACS, and felt it enabled a more nimble response than would have been possible through SEMSOG, which is subject to a more formal set of operating rules set out in the ACT Emergency Plan. Stakeholders did note however that in some circumstances SEMSOG is a valid governance mechanism, and that decisions about whether SEMSOG is the most appropriate whole-of-Government governance arrangement should be made on a case-by-case basis.

All stakeholders commented on the importance of liaison officers in facilitating alignment across directorates. Many made the observation that, as outlined in the ACT Emergency Plan, it is essential to ensure liaison officers 'have the appropriate level of delegation to direct internal resources of their agencies in the context of the incident and provide appropriate information and advice to their Directorate.'[16] Stakeholders did however note that further consideration is required about how to transition the role of liaison officers back to ACT Health during the recovery phase of a response.

Recommendation 2

ACT Health revise the HEP to include detailed, fit-for-purpose governance arrangements that can be implemented at the start of a response, that give regard to the ACT Emergency Plan and ACT's *Public Health Act 1997*.

The role of the CHO as Health Controller should be better resourced to strengthen role clarity and permit internal delegation

The appointment of the CHO as Health Controller, in the absence of an Emergency Controller, resulted in the CHO having an extremely broad remit. In addition to leading the ACT Health Sector response, the CHO had authority through both the ACT's *Public Health Act 1997* and ACT Emergency Plan to make decisions regarding the whole-of-Government response. While the CHO worked alongside the Coordinator-General, this position was not a statutory appointment, so much of the responsibility for decision making at a high level fell to the CHO. This not only constrained their ability to oversee strategic planning and coordination of the ACT Health Sector response, but placed an immense burden on a single individual. This is not a sustainable model for the future.

Stakeholders reflected that the CHO's roles and responsibilities could have been more clearly scoped to alleviate some of the burden of decision making that fell to the CHO. While stakeholders felt that

[16] ACT Emergencies (Emergency Plan) 2014 (No 1). Accessible at: https://legislation.act.gov.au/View/ni/2014-442/current/html/2014-442.html

reporting lines between the CHO and Deputy CHO, and CHO and Deputy Health Controller (Public Health) were clear, they reflected that the delegation of authority to leaders below the CHO was unclear. While these positions had the authority to make decisions, there was a sense at times that certain decisions had to be made by the CHO. In part, this lack of clarity is understandable — COVID-19 was the first public health threat for which a Public Health Emergency Declaration or a COVID-19 Management Declaration had been made in the ACT, and was therefore the first time these arrangements had been implemented. However, stakeholders also reflected that it is essential for future responses to ensure the CHO is supported by a strong operational leadership team. This aligns with the *National Contact Tracing Review* that outlined Chief Health Officers or equivalent should have an appropriate level of authorisation to make directions and oversee public health operations and final decision-making authority should rest with senior leaders who have operational and emergency management experience.[17]

Clarity of PHECC and CHECC roles and responsibilities during public health emergencies is essential to ensure an effective ACT Health System response

While governance arrangements were clear within the PHECC, and later the COVID-19 Response Branch, stakeholders noted that further consideration should be given to how the CHECC and PHECC can be better coordinated to streamline decision making and reporting lines. All stakeholders agreed that future arrangements would benefit from increased clarity of roles and responsibilities between the CHO as the Health Controller and the CHS CEO as a key leader in clinical service delivery. Stakeholders also noted that establishing collaborative working relationships between the CHECC and PHECC is essential for balancing clinical and public health priorities. Stakeholders noted that mechanisms such as the CHECC liaison officer role, are essential for establishing a multidirectional informational flow into the PHECC from the CHECC and vice versa.

Despite early challenges, the HECC and PICC established a productive working relationship

During an emergency, the PICC plays an important role working alongside the Lead Response Agency to both facilitate the rapid dissemination of accurate emergency information to the media and public, and ensure consistency of messaging across Government.

Both the PICC and Lead Response Agency bring specific skills to the task of public health emergency communication. In the case of COVID-19, the PICC brought a seasoned knowledge of how to refine government messaging for public consumption at a time of great uncertainty, and communicate effectively with targeted demographic groups. This was complemented by the subject matter expertise of COVID-19 Response staff, who were able to provide information about the risk and likely trajectory of COVID-19, as well as important elements of the operational response.

As the first time the PICC has been stood up for such a prolonged emergency, COVID-19 presented a number of challenges in terms of how the PICC worked within the COVID-19 Response. While these were ultimately overcome, and a productive working relationship established between the PICC and broader COVID-19 Response, these challenges highlight the importance of:

- **Establishing a shared understanding of the scope of the PICC's role relative to that of ACT Health's communications team.** Stakeholders noted that the scope of the PICC's role was not always well understood within the COVID-19 Response, with PICC being called upon at times to deliver communications that fell outside the scope of their typical remit of emergency information provision. In part, this was driven by the prolonged duration of the response, which necessitated a more strategic approach to public health communication than would ordinarily be required by a short, sharp emergency.

[17] Australian Government Department of Health and Aged Care, National Contact Tracing Review, 2020. Accessible at: https://www.health.gov.au/sites/default/files/documents/2020/11/national-contact-tracing-review-national-contact-tracing-review.pdf

- **Establishing efficient clearance processes within ACT Health to ensure the PICC can establish an appropriate cadence for the dissemination of public information.** Establishing sophisticated internal communication processes is essential for supporting the efficient flow of information both within the HECC, and out to the public. Stakeholders noted that at times, clearance processes impeded the PICC's ability to keep pace with the speed at which the community expected information. Stakeholders also noted that a lack of consistency between CHECC and PHECC data reporting approaches caused confusion at times.
- **Resourcing the PICC with an adequate number of staff from ACT Health.** In accordance with the Community Communication and Information Plan (CCIP), the size and scale of the PICC is determined on a case-by-case basis, by the Public Information Coordinator (PIC) and Lead Response Agency. In the case of COVID-19, stakeholders noted that it would have been beneficial to have additional support from the COVID-19 Response to provide both subject matter expertise, and the corporate knowledge required to effectively navigate clearance processes and seek input from relevant COVID-19 Response staff.
- **Appointing Liaison Officers for Culturally and Linguistically Diverse, and Aboriginal and Torres Strait Islander communities**. While these positions were only established relatively late in the pandemic, they provided an invaluable link into these communities, and helped communications teams to understand what types of communication were required. Additionally, they proved useful for facilitating culturally appropriate operational approaches for key public health measures, such as testing and vaccine delivery.

Nous notes that the Community Communication and Information Plan has since been revised to address many of these issues.

Further consideration could be given to the balance of powers between the CHO and ministers during public health emergencies

From June 2022 the ACT's *Public Health Act 1997* was amended to include the COVID-19 emergency management declaration framework. The amendment delegated several of the CHO's powers regarding public health directions to the Minister for Health and Chief Minister. This was done to both alleviate the burden of decision-making responsibility on the CHO and to ensure accountability safeguards were in place, as an elected official was now responsible for decisions and public health measures applicable to the entire ACT population. The CHO remained responsible for directions requiring individuals to test and quarantine, as well as granting exemptions.

During the pandemic, the Victorian and ACT Governments amended their public health legislation—Victoria's *Public Health and Wellbeing Act 2008,* and the ACT's *Public Health Act 1997* respectively—to assist in the management of COVID-19. Table 1 below compares the Victorian Government's pandemic specific framework, with the ACT Government's COVID-19 Management Declaration to identify similarities and differences in terms of their scope, the powers they grant to particular individuals and their respective accountability safeguards.

The *White Paper on Singapore's Response to COVID-19* identified issues with Singapore's existing Infectious Disease Act whereby the legislation was too constraining and did not provide the legal levers to calibrate public health and safe management measures as the COVID-19 situation evolved. Like the ACT and Victoria, Singapore also implemented a temporary amendment to their relevant legislation to provide the legal provisions needed to effectively respond to COVID-19. The White Paper recommends a review of the legislation so to institute these legal provisions for more flexible and effective responses to the changing circumstances of a pandemic.

Table 1 | Comparison of ACT and Victorian legislative amendments during COVID-19

Scope	Both frameworks were designed with reference to and for the management of COVID-19, but the Victorian framework is specifically designed to be used in future pandemics whereas the ACT framework is only for COVID-19 and sunsets in December 2023.
Powers	Both frameworks set out the powers of each governance level and outline the responsibilities of the CHO, the Minister for Health and the Premier/Chief Minister (Executive). Under the Victorian pandemic management framework, the Premier is responsible for declaring a pandemic. During a pandemic, the Minister for Health is granted the power to issue pandemic orders, with the CHO providing advice and guidance. The ACT COVID-19 emergency management declaration framework differs from this in that it splits the categories of pandemic orders (referred to as Directions) into three levels that each correlate with the level of power. The CHO can make Directions regarding testing, tracing, isolation and quarantine. The Minister for Health is responsible for making Directions about public health measures, including ACT Border control, regulating high-risk activities (e.g. capacity limits at stadiums) and requiring that PPE be worn in certain circumstances. The power to make Directions that require certain groups to be vaccinated against COVID-19 can only be made by the Chief Minister or the Minister for Health, not the CHO.
Accountability	Both of the frameworks incorporate accountability safeguards, as both are disallowable and require the reasons for making orders/Directions to be published, outlining how they align with legislated human rights. Under the Victorian framework, the power to make orders is given to elected officials to ensure further accountability. The Victorian framework also includes two oversight committees to review the orders, provide advice and disallow them if they see fit.

