NSW Health

health.nsw.gov.au

Allied Health COVID-19 Workforce Innovations

Evaluation of COVID-19 related Allied Health Workforce Models

NSW Ministry of Health
1 Reserve Road
ST LEONARDS NSW 2065
Tel. (02) 9391 9000
Fax. (02) 9391 9101
TTY. (02) 9391 9900
www.health.nsw.gov.au

Produced by: NSW Ministry of Health

The NSW Ministry of Health acknowledges the traditional custodians of the lands across NSW. We acknowledge that we live and work on Aboriginal lands. We pay our respects to Elders past and present and to all Aboriginal people.

Further copies of this document can be downloaded from the NSW Health webpage www.health.nsw.gov.au

SHPN (RHD) 221101
ISBN 978-1-76023-389-1

July 2023

Disclaimer: The purpose of this report is to outline the allied health workforce models that were implemented as part of the COVID-19 response and evaluated as part of this project approach. It is intended that these allied health workforce models be considered within LHD's/ SHN's context for local customisation and implementation.

Contents

1. Executive Summary

In 2020, the COVID-19 pandemic arose as one of the most significant health events in recent world history. It shone a light on how prepared and responsive healthcare systems were in the face of a global crisis. For many months, overcrowded hospitals, overwhelmed healthcare workers and shortages of personal protective equipment (PPE) were reported across the world. It was made apparent healthcare systems were not ready for such a drastic increase in demand for services, further exacerbating critical workforce and system shortcomings that existed prior to COVID-19.

As a result, the pandemic served as a catalyst for transformation, pushing healthcare systems to implement changes far faster than in normal operating environments. NSW Health was no exception. Due to the highly contagious nature of the virus, it was imperative that NSW Health explored new and different ways to deliver healthcare. To support this drive for innovation and change, NSW Health provided targeted funding to the Local Health Districts (LHDs) and Specialty Health Networks (SHNs), allocated to the Allied Health and Allied Health Assistant workforce.

In the last 36 months, NSW Health has adapted to respond to the unique challenges of COVID-19 variants. During this time, Allied Health have been high performing, agilely moving to ease NSW Health system pressures. Commonly implemented models are highlighted in Table 1 below.

Table 1: Allied Health led models in response to COVID-19

Description	Impact as a COVID-19 response strategy	Ongoing impacts
Multidisciplinary Allied Health Teams in Emergency Department (ED) facilitating safe, supported early discharge		
Implementing a multidisciplinary allied health team in the ED of a hospital to include a rapid response seven-day, extended hours service, with a team of physiotherapists, social workers, and occupational therapists. Child Life Therapists included as part of the Paediatric ED Model of Care.	Supported discharge from the ED back to the patient's home. Prevention of avoidable admissions, particularly for those who are elderly. Increased patient throughput in ED due to the additional ED based Allied Health resource. Demonstrated significant return on investment.	RAID-ED at WSLHD has now been permanently embedded as a result of the pilot and quadruple aims achieved – broader implications on patient flow. HNELHD in mid 2022 was approved to embed an Allied Health Team in several hospitals
Allied Health in the Intensive Care Unit (ICU)		
Implementing additional allied health resourcing in the ICU	Early intervention in ICU, particularly for COVID-19 patients who, due to co-morbidities, would experience a long recovery. Allied health reduced hospital acquired functional decline, ventilator dependency and supported patients to regain functional independence and return home with independence. Standard ICU workforce models were supplemented with allied health staff with critical care skills. Physiotherapists, social workers, pharmacists, occupational therapists, speech pathologists, radiographers and dietitians were engaged and mobilised to support increased patient volume.	Increased use of physiotherapists in ICU. For example, St Vincent's hospital developed a model of care for physiotherapists in ICU and developed educational training programs/papers to support this. Increased multidisciplinary allied health models of care in the ICU.