Recommendation 3

In recognition of the importance of ensuring governance and legislative mechanisms have an appropriate balance of powers to support proportionate, timely and flexible responses to complex and prolonged public health emergencies, ACT Health should prioritise a scoping exercise, to consider a potential review of relevant sections of the *Public Health Act 1997*. The scoping exercise should consider whether the review is warranted, and if so, how it can be undertaken in a staged manner, that gives consideration to the broader emergency management context and environment.

4.5 A scalable, fit-for-purpose structure that promotes role clarity is required during public health emergency responses

ACT Health implemented a functional structure to respond to COVID-19, which flexed over the course of the pandemic in accordance with the scale of the public health response. Stakeholders broadly agreed that the COVID-19 Response was structured appropriately, however they differed in their views about the appropriateness of the Australasian Inter-service Incident Management System (AIIMS) emergency management structures for delivering a public health emergency response.

The COVID-19 Response evolved away from an AIIMS-based structure as the pandemic progressed

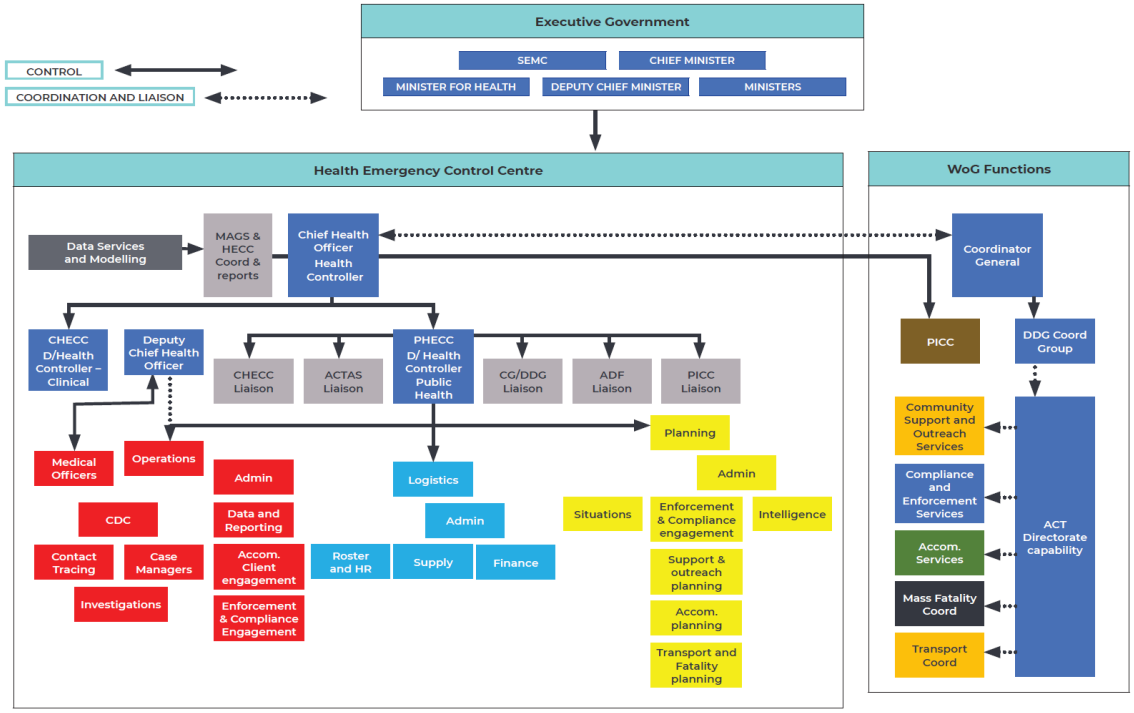
In accordance with the ACT Emergency Plan and Health Emergency Sub-Plan, ACT Health initially established the COVID-19 Response as a HECC, which took its structure from AIIMS. AIIMS is one of two formal Incident Management Systems (IMS) used in the ACT. It is used by both ACT Health and the Emergency Services Agency (ESA), and is designed to provide a management framework for responding to all incidents across their lifecycle from first response to demobilisation. The use of an IMS is considered best practice in emergency management and is intended to provide a structure that enables agencies with different legal, jurisdictional, and functional responsibilities to coordinate, plan, and interact effectively.[18]

AIIMS is based on five key principles: Management by Objectives, Functional Management, Unity of Command, Flexibility and maintaining a manageable Span of Control.[19] Importantly, it is designed to support Australia's 'all hazards – all agencies' approach to emergency management, which is a key principle of Australia's emergency management arrangements, which emphasises collaborative and effective emergency planning for all hazards. In support of this 'all hazards — all agencies' approach, AIIMS is intended to be flexible and scalable, in accordance with need, to each scenario.

Figure 11 overleaf presents the initial HECC organisational structure as of April 2020, which illustrates how the key AIIMS functional areas of Incident Control, Operations, Planning and Logistics were incorporated into the response.

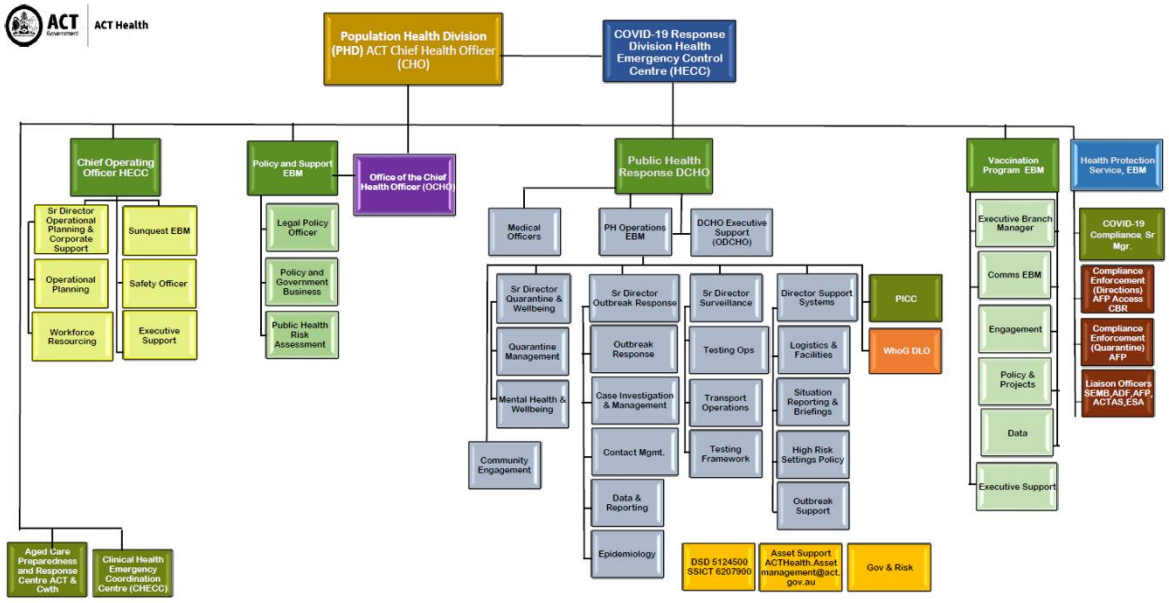
[18] ACT Government, 2014, Emergencies (Emergency Plan) 2014 (No 1). Accessible at: https://legislation.act.gov.au/ni/2014-442/
[19] AFAC National Council for Fire and Emergency Services, AIIMS 2017. Accessible at: https://www.afac.com.au/initiative/aiims#:~:text=AIIMS%202017%20is%20the%20latest,Inter%2Dservice%20Incident%20Management%20System

Figure 11 | HECC structure in April 2020[20]



As the pandemic progressed and intensified, the HECC morphed into a divisional structure that incorporated additional branches, including Policy and Support, and Vaccination, and moved away from a more traditional IMS structure. Figure 12 presents this 'hybrid' HECC structure at one of its most surged points, during the peak of the first Omicron wave in December 2021.

Figure 12 | HECC structure in December 2021



[20] It should be noted this organisational structure does not feature the Director-General Forum/Management Executive

Many stakeholders queried whether the AIIMS emergency management structure implemented at the start of the pandemic was fit-for-purpose in the context of such a prolonged public health emergency. While AIIMS principles provided helpful guidance, many stakeholders perceived an AIIMS structure as being too rigid to support an effective public health response over the long term. Stakeholders often remarked that though AIIMS might be appropriate for a shorter sharper public health outbreak response that can be contained more rapidly, it was less useful in such an ambiguous and uncertain operating environment. These stakeholders noted that a greater degree of flexibility was needed to enable government to respond appropriately to shifting priorities. The establishment of the vaccination branch was cited as an example of the HECC's inflexibility, suggesting that because service delivery was not reflected as a function of AIIMS, the vaccination branch did not slot into HECC as seamlessly and efficiently as required.