Description	Impact as a COVID-19 response strategy	Ongoing impacts
Seven-day Allied Health service		
Providing allied health services seven days a week by increasing allied health resources	Continued allied health services during weekends resulting in: ▪ Improved functionality in patients ▪ Improved patient flow ▪ Increased hospital discharges.	Affirmed strong evidence that providing certain AHP services on a seven-day a week basis improves patient outcomes (e.g. via reduced rates of hospital acquired functional decline) and can reduce length of stay as patients admitted on the weekend suffer from poorer functional outcomes than those admitted during the week. Acute Care (7- day) Model of Care in South Western Sydney Local Health District is an example of this model.
Allied Health services delivered via virtual care		
Providing Allied Health services remotely through virtual technology	Important outpatient services continued to be provided in a different way. Non-urgent services that are assisting patients are still delivered, reducing a backlog of demand once the virus is contained.	Stakeholders reported improved access to services for patients unable to travel, a need to deliver care in different modes, and the ability to service the population's demands. E.g. RPA virtual and the virtual hospital model is an example of this. Sydney Children's Hospitals Network developed virtualKIDS. The service was established in June 2021 to deliver safe, patient-centred, remote COVID-19 care to children in the home.
Expanded Allied Health Assistant support		
Expanded Allied Health Assistant support to assist AHPs in their various disciplines	Allied Health Assistants are used as an extra resource ensuring that patients still receive high quality interventions in a timely manner by supporting with basic allied health skills. During the pandemic Allied Health Assistants were used to deliver 1:1 therapy sessions and therapy groups (i.e: Occupational Therapy, Physiotherapy). They also supported menu completion and meal delivery (Dietetics).	Effective, safe low value role substitution frees up other clinicians to perform more complex care activities. Top of scope working enhances job satisfaction.
Special Health Accommodation Hotels (SHAs) led and supported by Allied Health		
A "health hotel" that provides a quarantine environment with the ability to test suspected cases, clinically manage suspected and confirmed cases and cohort individuals in a supportive setting	Providing comprehensive health care services to travellers that either have COVID-19, are at risk of having COVID-19 or who have complex health needs that are also required to quarantine.	Allied Health Professionals (AHPs) working in new leadership and advance practice roles. Sydney Local Health District implemented an allied health response team based in the SHA which provided virtual comprehensive allied health assessment, intervention and case management to all patients and their families admitted addressing their physical, functional, psychological and psychosocial needs.

Description	Impact as a COVID-19 response strategy	Ongoing impacts
Community COVID-19 care teams led and supported by Allied Health		
Multidisciplinary teams in the community managing patients in two ways: 1. Monitoring and managing COVID-19 positive cases in community environments 2. Additional community Allied Health enhancements	Managing patients in the community created capacity in the hospital system allowing the most severe cases to be treated in the hospital environment.	Hospital avoidance was achieved through the provision of safe, effective care in the home. South Eastern Sydney LHD implemented a COVID-19 Community Management Centre (CMC) that completed initial assessment calls and follow up calls to manage patients. SCHN provided supervised accommodation and care for Children and Young People (CYP) whose parents were hospitalised and who did not have access to care and supervision for the period of their parent/carer's hospitalisation or illness.
Surge redeployment of Allied Health		
AHPs were redeployed in non-traditional roles including: ▪ vaccination centres ▪ swabbing clinics ▪ contact tracing roles ▪ deputy controllers ▪ operational and patient flow managers	Working in a non-traditional allied health capacity, using their skills and training as a clinical health professionals, allowed allied health workforce to be used in innovative ways. Many AHPs lead special response teams and managed the clinics/ centres as deputy controllers and operational and patient flow managers (including Special Health Accommodations).	Raised the overall profile of AHP across the healthcare system and to the public. Highlighting the broad leadership, operational and clinical skills of AHPs which they bring to many different areas of care, as well as their ability to upskill rapidly and be both agile and flexible. The use of pharmacists in vaccination was particularly innovative, as was the Qudos Vaccination Hub operationally run by a redeployed Dietitian. Many other vaccination centres also had trained AHPs working in both vaccinator and non-vaccinator roles.

Most of these models have been trialled previously and are evidenced-based. However, the pandemic enabled the wider adoption of many of these models. The challenge now is to build on the momentum to deliver better quality care and to develop system resilience for future waves of COVID-19, or other potential workforce shortages. To support this, we have summarised key lessons from the engagement process, and developed a set of recommendations for the future:

Strengths

- Empowered allied health leaders encouraged to utilise funding in the best way to support population's needs
- Casual pools of allied health to be able to cover for ICU/ED in case there was a surge situation that required extra resources at short notice
- Consistent adoption of Virtual Care to provide services that would otherwise be suspended
- Allied health professions operating in generalist and cross functional capacity to support COVID-19 strategies

Challenges:

- Recruitment of AHPs particularly where it relates to casual pools, rural and remote areas, and recruitment processes
- Uncertainty regarding funding conditions
- Border closures
- Staff fatigue and wellness

Sustainability and Scalability

Adherence to three suggested principles will enhance the system's ability to retain the advances made during the pandemic and further innovate in the health sector:

- **A flexible funding model** which overcomes current challenges such as the often short-term nature of funding, a focus on activity rather than outcomes, and an inflexible model limiting opportunity for adaptation and change
- **Strong executive leadership** supporting the building of relationships with different professions, community health and partnering with other parts of the care continuum
- **Empowering the workforce** to innovate on a regular basis, focusing on increasing workforce capability and giving staff permission to try new things

Stakeholders identified three main models that could be scaled up post pandemic. These have been highlighted in the table below including the benefits they would have on the system and the considerations required to implement the model.

1.1 Opportunities for Innovation

Drawing upon the workforce models implemented and the feedback from stakeholders, a set of opportunities have been proposed to equip NSW Health to manage future waves of the pandemic, with a stronger, more integrated approach.

1. **Improve system focus on multidisciplinary and transdisciplinary models of care** that encourage staff to practise at top of scope across clinical workforces, speeding the delivery of safe, high-quality, patient care, while providing greater access to allied health service.
2. **Provide training** for the Allied Health & Allied Health Assistant workforces to operate in more cross functional capacities, promoting multidisciplinary and transdisciplinary models of care within allied health.
3. **Build a workforce culture that supports innovation**, such that staff are encouraged and are aware that they have permission to explore alternative ways of working to deliver health services.
4. **Foster relationships between allied health professions** and other parts of the care continuum to create a more integrated service that meet community needs.
5. **Invest in the development of strong allied health leaders** supported by a robust governance framework that enables change in a safe way.
6. **Review and update the current recruitment practices** for allied health to reduce lengthy processing times and ensure efficient onboarding of staff, to ensure NSW Health particularly remains competitive in the tight, post-pandemic talent market.
7. **Establish a centralised pool of allied health resources** for rural and remote areas to expedite the sourcing of candidates and alleviate periodic / crisis-driven staffing shortages.
8. **Standardise the set of procedures required for the implementation of Virtual Care models for allied health** and enhance the adoption of these services state-wide.

2. Introduction

During the year 2020, the COVID-19 pandemic response dominated the agenda of the NSW health system. Since the onset in January, many Local Health Districts (LHDs) and Special Health Networks (SHNs) have explored new ways of working as they adapted to meet the new demands of the COVID-19 environment in a range of areas. To support this, NSW Ministry of Health arranged for funding to be set aside for allied health to use to deliver identified service needs.

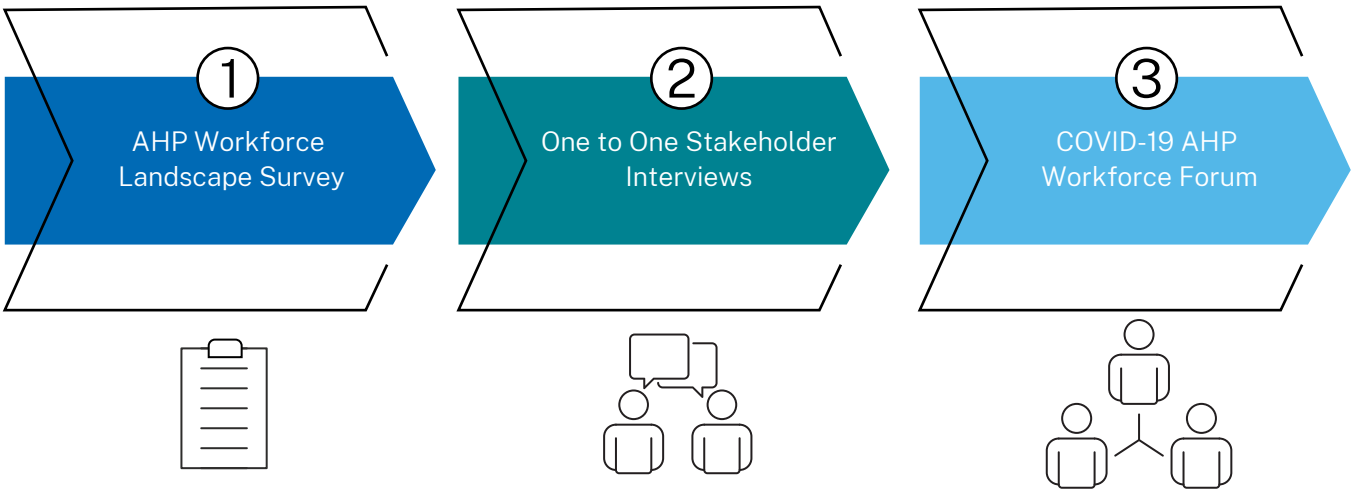
In early 2021, the Workforce Planning and Talent Development Branch of the NSW Ministry of Health partnered with Francis Health to conduct a review of the 'lessons learnt' during the COVID-19 pandemic with a focus on the allied health workforce. This report identifies the following:

- Allied Health led workforce models that were implemented during COVID-19.
- Best practice models and the potential to extend these models into a post COVID-19 era.
- What worked well, what could have been improved and what considerations could be made for future waves of the pandemic.

2.1 Methodology and Approach

The methodology used to conduct the project comprised of the following components – an AHP landscape survey, 1:1 interviews and a remote workshop, the findings of which informs the final report. Figure 1 below shows this in greater detail.

Figure 1: Methodology and Approach



A thorough scan across the NSW Health system was required to ensure no significant new AHP models are omitted. To do this, a voluntary online survey was developed that focused on understanding what (if any) changes were made during COVID-19, and how these models were perceived in terms of effectiveness and efficacy.

Stakeholders were asked about the challenges faced in utilising the enhanced funding and what system benefits were realised as a result of the models implemented.

28 participants responded to the survey, with more than one person completing the survey for certain LHD/SHNs.

A series of semi-structured interviews were conducted primarily via telephone or video conference. These videos focused on debriefing the LHD/SHN experience throughout the pandemic, highlighting the differences in approach that emerged and were required.

There was a particular emphasis on validating and updating the (4) case studies detailed in the draft (Phase One) and sought to include additional case studies should they emerge.

Interviews provided an opportunity for a detailed exploration of what stakeholders perceived to be key workforce challenges, and opportunities during the first wave of the pandemic.

The final element of the investigation comprised a stakeholder forum facilitated by Francis Health.

At this session Allied Health Directors, relevant workforce and professional leaders reviewed the draft outputs and key concepts of this research.

This ultimately generated key insights over the last two years, allowing the group to consider the draft outputs and key concepts of this research.

Combined with the online survey and the stakeholder interviews, conclusion of the workshop provided a focused framework for development of the report.

3. Background

The pandemic is one of the most significant events to occur in recent history. This section details the events leading to the pandemic and why a change in practice was so necessary. Furthermore, it explores the system's response to the pandemic and evaluates the effectiveness of the models implemented.

3.1 COVID-19 Global Context and the NSW Health response

On 30 January the World Health Organisation (WHO) officially declared the novel coronavirus (SARS-CoV-2 outbreak a public health emergency of international concern (PHEIC), WHO's highest level of alarm. It was clear the contagiousness of the severe acute respiratory syndrome coronavirus 2 (SARS-Cov-2), which causes COVID-19, its spread would be exponential [2].

On 11 March 2020, with more than 100,000 global cases of COVID-19 and over 4,000 deaths, the WHO decreed this spiralling situation a global pandemic. In these early months of the pandemic:

- Hospitals in the North of Italy were at system saturation, with high patient loads requiring intensive care.
- UK entered a nationwide lockdown
- Global cases reached one million, with the US recording the most daily deaths from COVID-19 of any country at that point. New York City was particularly hard-hit, with hospitals in the city at capacity.

The pandemic caused unprecedented strain on health care systems around the globe, requiring treatment capabilities and resources exceeding "normal" emergency surge capacity. The WHO developed a strategic preparedness and response plan outlining the public health measures to be taken in order to navigate the pandemic. Along with other key objectives, the WHO deemed it crucial to scale up individual country's preparedness and COVID-19 response operations, including:

- rapid identification, diagnosis, and management of cases
- contact tracing and follow up of contacts when feasible (with priority given to high-risk settings such as healthcare facilities)
- infection prevention and control in healthcare settings
- implementation of health measures for travellers
- awareness raising in the population though risk communication and community engagement.