Several stakeholders favoured an AIIMS structure and noted that any perceived rigidity in the HECC was a result of the specific application of AIIMS, and not the structure itself. It is important to note that adaptability and scalability are key concepts intended to guide the implementation of AIIMS. Many focus group participants and other staff members without prior emergency management experience also appreciated the clarity AIIMS provided around authorising environment, division of tasks and role responsibilities.

In considering an appropriate structure for future emergency responses, stakeholders noted that it will be important to ensure the structure:

- **Has an appropriate span of control.** Span of control refers to the number of groups or individuals that report to a supervisor. This should be kept to a manageable level, to ensure supervisors can task and monitor their teams effectively. The structure must be able to scale up and down flexibly as the public health emergency evolves.
- **Includes a properly resourced emergency planning team.** Planning both before and during a public health emergency is vital for enabling an effective response. However, the focus of planning sharpens during a response, becoming more centred on active risk management, situational forecasting and consequence management. Stakeholders reflected that while the HECC had sufficient operational resources, at times it lacked the necessary resources to undertake the dynamic planning required to stay ahead of emerging threats and contribute to strategic policy development.
- **Builds strong connections between planning and operational teams.** Planning and operational teams need to work closely together to ensure plans and policies are based on operational need and vice versa.
- **Fosters links between public health and clinical teams.** If a PHECC and CHECC arrangement is used again in the future, the structure should facilitate effective communication and data sharing between the two elements of the response. Positions such as the CHECC Liaison officer role are essential, however integration at a functional level (e.g. outbreak response) is also required.
- **Supports a clear articulation of roles and responsibilities.** Role clarity is essential for enabling teams to successfully perform their functions and understand how their role contributes to the achievement of the response's overarching objectives. Stakeholders reflected that at times it was difficult to tell which team had responsibility for which element of the response, and that there were instances of role duplication. Stakeholders from both within and outside of ACT Health noted that the temporary onboarding of staff from the Emergency Services Agency (ESA) resulted in a lack of clarity, and created confusion about which areas of the operational response had responsibility for which elements.
- **Coordinates effectively across the ACT Government.** Embedding Liaison Officers within the response is integral for cross-government communication and coordination on key issues, such as the translation of public health directions into Directorate-specific policies. This is essential for promoting early collaboration, and consistency of messaging to the public.
- **Includes supporting functions early.** HR and IT needs change during an emergency, particularly as staffing numbers increase. All stakeholders reflected that it would have been beneficial to second

dedicated corporate staff into the COVID-19 Response early on, rather than working with corporate teams through typical government arrangements.

Recommendation 4

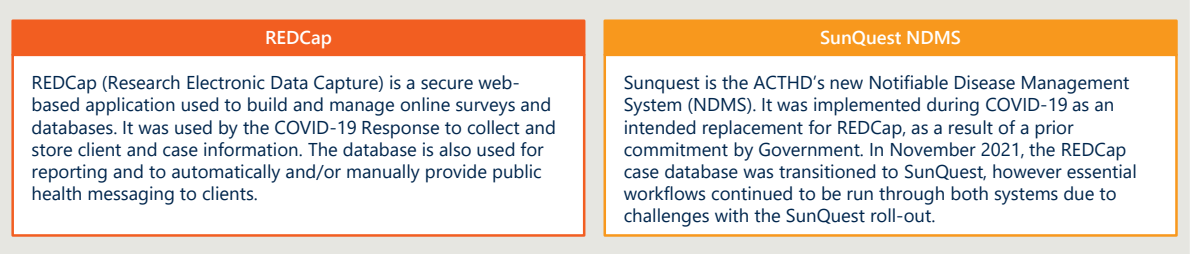
ACT Health should revise the structure of the HECC to ensure future responses enable the public health emergency to be managed in accordance with contemporary, best practice emergency management principles, while providing sufficient flexibility to respond to evolving needs.

4.6 Robust systems, capable of scaling during surge periods are a key enabler of efficient, effective public health responses

The ability to rapidly collect, analyse and report on large volumes of health data is integral to public health emergency management, as it underpins the epidemiological surveillance required for effective planning and outbreak management. As noted by the *National Contact Tracing Review*, the COVID-19 Pandemic placed considerable strain on states' and territories' existing data management systems. The ACT was no exception, with the sheer scale of the response threatening the stability of ACT Health's existing systems and exposing limitations in their functionality.

Figure 13 summarises the two main systems the COVID-19 Response relied on to perform many of its key functions.

Figure 13 | The COVID-19 Response's main data systems



The SunQuest NDMS was essential for enabling ACT Health to manage the increase in data collection requirements caused by the rapid surge in case numbers during the Delta phase of the pandemic. Importantly, it helped ACT Health to transition away from time-consuming manual data collection processes by collating case, contact and outbreak management functionalities into a single system, facilitating the collection of data from cases via online surveys, and automating internal and external COVID-19 reporting.

However, the implementation of SunQuest during COVID-19 highlights the importance of having fit-for-purpose systems in place that staff are already familiar with using ahead of emergencies. While SunQuest had been procured prior to the pandemic, delays resulted in its being implemented during the response, causing unavoidable disturbances in workflow. Stakeholders also noted that due to the speed with which it needed to be implemented, there was limited capacity for user testing, which resulted in SunQuest not being properly customised to the COVID-19 Response's requirements. As an example, stakeholders referenced system limitations which prevented other organisations from sharing data easily with ACT Health.

Stakeholders agreed that further refinement of SunQuest is essential to ensure ACT Health has the system capability required to support public health responses, and that a corresponding data strategy should be developed to support the effective use of the system. Stakeholders also noted that the Digital Solutions Division should be more closely involved in planning for public health emergency responses. Our consultation findings echo those of the *National Contact Tracing Review* which highlight the need for jurisdictions to adopt fully digital systems that enable streamlined collection and reporting of agreed case

information and surveillance data in a way that ensures accuracy and minimises human effort. As Artificial Intelligence becomes more advanced and accessible, there will be additional opportunities for system automation to help reduce the demands on human resources needed to facilitate data-based activities, and to enable resources to be redeployed to other areas of the response.

As well as the poorly timed transition of data systems, stakeholders felt there was a lack of efficiency around data sharing and that future responses would benefit from strengthening data linkage pathways and systems. Stakeholders agree that data sharing partnerships need to be established and maintained during BAU in anticipation of using them during an emergency to efficiently share data across jurisdictions, as opposed to relying on personal relationships between response leaders in each jurisdiction.

Data sharing was recognised as a key priority area by the NSW Health review, which recommended NSW work with the Australian Government to establish faster and more practical data sharing agreements to support strategic decision-making.[21] Similarly, the Victorian Government has developed the Victorian Public Sector Data Sharing Heads of Agreement (Heads of Agreement) to support cross-government data sharing. The Heads of Agreement provides an overarching framework to streamline and accelerate data sharing while also ensuring the right safeguards and controls are in place.[22] Establishing cross-jurisdictional data connections will be particularly important for ACT Health in the context of the soon-to-be-established Australian CDC. Efficiently exchanging health data with other states and territories is critical for supporting the CDC's aims of improving national coordination of the public health sector and taking a 'One Health' approach to responding to future health threats.

Recommendation 5

ACT Health should prioritise investments to improve the functionality of the IT systems and capabilities developed during COVID-19, especially those pertaining to data management and disease surveillance.

Recommendation 6

ACT Health should develop and resource robust emergency-specific data strategies, including establishing formal data sharing partnerships with other jurisdictions, including the Commonwealth, where appropriate. ACT Health must prepare for point in time data linkage and sharing as an expected essential feature to be overseen by the prospective Australian CDC.

4.7 Standard government processes need to be tailored to the unique operating environment of a public health emergency

Robust, clearly articulated and agreed business processes are an important enabler of timely and efficient service delivery. This is especially true during emergencies, where the heightened degree of uncertainty, and often dynamic operating environment, demand fast operational responses, accountability for decision making and clear communication.

[21] NSW Health, As one system, 2023. Accessible at: https://www.health.nsw.gov.au/Infectious/covid-19/evidence-hub/Publications/as-one-report.PDF

[22] Victorian Government, Victorian Public Sector Data Sharing Heads of Agreement, 2022. Accessible at: https://www.vic.gov.au/victorian-public-sector-data-sharing-heads-agreement

Future responses would benefit from clearly defined, emergency-specific corporate processes

There was broad agreement across stakeholder groups that the COVID-19 Response relied too heavily on standard processes used to support business as usual functions within ACT Health, instead of developing fit-for-purpose emergency-specific processes. Stakeholders noted that some processes, such as those used for recruitment, were overly rigid, while other processes, such as those surrounding reporting, lacked the necessary rigour to enable an effective emergency response. As one interviewee said, 'we felt like this was being treated as an emergency but it lacked set processes and governance and then adherence to those processes that were there.'