The NSW Government, anticipating a steep rise in demand for services demonstrated in Europe and America, injected extra health funding into the system, primarily to support COVID-19 related capacity issues. This included doubling ICU capacity, preparing for additional COVID-19 testing, purchasing additional equipment, establishing acute respiratory clinics, and bringing forward elective surgeries to private hospitals. NSW Health provided the districts with enhanced funding for COVID-19 resourcing, including funds strategically allocated for allied health.

Initially, the enhancements were provided for 6 months in 2020. However, as the COVID-19 outbreak in NSW during 2020 proved to be less severe but more prolonged than expected, the FTE was extended across a 9-month period.

4. Overview of Workforce Models

New South Wales' initial pandemic strategy was aggressive suppression.[1] This was based on 'flattening the curve' to slow down the spread of the virus during the COVID-19 pandemic and introduce increasingly restrictive measures when necessary. The Australian public were advised to, where possible, remain at home and avoid risk of transmission of the virus.

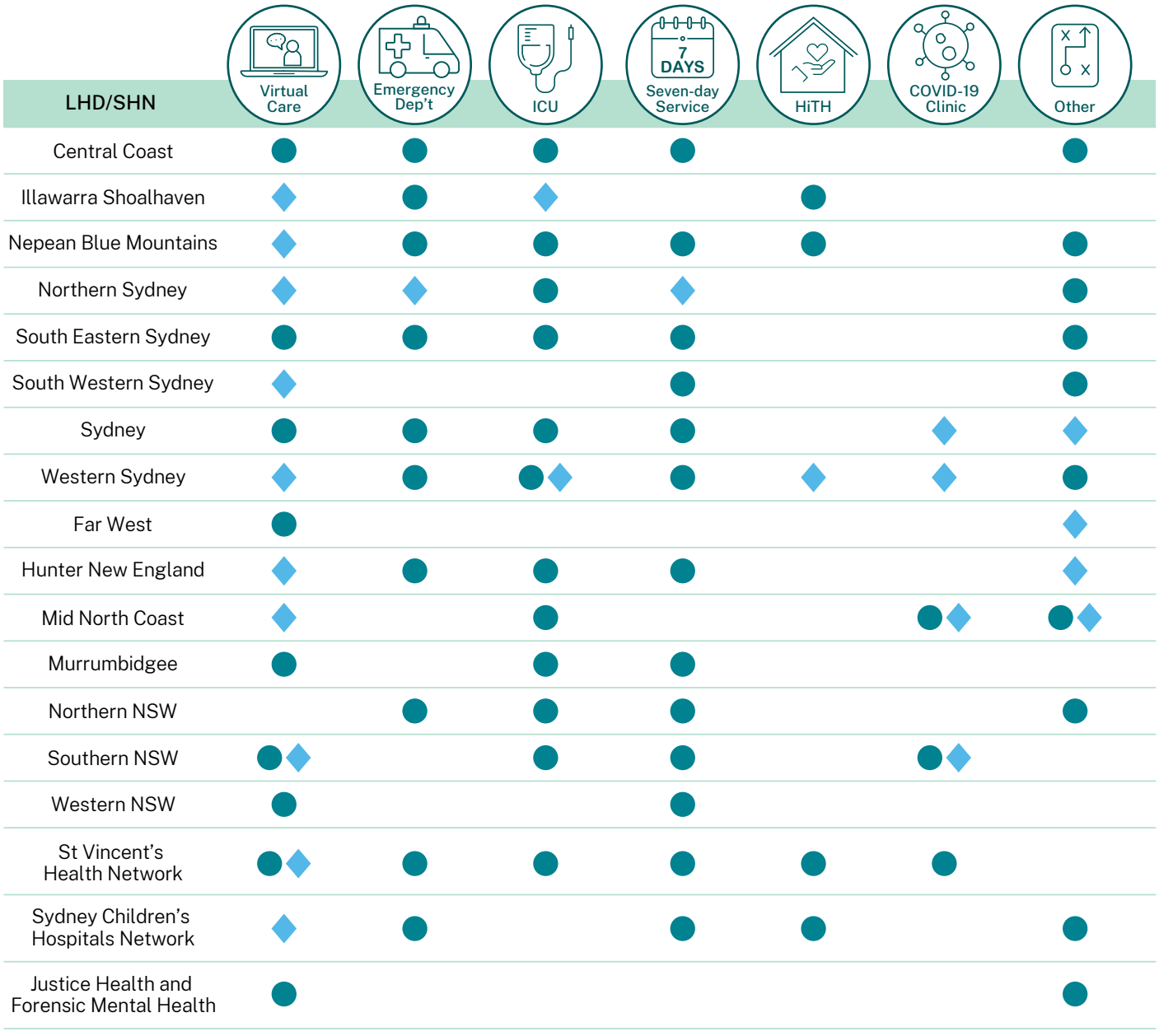
NSW Health was tasked with infection prevention and control in healthcare settings and ensuring the hospital system had the capacity to cope with the COVID-19 related strain on the service. Trends from around the globe suggested a significant percentage of confirmed COVID-19 patients would require admission to an Intensive Care Unit (ICU) and needed to be placed on ventilators, hospitals were overrun with the onslaught of likely COVID-19 cases, and the healthcare workforce would struggle to keep up with the increased demand. As a result, the goal for many of the models introduced in response to COVID-19 was predominantly centred around bolstering the capacity of the hospital system, avoiding preventable admissions, and deferring care where possible. As discussed above, to support this endeavour, NSW Health supplemented LHDs and SHNs with additional funding for enhancements to levels of Allied Health staffing.