Focus group participants echoed these findings, and reflected on the apparent change in approach to process over the course of the pandemic. Staff reported that during the early phases of the COVID-19 response, decisions were made and actioned quickly, and significant trust was placed in staff to use their judgement when making operational decisions. However, as the pandemic progressed, and the emergency became more sustained, staff found rigid processes replaced the more flexible approach taken during surge, slowing the speed and efficiency of decision-making. Focus group participants called out one example where they were unable to access a credit card required to purchase more supplies for a pop-up testing clinic.

Table 2 overleaf presents the Review's key findings across important processes implemented throughout the COVID-19 Response. For future responses, it will be important for planning teams to tailor processes in a risk-proportionate way. It is important that future emergency management processes provide sufficient role clarity to staff and support the principles of command and control when and where appropriate, while also ensuring staff with appropriate delegations can apply discretion where required to work efficiently.

Table 2 | Key findings across important processes

Process	Key Findings
Recruitment	Numerous stakeholders highlighted the need for more flexible recruitment processes during emergency responses, particularly when staffing levels need to surge rapidly. Stakeholders noted limitations on how long people could be engaged through the Temporary Employment Register, and mandated job advertisement timeframes as examples of recruitment processes that inadvertently added to managers' recruitment workloads and slowed onboarding. Staff also expressed frustration at having to reapply for positions they were currently working in. This finding is echoed in the *Medical Journal of Australia's After-Action Review* that recommended legal and HR processes that may impede rapid onboarding should be modifiable in emergencies.
Onboarding and staff training	Rapid onboarding, training and offboarding processes are essential to enable staff to step into their surge roles. In the initial scale up, stakeholders reported that onboarding was 'surprisingly' smooth given the complexity and volume, noting that the responsiveness of HR and the Digital Solutions Division contributed heavily to this. However, as the emergency progressed and workforce requirements escalated, stakeholders noted that onboarding and training processes (such as organising building access and registration into IT systems) failed to keep pace with recruitment, resulting in staff being unable to start work immediately. Stakeholders also identified the development of short training modules for IT systems and key operational functions as beneficial for promoting consistency of system use and to minimise workload involved in constantly training new staff. This reflects the findings of the National Contact Tracing Review which identified the importance of ensuring surge support staff in key operational roles, such as contact tracing, are well trained. Stakeholders also pointed to the importance of ensuring training not only educates staff about their roles and responsibilities, but also the personal and professional character traits that foster an efficient, supportive and respectful culture among staff.
Communication	There was general consensus among stakeholders that communication channels within the COVID-19 Response could have been more effective, but that they improved over time. Within the COVID-19 Response, stakeholders agreed that daily briefings were a useful mechanism for establishing a single point of truth at the beginning of every day, but that regard should be given at a whole-of-response level about how to cascade meetings to promote effective workflow and minimise duplication. Stakeholders report that the whole-of-Government talking points that the PICC distributed daily were an effective method of collaboration across the response as they provided a channel for all Directorates to both contribute to and benefit from messaging. They were also reported as being helpful for streamlining the distribution of information as the content had been cleared for publication.
Interagency collaboration	Stakeholders from other ACT Directorates consistently commended the productive working relationships they developed within the Policy and Support Branch. Staff from other agencies were impressed with the consistency and timeliness of advice provided by COVID-19 Response staff, and noted that having access to someone within the Response to help translate and operationalise public health advice was invaluable. In commending the Policy and Support Team's efforts, stakeholders did emphasise the importance of ensuring that proper processes are in place to support the flow of information to reduce dependence on particular individuals. They also reflected that processes to facilitate earlier engagement on policy directions with flow-on implications would be beneficial in the future for supporting timely decision making within their agencies. Stakeholders also emphasised the important role liaison officers play in facilitating

Process	Key Findings
	interagency collaboration. The majority of stakeholders felt the liaison officer arrangements worked well, however they noted that in some instances directorates did not appoint liaison officers with a sufficient delegation of authority to make decisions on behalf of their directorate. Staff from outside ACT Health emphasised the importance of embedding liaison officers within the response to facilitate effective communication, and cited the CHECC liaison officer role as being pivotal for ensuring collaboration between the public and clinical health arms of the Response. Stakeholders also reported that in some instances it can be beneficial to have a designated contact within each Directorate, in addition to the liaison officer, to provide advice and support about specialist issues, such as policy development. Appointing liaison officers for Culturally and Linguistically Diverse, and Aboriginal and Torres Strait Islander communities was reported by stakeholders as being an invaluable link between these communities and the COVID-19 Response. This enabled effective facilitation of tailored communication and culturally appropriate operational approaches for key public health measures. Substantial investment was made by COVID-19 staff into these relationships, through various engagement activities such as information nights about the COVID-19 vaccine. Stakeholders reflected on the importance of maintaining relationships with diverse communities to maintain the trust built during COVID-19.
Record keeping and reporting	Accurate, detailed record keeping of actions and decisions taken, and the context for those decisions, is important for ensuring accountability and enabling timely reporting during an emergency response. Staff reflected that record keeping processes could have been clearer, particularly early in the response. They noted that often different teams used different file management systems leading to issues with version control, and that in some instances decision making was not properly documented, making handover and record keeping difficult. In terms of reporting, stakeholders emphasised the importance of designing clearance processes to minimise bottlenecks, and suggested that where more streamlined processes are not possible, items should be categorised by urgency, ensuring the clearance processes support the requests to be actioned according to the relative priority. Several stakeholders suggested that future responses would benefit from additional resources dedicated to secretariat and administrative support to assist with reporting. Finally, numerous stakeholders identified the need to formalise data sharing and reporting processes between CHS and ACT Health to ensure key measures (such as case numbers) are reporting consistently to Government.
Financial appropriation	There was near universal consensus that the process for the allocation of funding for the COVID-19 Response requiring three-monthly review and reapproval by Treasury and Cabinet was disruptive and inefficient. It created significant work that could be avoided if there was a streamlined appropriation for an envelope of funds that allowed greater flexibility and delegation by ACT Health. One suggestion for streamlining funding appropriation was for ACT Health to develop a 12-month public health emergency business case that includes criteria for the requested funding and clear provisions to scale down if not needed for the full time period.

Recommendation 7

ACT Health should work with CMTEDD to develop streamlined arrangements for the appropriation of funds when a public health emergency declaration is made so that resourcing for enhanced planning operations and management is provisioned, secure and flexible.

Recommendation 8

ACT Health should review key administrative processes (e.g. recruitment, onboarding and training) to determine any amendments that may be required in a public health emergency to ensure they are appropriate and efficient. As required, ACT Health should design and agree emergency-specific processes to be implemented during public health emergencies, including thresholds for determining when these processes should supersede standard processes.

Recommendation 9

ACT Health should develop a liaison officer capability framework that can be easily applied in an emergency to assign liaison officers as designated points of contact in other Directorates to facilitate communication and authorise operational decisions.

4.8 Strategic workforce planning is critical for building preparedness

Staff working in the COVID-19 Response went above and beyond, demonstrating outstanding dedication to service for an extended period, often at great personal cost. While the efforts of those working in the Response have been deservedly commended, further planning—both before and during public health emergencies—is required to avoid placing the same demands on the ACT health sector's workforce in the future.

Public health emergency responses have unique workforce capacity and capability requirements

Staffing the COVID-19 Response presented a significant challenge to ACT Health. The unprecedented scale of the Response made surge workforce planning exceedingly difficult, while the protracted nature of the pandemic placed staff in the unique situation of operating in an emergency context for an extended period. As highlighted in the NSW COVID-19 Debrief Review *'As one system'*, the COVID-19 Response 'ultimately morphed from a sprint into an ultramarathon.'[23]

Stakeholders identified several challenges in terms of both workforce capacity and workforce capability, which, while ultimately overcome, constrained the COVID-19 Response's ability to respond effectively and efficiently at times. Key resourcing challenges included:

- **The need to rapidly recruit staff to perform key operational roles.** Unlike other emergency management agencies, such as the SES or ACT Rural Fire Service, who can draw on a large pool of reservist operational staff during an emergency, ACT Health had to rapidly recruit and train staff to fill a range of positions. Delays in recruiting and onboarding staff contributed to staff shortages, which

[23] NSW Health, As one system, 2023, pg. ix. Accessible at: https://www.health.nsw.gov.au/Infectious/covid-19/evidence-hub/Publications/as-one-report.PDF

were felt particularly acutely at the start of the pandemic, when many processes (such as case interviews) were still highly manual in nature. Shortages were also experienced during the peak of the Delta variant when the sudden increase in confirmed COVID-19 cases stretched many operational teams beyond capacity. Stakeholders reflected that at times, capacity constraints impeded the ability of leaders to focus on strategy and planning. Many stakeholders reflected that it would have been helpful to have arrangements in place to second staff from other ACT Directorates, and that many positions were only filled due to the large number of surplus casual workers in the ACT labour market as a result of widespread industry closures.

- **An operational response of this duration is a unique situation which posed challenges in terms of the sustainability of resourcing**. Emergencies are typically short and sharp, running from several days to a few weeks, or perhaps several months, with a relatively well-defined period of intensity. By contrast, staff working within the COVID-19 Response had to operate in a declared state of emergency over a far longer period (months to years). Nous heard regular reports of staff—especially in leadership roles—consistently working exceedingly long hours, and multiple weekends in a row. This was in part due to capacity constraints, which made it challenging to rotate people in and out of the Response. However, stakeholders reported that this also reflected the high level of commitment of key staff, which prevented them from stepping back for a day off and entrusting another leader to make decisions.

In addition to requiring a substantial surge workforce, the COVID-19 Response highlighted the unique capability requirements of a public health emergency response of this nature. Specifically:

- **Stakeholders consistently identified soft skills, including mental agility, flexibility, resilience and empathy as essential characteristics of high-performing COVID-19 Response staff.** Stakeholders frequently noted that the highest performing team members were those who were tolerant of change and ambiguity, and that provided staff had these base skills, they could quickly learn technical skills.
- **Specific technical expertise is required during a public health response that should be recruited for in advance.** Stakeholders reflected that technical expertise in the domains of epidemiology, strategic policy, public health emergency management and public health communication is vital during a public health emergency response. Stakeholders noted that it can be difficult to find staff in the ACT's labour market with the necessary technical expertise at short notice, and that during COVID-19 there was a call on personal relationships to draw this expertise into the Response. Numerous staff commented that it is particularly important to create development pathways within ACT Health to train staff in public health emergency management—particularly at more senior levels—as there is a relatively small supply of experienced operational leaders who also have public health expertise.
- **Strong organisational leadership is essential for guiding teams through the volatility, uncertainty, complexity, and ambiguity inherent in a public health emergency.** There was consensus among stakeholders that the unique requirements of managing an unknown situation of constant, unpredictable change placed additional demands on leaders, and required a different skillset to that required during BAU. Focus group participants commended the COVID-19 Response's leadership teams, noting that the best team leaders struck the right balance between setting clear expectations and allowing staff to execute their roles with autonomy. Staff reported feeling trusted to make decisions and supported when things didn't go to plan, reflecting that the most effective leaders were equal parts compassionate and pragmatic. Senior stakeholders reflected that careful thought should be given to how this emergency management leadership capability is built and sustained across the Directorate in preparation for future response. These stakeholders also reiterated the importance of structuring and resourcing future responses in a way that enables leaders are adequately supported to focus on operational delivery and strategic planning during the response.

Workforce planning is required to ensure ACT Health has staff with the necessary skills and experience to manage future public health emergencies

Developing a strategic emergency management workforce plan is important for ensuring future responses are staffed by people with the right mixture of technical capabilities, skills and attributes to support the effective delivery of the next public health emergency response. There was consensus amongst

stakeholders that strategic workforce planning — both before and during emergencies — is critical for managing an evolving crisis, and should focus on:

- Identifying the workforce skills and capabilities required across both BAU and surge teams, to ensure ACT Health has the right people across the full response lifecycle from planning and preparedness, through to response and recovery. Identifying *when* to bring additional capability into the response is just as important as identifying *who* to bring in. ACT Health should give consideration to whether there are opportunities to leverage particular expertise that exists within other jurisdictions or organisations, such as research institutions.
- Establishing appropriate recruitment strategies to support more streamlined surging of key operational roles. Numerous stakeholders suggested that ACT Health should establish formal agreements with other ACT and Australian Government agencies to facilitate the temporary secondment of staff into key roles during emergencies. While attempts were made to do this during the pandemic, the lack of pre-arranged processes hindered these efforts. Several stakeholders also echoed the *National Contact Tracing Review* recommendation to invest in training surge workforces to be maintained in a reservist capacity. However, planning teams should consider the appropriateness of this strategy, as technological improvements will likely lessen labour demand during future responses, and it is likely that many of the functions that required significant manpower during the COVID-19 Response may not be required in future responses.
- Establishing training pathways to develop technical capabilities in house that cannot be recruited for elsewhere. Particular consideration should be given to establishing operational leadership pathways, as this is a vital skillset that is hard to find outside of the Australian Defence Force and emergency services agencies.
- Developing staff wellbeing protocols to ensure all staff working in future responses are adequately supported. Stakeholders agreed that the wellbeing supports providing by ACT Health to COVID-19 Response staff were highly effective. However, further workforce planning is required to consider how processes such as rostering can be better designed to support wellbeing.

Recommendation 10

ACT Health should develop a public health emergency management workforce plan that considers the workforce skills and capability required at different stages of the emergency management lifecycle. This plan should identify which positions need to be retained within ACT Health on an ongoing basis, and which can be recruited during surge.

Recommendation 11

ACT Health should work closely with other ACT Directorates, and other jurisdictions where appropriate, to investigate the possibility of establishing MOUs to second staff into ACT Health during public health emergencies.

5 ACT Health requires additional capability to both plan for and respond to complex and prolonged public health emergencies

Around the world, governments are grappling with a new emergency management paradigm. There is widespread recognition of the need to build additional capability to manage the impacts of complex, concurrent and compounding emergencies, which will become increasingly common as a result of the confluence of climate change, urbanisation and migration.

ACT Health is already having to respond to other communicable disease outbreaks alongside COVID-19, with Monkey pox and Japanese Encephalitis (JEV) requiring surveillance and management. This illustrates the increased frequency of public health threats and pressure on ACT Health to respond to these threats quickly and effectively. According to a recent World Bank report,[24] resilient health systems are defined as being:

- Integrated with cross-sectoral partnerships
- Aware of threats and risk drivers
- Agile to respond to evolving needs
- Absorptive to manage shocks
- Adaptive to minimise disruptions
- Able to leverage lessons learned to transform after a crisis.

ACT Health is currently in the process of building its capacity and capability to enable COVID-19 and other emerging diseases to be sustainably managed. In doing so, it will be important for ACT Health to develop a future public health emergency management capability that is scalable, flexible and agile, to ensure it can effectively and efficiently respond to a variety of public health threats, not just a pandemic. Specifically, ACT Health should bolster its public health emergency management capability to ensure it is well-placed to:

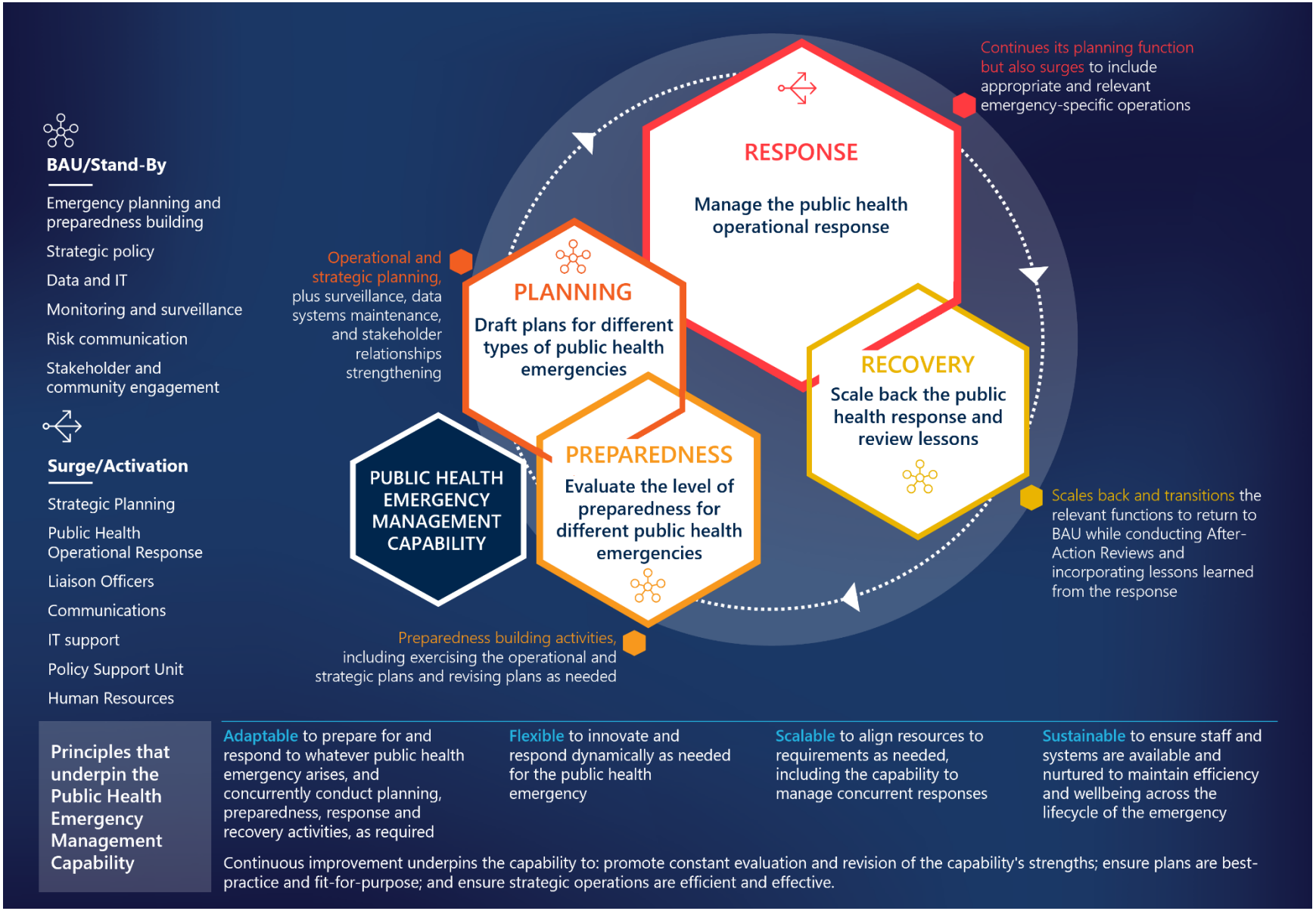
- Respond to complex, prolonged emergencies just as effectively as it manages acute, contained public health threats
- Manage concurrent threats
- Surge flexibly in a way that is proportionate to the emergency
- Perform both leading and supporting roles in emergency responses, as outlined in the ACT Emergency Plan.[25]