The subsequent sections detail how the LHD/SHNs utilised the additional funding, outlining what models were implemented and the impact this had on the system, at a high level. This information, derived from the survey distributed to all Allied Health Directors in NSW, is depicted in Figure 2 below and illustrates the various allied health workforce models implemented by each LHD/SHN during 2020. Figure 3 lists models LHD / SHNs indicated in the survey as being part of a COVID-19 response strategy. It is not an exhaustive list of strategies.

Given the nature of the crisis, virtual care was the most frequent service provided by allied health. At the height of COVID-19 in 2020, while many outpatient services were put on hold, the health system needed to maintain some level of service delivery to those who required it. Therefore, the system shifted to embed virtual care more deeply into how healthcare is delivered. Some LHDs identified the need to place additional allied health staff in ED and provide seven-day service to support safe and timely patient discharge. This eased the burden on the hospital system and reduced the likelihood of infection in the hospital.

1 Bromfield N, McConnell A. Two routes to precarious success: Australia, New Zealand, COVID-19 and the politics of crisis governance. International Review of Administrative Sciences. 2021;87(3):518-535. doi:10.1177/0020852320972465

Figure 2: Snapshot of Allied Health Led Models implemented in 2020 in response to COVID-19



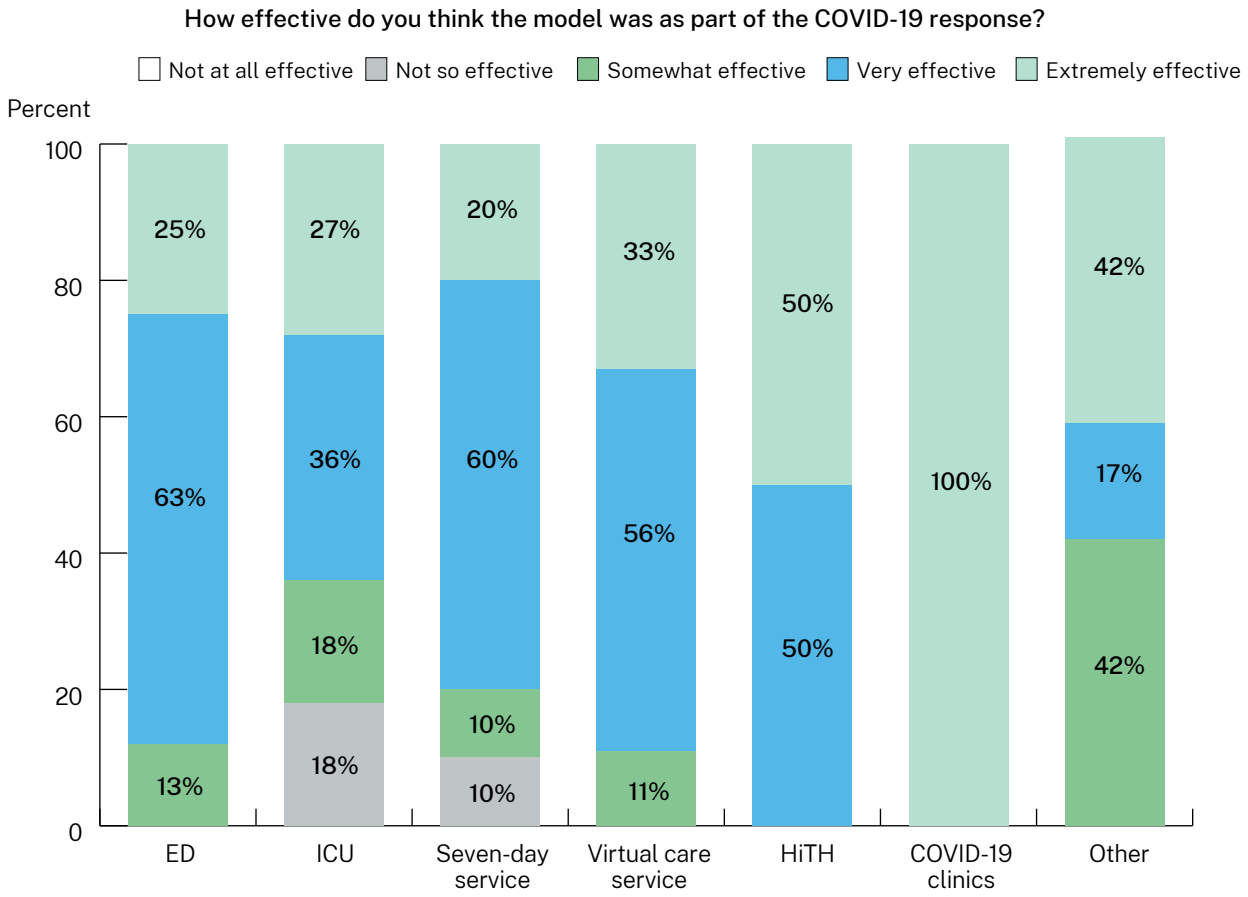
NB: Examples of other models can be pockets of additional AH staff, MDT frailty services or implementation of a casual pool