Figure 14 overleaf illustrates how a future public health emergency management capability could combine planning, preparedness, response and recovery functions to be able to surge efficiently in response to a variety of public health emergencies.

[24] The World Bank, Countries Need to Fundamentally Change Health Systems to Better Prepare for Future Shocks, 2022. Accessible at: https://www.worldbank.org/en/news/press-release/2022/11/03/countries-need-to-fundamentally-change-health-systems-to-better-prepare-for-future-shocks

[25] The ACT Emergency Plan appoints ACT Health as the Lead Response Agency for the following Identified Hazards: Communicable Human Disease Outbreaks including Pandemics; food contamination; and water supply contamination. However, it is listed as a supporting agency for many others.

Figure 14 | Proposed operating model for an enhanced public health emergency management capability



This enhanced public health emergency management capability should be embedded within Population Health Division to augment the work of ACT Health's current public health emergency management teams. However, its purpose, roles and functions should be clearly defined and scoped to ensure it has the bandwidth to focus on preparing for and managing complex, prolonged public health emergencies. Broadly speaking, the capability should operate across:

- **Planning and Preparedness phases**[26], in a BAU capacity to develop fit-for-purpose emergency response plans for public health emergencies, and ensuring arrangements are in place to action these swiftly.
- **Response and Recovery phases**, in a surged capacity, to deliver an effective, efficient public health operational response, and guide ACT Health through post-emergency recovery.

The following two sections provide additional detail about the functions this capability should perform over the two broad phases of BAU and surge.

Recommendation 12

The ACT Government should provide dedicated recurrent resourcing to build an enhanced ACT Health operating model to manage prolonged, large scale public health emergencies caused by an environmental hazard, infectious disease or anthropogenic event that threatens to overwhelm the normal business-as-usual mechanisms of the health system or health infrastructure and/or endangers the broader community, where significant input from a whole-of-Government perspective is required to manage the threat.

The capability should be structured and resourced on a recurrent basis by the ACT Government to provide clarity of purpose, roles and functions across two distinct phases: planning and preparedness, in a BAU capacity; and response and recovery in a surge capacity, noting that some recovery will occur during BAU.

5.1 Planning and preparedness should be the core function of a future public health emergency management capability

The primary focus day-to-day of a future public health emergency management capability should be on developing fit-for-purpose emergency response plans for public health emergencies, and ensuring arrangements are in place to action these swiftly. This aligns with the findings of both the White Paper on Singapore's Response to COVID-19, and the NSW COVID-19 Debrief '*As one system'*, which each recommended their respective jurisdictions establish stronger, dedicated scenario and forward planning capabilities.[27,28]

Upfront, comprehensive thinking about what is needed to respond to a range of public health emergencies is crucial for enabling a seamless, efficient transition into surge. As outlined in Section 4.3, clearly articulated plans, tested through training exercises, provide a strong starting point for best practice

[26] Nous notes that in an emergency management context, the four phases of the PPRR cycle are typically Prevention, Preparedness, Response and Recovery. We have tailored this framework to suit ACT Health's context.

[27] Singapore Government, White Paper on Singapore's Response to COVID-19, 2023. Accessible at: https://www.gov.sg/docs/default-source/media/gov/covid-19-white-paper/publication/white_paper_on_singapore_response_to_covid19_130323.pdf?sfvrsn=c33ec046_1

[28] NSW Health, As one system, 2023. Accessible at: https://www.health.nsw.gov.au/Infectious/covid-19/evidence-hub/Publications/as-one-report.PDF

operational responses. However, building ACT Health's preparedness to respond to public health emergencies encompasses more than the development of effective plans. It is vital the capability:

- Undertakes robust risk identification and assessment across the full spectrum of public health emergencies, as this feeds into strategic planning around consequence management.
- Identifies and implements the practical supports required to scale efficiently during the response phase. This includes strategic workforce planning, policy development and the maintenance of key data management systems.
- Maintains a risk communication capability, to ensure this can be leveraged during a response. According to the World Health Organisation, risk communication is 'the real-time exchange of information, advice and opinions between experts or officials and people who face a hazard or threat to their survival, health, or economic or social wellbeing.'[29] It is a critical tool for public health emergency preparedness and response, as it equips the community with the information required to make informed decisions to mitigate the effects of a public health threat, and empowers people to take preventive measures to protect themselves and their communities. Effective risk communication requires a distinct skillset and relies on establishing ACT Health as a trusted source of emergency information.

Importantly, the focus of planning should not be planning for planning's sake—indeed, most stakeholders agreed that it would be inefficient to focus on preparing for every possible emergency scenario. The most critical feature is capacity to deliver continuous planning which is responsive to the specific stages of the public health emergency lifecycle.

Table 3 overleaf, presents the proposed planning and preparedness functions an enhanced public health emergency management capability should undertake. The majority of this work should take place before an emergency, during BAU operations. However, it is important ACT Health also maintains the capacity to undertake long-term strategic planning, during emergencies.

[29] WHO, Risk communication and community engagement (RCCE). Accessible at: https://www.who.int/emergencies/risk-communications

Table 3 | Proposed planning capability functions

Function	Description of Key Activities
Emergency Planning and Preparedness Building	• Develop and maintain fit-for-purpose emergency-specific plans that outline key elements of the operational response required during an emergency, including required structures, systems, governance arrangements, processes, workforce capability and capacity. These plans should ensure the 'worst case' scenario is modelled to ensure arrangements stand up to the most catastrophic emergencies. • Develop a strategic workforce plan that identifies the necessary workforce skills and capabilities for BAU and surge, clarifies roles and responsibilities and establishes recruitment strategies (e.g. MoUs) and training pathways. • Undertake robust risk identification and analysis to ensure emergency responses are appropriately tailored for high-risk groups. • Test plans in a range of surge scenarios in exercises with relevant staff, adjusting plans as needed following trials and feedback. Plans should be tested in major emergency scenarios to ensure strength, flexibility and reliability across the full range of emergency levels.
Strategic Policy	• Develop and revise emergency-specific policies and provide input into whole-of-government emergency frameworks. • Review and draft relevant emergency-specific legislation. • Liaise with other Directorates to establish relevant agreements e.g. workforce sharing arrangements and data sharing partnerships.
Data and IT	• Improve and maintain data collection systems so they have capacity to operate efficiently during emergencies (e.g. NDMS). • Develop and implement data strategies to guide data collection and reporting. • Establish key linkages with other data sources (e.g. AIHW) to leverage the monitoring and surveillance capabilities of other jurisdictions. • Coordinate with the ACT Digital Solutions Division (DSD) to maintain IT infrastructure and incorporate DSD functions into emergency-specific strategies if needed (e.g. creating linkages with relevant outputs from the Digital Health Record), and ensure operational capacity to support responses e.g. immunisation programs etc.
Monitoring and Surveillance	• Conduct horizon scanning and risk assessment to anticipate public health threats, both domestically and overseas. • Monitor for disease threats through epidemiological surveillance.
Risk Communication	• Develop risk communication strategies, to supplement ACT Health's existing media and communications plans. • Maintain ongoing relationships with communities built on trust, to increase people's willingness to take protective action against a public health threat when required. This work should centre on building and maintaining community trust in ACT Health and boosting health literacy. • Develop risk communication capability across ACT Health, noting risk communication requires a different skillset as it is distinct from other public health communication.
Community Engagement	Maintain existing communication channels with: • The wider community and community leaders to ensure people know where they can go for reliable, trustworthy information and to prevent miscommunication about public health threats. It is particularly important to invest in building strong communication pathways with diverse communities during BAU, so the awareness and trust is there during an emergency. • Community sector organisations and leaders, in anticipation of drawing on them for resources and support during an emergency.

Function	Description of Key Activities
Stakeholder Engagement	• Establish and maintain key relationships and agreements with other ACT and Australian Government agencies (e.g. CMTEDD, TCCS etc.). • Establish and maintain key relationships with ESA and SEMC to ensure ACT Health emergency plans are aligned with broader ACT Government emergency arrangements. • Establish and maintain relationships with service providers for priority community groups at risk of severe disease and/or barriers to access services in anticipation of working closely with them during an emergency to provide information and support.

5.2 The public health emergency capability must consider how ACT Health can flexibly and efficiently surge in response to an emergency

This enhanced public health emergency management capability must be designed to enable it to rapidly and flexibly scale in a manner proportionate to the nature of the public health emergency. Key factors influencing the extent to which the capability must surge include:

- The nature of the public health emergency, including its complexity and anticipated duration.
- The current state of the public health emergency.
- Whether ACT Health is a leading or supporting agency for the response.

During a public health emergency, the capability would continue with relevant planning and preparedness activities, but also surge to include appropriate and relevant emergency-specific operations. Critically, the focus of planning and preparedness activities throughout surge should shift to incorporate a greater focus on active situational forecasting, to ensure operational teams have the necessary information to manage risk in a dynamic environment.

During surge, the capability should also develop plans to guide the transition from response to recovery. Numerous stakeholders reflected that the transition 'out of' COVID-19 was just as challenging, if not more challenging, than the initial implementation of the response. For many emergencies, the distinction between response and recovery may be unclear, with the transition likely to progress over time as the public health threat is deemed less of an emergency. Robust planning is therefore needed for this phase to ensure transitional arrangements, and the rationale for those, are clearly articulated both within ACT Health and across Government.

Post-surge plans should carefully consider how to transition the management of public health threats away from emergency response teams and back to BAU teams. In doing so, plans should consider how to transition functions away from Liaison Officers, and also consider the HR support required to achieve this effectively, given that staffing levels are likely to change significantly. To support future planning efforts After-Action Reviews should also be built into the de-surge phase.

Most additional surge functions will necessarily be emergency specific, but stakeholders agreed that a surged public health emergency management capability should:

1. **Be tailored to respond to the specific requirements** of the public health emergency threat at hand.
2. **Retain a planning capability with capacity to think strategically.** This capability should work closely with operational teams to adapt plans and procedures as priorities shift and key action areas change. It should also take a longer-term lens, to plan for the scaling back of the response and transition into the recovery phase. As discussed in Section 5.1, ACT Health must quarantine a portion of its planning capability to focus on longer-term planning, to ensure ACT Health maintains a level of preparedness to respond to other threats.

3. **Embed administrative staff in the response** to streamline supporting processes such as IT and HR, to enable planning and operational teams to execute their roles efficiently. These staff should be seconded from their usual role and work only in the response team, to prevent overloading of responsibilities.
4. **Work closely with the whole-of-Government response, to facilitate alignment across Government.** It is vital to ensure Liaison Officers have adequate authority to make operational decisions, to prevent the need for sign off from higher level Executives delaying action. Depending on the emergency, there may also be a need to establish working relationships with other areas of a Directorate, such as policy areas, to coordinate specific pieces of work.

Table 4 outlines key functions the capability should perform during emergency responses, in addition to BAU planning and preparedness functions. Note that many of the descriptions are intentionally high-level as the extent to which each function is required, and the specific activities it should perform, will be tailored to the emergency.

Table 4 | Proposed surge functions

Function	Description of Key Activities
Strategic planning	• Work closely with operational teams to adapt plans and procedures as priorities shift and key action areas change.
Public Health Operational Response	• Operationalise the emergency-specific plan and initiate emergency specific public health measures (e.g. quarantine, testing etc.). • Conduct robust forecasting based on data to predict what is ahead, and plan accordingly. • Triage issues that transpire in the emergency to determine whether ACT Health is best placed to respond or if it should be passed onto the whole-of-Government response.
Liaison Officers	• Facilitate communication between the Response and Directorates across the whole-of-Government response. • Provide advice and support about specialist issues e.g. policy.
Communications	• Manage media and other public communications and coordinate closely with the PICC if deemed required for the response.
IT Support	• Provide dedicated IT support for the operational response.
Policy Support Unit	• Provide dedicated Executive Support, to coordinate relevant Government business and support leadership. Act as a designated point of contact to receive, process and respond to information requests to prevent widespread distribution of requests to ad hoc team members. • Provide administrative support to all teams involved in the response. • Provide specific expertise on legal and policy issues.
Human Resources	• Provide dedicated HR support to enable streamlined recruitment, rapid onboarding and offboarding of staff, and provide oversight of team wellbeing.

6 Recommendations

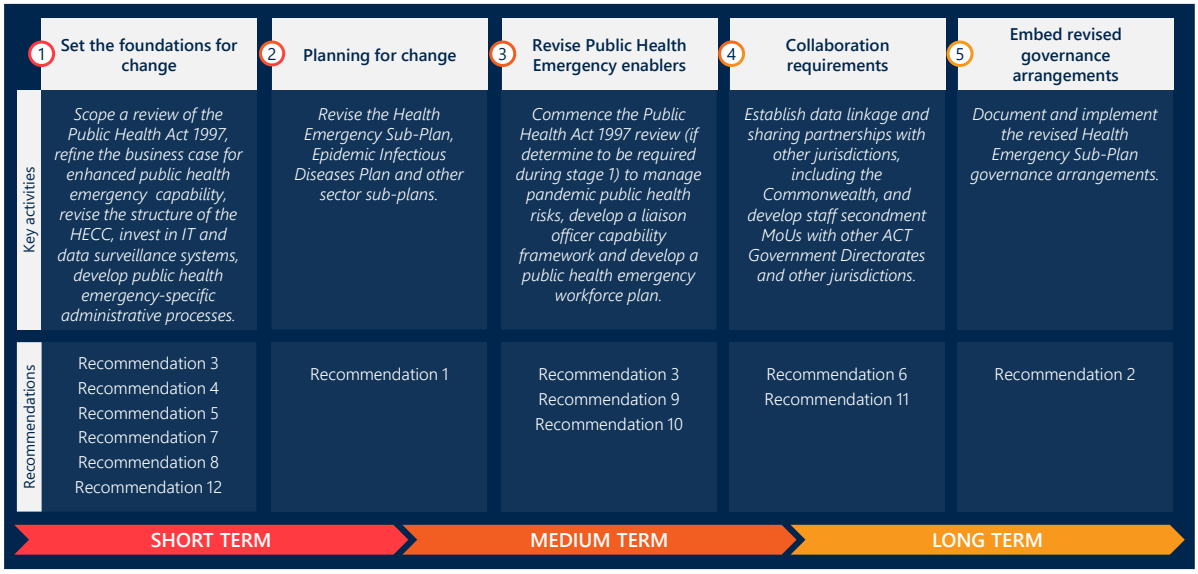
Based on the findings of this Review, we have developed 12 recommendations for a future public health emergency management capability. These recommendations are presented in Table 5 below. These recommendations will likely need to be implemented in stages, with careful consideration given to the interdependencies between each recommendation. Figure 15 below the table proposes an indicative sequencing of recommendations, however we recommend ACT Health develop an implementation plan to consider this in greater detail. Note the figure proposes timeframes for *commencing* work to implement the recommendations, not completing the work.

Table 5 | Nous' recommendations for a future public health emergency management capability

	Recommendations
1	ACT Health should work with relevant stakeholders to revise the Health Emergency Sub-Plan, and associated sector sub-plans, in accordance with the key lessons learned during COVID-19 to ensure they are fit-for-purpose for future responses, and aligned with contemporary whole-of-government approaches.
2	ACT Health revise the HEP to include detailed, fit-for-purpose governance arrangements that can be implemented at the start of a response, that give regard to the ACT Emergency Plan and ACT's *Public Health Act 1997*.
3	In recognition of the importance of ensuring governance and legislative mechanisms have an appropriate balance of powers to support proportionate, timely and flexible responses to complex and prolonged public health emergencies, ACT Health should prioritise a scoping exercise, to consider a potential review of relevant sections of the *Public Health Act 1997*. The scoping exercise should consider whether the review is warranted, and if so, how it can be undertaken in a staged manner, that gives consideration to the broader emergency management context and environment.
4	ACT Health should revise the structure of the HECC to ensure future responses enable the public health emergency to be managed in accordance with contemporary, best practice emergency management principles, while providing sufficient flexibility to respond to evolving needs.
5	ACT Health should prioritise investments to improve the functionality of the IT systems and capabilities developed during COVID-19, especially those pertaining to data management and disease surveillance.
6	ACT Health should develop and resource robust emergency-specific data strategies, including establishing formal data sharing partnerships with other jurisdictions, including the Commonwealth, where appropriate. ACT Health must prepare for point in time data linkage and sharing as an expected essential feature to be overseen by the prospective Australian CDC.
7	ACT Health should work with CMTEDD to develop streamlined arrangements for the appropriation of funds when a public health emergency declaration is made so that resourcing for enhanced planning operations and management is provisioned, secure and flexible.