The models most deployed included:

- Allied Health in ED
- Allied Health in ICU
- Seven-day Allied Health service
- Allied Health services delivered via virtual care
- Allied Health in HiTH

Perceived effectiveness of models by survey participants is displayed in Figure 2 (n=28). The majority of the models were viewed to be very effective or extremely effective in response to the pandemic. The details of the effectiveness of these models can be found in the next section of the report.

Figure 3: Graph showing the perceived effectiveness of the enhanced Allied Health led models



NB: "Other" was an amalgamation of various strategies such as additional allied health resources in different professions, implementing casual pools, waitlist reduction for example.

5. Deep Dive into Workforce Models Implemented

The prolonged nature of the pandemic tested the health system and put the workforce under considerable pressure. Innovative models of care led by AHPs as well as critical roles as part of the integrated care approach ensured the allied health workforce created capacity within the health system to support optimal healthcare delivery for patients. The following section details the seven models that were implemented most frequently across all of the state.

The highlighted teal green boxes within the body of the text present examples of local case studies highlighting the successful implementation of allied health and multidisciplinary models of care. These case studies are focused on demonstrating the value of allied health during COVID-19 and growing the workforce to continue providing improved outcomes for patients and the system.

Figure 4: Models of Care implemented across the State

5.1 Interdisciplinary/Multidisciplinary Allied Health teams in Emergency Departments (ED)

Over the last ten years, there have been multiple studies that have investigated, and proved effective, the placement of allied health in ED, primarily to prevent inappropriate admissions and facilitate safe, supported discharge.[2][3][4] While most admissions from ED are appropriate, some patients may be admitted because there is either insufficient time or resources to consider alternative options for the patient's care. Allied health-led interdisciplinary/multidisciplinary in ED are able to consult and educate patients, families and carers with their requirements for ongoing care. For example, if an elderly person needs a Physiotherapy mobility review before discharge or requires Social Work to assess their service needs, an allied health ED team can assess and safely discharge the patient into their community reducing ward admissions and time in ED.

Several of the LHD/SHNs used their enhancement to supplement their EDs with Allied Health to support patient flow and avoid preventable admissions. For example, Central Coast LHD used their COVID-19 enhancement to introduce Occupational Therapy in their ED. The goal was to reduce inpatient admissions and support sustainable discharges by identifying frailty and the support services that would be required to maintain a person at home. This would ensure that patients over the age of 75 did not decondition in isolation. As a result, there was an improved multidisciplinary approach to care in the ED and it facilitated effective discharge home and proactive linkage with community supports and services.