Recommendations	
8	ACT Health should review key administrative processes (e.g. recruitment, onboarding and training) to determine any amendments that may be required in a public health emergency to ensure they are appropriate and efficient. As required, ACT Health should design and agree emergency-specific processes to be implemented during public health emergencies, including thresholds for determining when these processes should supersede standard processes.
9	ACT Health should develop a liaison officer capability framework that can be easily applied in an emergency to assign liaison officers as designated points of contact in other Directorates to facilitate communication and authorise operational decisions.
10	ACT Health should develop a public health emergency management workforce plan that considers the workforce skills and capability required at different stages of the emergency management lifecycle. This plan should identify which positions need to be retained within ACT Health on an ongoing basis, and which can be recruited during surge.
11	ACT Health should work closely with other ACT Directorates, and other jurisdictions where appropriate, to investigate the possibility of establishing MOUs to second staff into ACT Health during public health emergencies.
12	The ACT Government should provide dedicated recurrent resourcing to build an enhanced ACT Health operating model to manage prolonged, large scale public health emergencies caused by an environmental hazard, infectious disease or anthropogenic event that threatens to overwhelm the normal business-as-usual mechanisms of the health system or health infrastructure and/or endangers the broader community, where significant input from a whole-of-Government perspective is required to manage the threat. The capability should be structured and resourced on a recurrent basis by the ACT Government to provide clarity of purpose, roles and functions across two distinct phases: planning and preparedness, in a BAU capacity; and response and recovery in a surge capacity, noting that some recovery will occur during BAU.

Figure 15 | Proposed indicative sequencing of recommendations



7 Glossary

Table 6 outlines all the abbreviations and terms used in this Review in alphabetical order and their respective definitions.

Table 6 | Glossary of terms used in this Review

Term	Definition
ACT	Australian Capital Territory
ACT Health	Australian Capital Territory Health Directorate
AI	Artificial Intelligence
AIHW	Australian Institute for Health and Welfare
AIIMS	Australasian Inter-service Incident Management System
ART	Acute Response Team
BAU	Business-as-usual
CHECC	Clinical Health Emergency Coordination Centre
CHO	Chief Health Officer
CHS	Canberra Health Services
CMTEDD	Chief Minister, Treasury and Economic Development Directorate
Coordinator-General	The leader of the ACT Whole-of-Government (Non-Health) Response to COVID-19
COVID-19	The respiratory disease caused by the SARS-CoV-2 virus
DG	Director-General
DSD	Digital Services Division
EID	Epidemic Infectious Disease
ESA	Emergency Services Agency
FTE	Full-time equivalent
HECC	Health Emergency Control Centre
HEP	Health Emergency Sub-Plan
HPS	Health Protection Service
HR	Human Resources

Term	Definition
HSEMC	Health Sector Emergency Management Committee
IMS	Incident Management Systems
IT	Information Technology
KLEs	Key Lines of Enquiry
LHDs	Local Health Districts
MoU	Memorandum of Understanding
NDMS	Notifiable Disease Management System
NOAF	Nous' Organisational Architecture Framework
NSW	New South Wales
PHECC	Public Health Emergency Coordination Centre
PICC	Public Information Coordination Centre
REDCap	Research Electronic Data Capture
SEMC	Security and Emergency Management Committee of Cabinet
SEMSOG	Security and Emergency Management Senior Officials Group
SES	State Emergency Service
SunQuest	The NDMS employed by ACT Health during the COVID-19 Response
TCCS	Transport Canberra and City Services

Appendix A Key Lines of Enquiry

Table 7 below presents the Key Lines of Enquiry (KLEs) that guided this Review. We carefully designed Key Lines of Enquiry (KLEs) to guide our research and analysis, and enable us to answer the project's key question: *What operating model should ACT Health implement to enable it to respond effectively and efficiently to future public health emergencies?*

Table 7 | The Key Lines of Enquiry (KLEs) that guided this Review

Operating Model Element	Key Line of Enquiry	Sub-questions
Vision and mission	What is the overriding purpose of a future public health emergency response capability? What is its remit?	• What was purpose of the COVID-19 Response and what outcomes was it meant to achieve? • Which, if any, of the outcomes the COVID-19 Response was meant to deliver, are relevant for future public health emergency response capabilities?
	What role should the future public health emergency response capability play within the broader whole-of-ACT-government emergency response landscape?	• What was the role of ACT Health's COVID-19 Response within the broader whole-of-ACT-government COVID-19 emergency response?
Functions	What functions will the future public health emergency response capability need to perform on an ongoing basis?	• What were the COVID-19 Response's functions during COVID-19? • Why were these functions necessary? • Which, if any, of the functions established as part of the COVID-19 Response should be retained on an ongoing basis? • What, if any, functions were missing from the COVID-19 Response that should be included as BAU in future Emergency Response models? • What, if any, functions did other jurisdictions have during COVID-19 that should be included as BAU in future Emergency Response models?
	What functions will the future public health emergency response capability be required to ramp up and perform in response to an emergency?	• When might these temporary emergency response functions be required in the future? • How should these temporary emergency response functions be mobilised? • How were the COVID-19 Response's functions mobilised during COVID, and what lessons can we learn from this process for future ramp up?

Operating Model Element	Key Line of Enquiry	Sub-questions
Structure	What structure is required to deliver ongoing functions and allow for the delivery of ramp up functions, as required?	• How was the COVID-19 Response structured, and how did this evolve over time? • What were the key trigger points for changes to the COVID-19 Response structure? • What elements of the COVID-19 Response structure worked well, and which could be improved?
Governance	What governance arrangements are required to ensure appropriate oversight during both BAU operation, and any ramp up emergency responses?	• What were the COVID-19 Response's governance arrangements? • Which, if any, of these governance arrangements were pre-existing and which were implemented specifically for the COVID-19 emergency? • How effective were these governance arrangements? • What, if any, improvements could have been made to these governance arrangements?
	When should emergency-specific governance arrangements be implemented?	• What were the key trigger points for changes to the COVID-19 Response's governance arrangements?
Delivery processes	What processes need to be in place to deliver both ongoing and ramp up functions?	• What key processes were required to deliver functions during the COVID-19 Response? • How effective were these processes? • What, if anything could be improved about these delivery processes?
	What processes need to be in place to perform ramp up emergency response functions?	• What were the key trigger points during COVID-19 for changes to the COVID-19 Response's processes? I.e. how did the ways work was delivered need to change over the course of the pandemic? • What ramp up processes were in place in the COVID-19 Response? • How effective were these processes? • What, if anything could be improved about these processes?
Ramp up processes	What processes need to be in place to effectively ramp up during emergency responses?	• What processes were in place during the COVID-19 Response to effectively ramp up? • How effective were these processes? • What, if anything, could be improved about these processes?

Operating Model Element	Key Line of Enquiry	Sub-questions
	What systems did the COVID-19 Response use to deliver its functions?	• Which, if any, of these systems worked well? • Which, if any, of these systems should be retained to support ongoing functions? • Which, if any, of these systems should be retained to support ramp up emergency response functions?
	What systems did other jurisdictions implement to deliver their functions?	• Which, if any, of these systems should be implemented to support a future public health emergency response capability?
Workforce capability and capacity	What workforce CAPABILITY is required to perform both ongoing, and ramp up emergency response functions?	• What were the key capabilities required by the COVID-19 Response? • Which of the capabilities required by the COVID-19 Response were COVID-specific, and which were relevant to public health emergency responses in general? • Which of the COVID-19 Response capabilities should be retained to support ongoing public health emergency responses? • What, if any, additional capabilities would have been helpful to have within the COVID-19 Response? • Which capabilities are likely to only be required during temporary emergency responses?
	What size workforce (FTE) is required to perform ongoing functions to be prepared for a future public health emergency?	• What size workforce was required by each section of the COVID-19 Response, and how did this change over the course of the pandemic? • What were the key factors about the public health emergency that determined required workforce size? • Were there particular capabilities that were harder to recruit for than others?
	Where within ACT Health and broader ACT Government can the emergency response draw on this additional workforce capability and capacity?	• Where did the COVID-19 Response draw staff from? • What worked well about how the COVID-19 Response surged its workforce? • What challenges did the COVID-19 Response experience surging its workforce? • What arrangements need to be in place to enable the emergency response function to draw on staff from other areas during emergencies?