In Nepean Blue Mountains LHD, malnutrition screening was introduced in ED within their ASET team to improve early identification and treatment of patients over 70 years at risk of malnutrition. This resulted in a reduced length of stay for admitted patients with a moderate to high risk of malnutrition, who received early screening and commencement of dietetic intervention.

Post-discharge, patients demonstrated maintenance of nutrition gains made during admission. Length of stay reduced 17.2 to 11.7 days in one cohort. Patients surveyed reported that follow-up phone calls assisted them to maintain the gains made during their hospital stay.

Nepean Blue Mountains LHD also used the enhancement funding to increase Social Work resources in the ED. The purpose of this deployment was to assess the psychosocial aspects of ED presentations and expedite discharge with referrals and support in place and to improve the experience of care through a trauma-informed model. Referrals were made to a wide range of community service providers and resulted in faster discharge from the hospital and ensured patients were home sooner.

LHD/SHNs that deployed this strategy held the opinion that it was an effective strategy throughout the pandemic. This is congruent with other research that supports the efficacy of having allied health in ED.[5][6] While it should be noted that the number of ED presentations during 29 March – 31 May was almost 25% lower in 2020 than in 2019,[7] stakeholders continued to invest in these models throughout the pandemic where funding was available.

2 Kam, A.W., Chaudhry, S.G., Gunasekaran, N., White, A.J., Vukasovic, M., & Fung, A.T. (2020). Fewer presentations to metropolitan emergency departments during the COVID-19 pandemic. Med J Aust, 213(8), 370-371.

3 Arendts, G., Fitzhardinge, S., Pronk, K. et al. The impact of early emergency department allied health intervention on admission rates in older people: a non-randomized clinical study. BMC Geriatr 12, 8 (2012). https://doi.org/10.1186/1471-2318-12-8

4 Ballabio, C., Bergamaschini, L., Mauri, S. et al. A comprehensive evaluation of elderly people discharged from an Emergency Department. Intern Emerg Med 3, 245–249 (2008). https://doi.org/10.1007/s11739-008-0151-1

5 Kam, A.W., Chaudhry, S.G., Gunasekaran, N., White, A.J., Vukasovic, M., & Fung, A.T. (2020). Fewer presentations to metropolitan emergency departments during the COVID-19 pandemic. Med J Aust, 213(8), 370-371.

6 Arendts, G., Fitzhardinge, S., Pronk, K. et al. The impact of early emergency department allied health intervention on admission rates in older people: a non-randomized clinical study. BMC Geriatr 12, 8 (2012). https://doi.org/10.1186/1471-2318-12-8

7 Ballabio, C., Bergamaschini, L., Mauri, S. et al. A comprehensive evaluation of elderly people discharged from an Emergency Department. Intern Emerg Med 3, 245–249 (2008). https://doi.org/10.1007/s11739-008-0151-1

Case Study: Rapid Assessment, Intervention and Discharge – Emergency Department (RAID-ED)

Background

Western Sydney LHD is responsible for delivering and managing $1.7 billion in public healthcare across more than 120 suburbs spanning 780 square kilometres in the Blacktown, The Hills Shire, Cumberland and Parramatta local government areas (LGAs). The community encompasses diverse economic, social, and cultural backgrounds and is characterised by wealth at one end of the spectrum and significant social disadvantage at the other, bringing with it a range of complex health needs and social circumstances.

Western Sydney has the following characteristics which increased the risk of COVID-19 related deterioration:

- prevalence of underlying medical conditions
- people aged 65 years and older
- prevalence of weakened immune systems

Furthermore, a high percentage of essential workers live in Western Sydney, and were required to travel and work on-siter. Western Sydney used their additional Allied Health FTE to establish effective models that kept the public safe, optimised the delivery of high quality care and maintained patient flow.

What was done?

The Rapid Assessment, Intervention, and Discharge-Emergency Department (RAID-ED) model of care (MoC) was an initiative implemented across Westmead and Blacktown Emergency Departments (ED) to lower the demand on inpatient hospitals beds for non-COVID-19 patients. The primary aim of this intervention was to reduce the risk of COVID-19 exposure by preventing unnecessary hospital admissions of patients presenting to ED by facilitating early discharge planning from allied health. The secondary aim was to measure patient experiences of the RAID-ED team and their satisfaction with the treatment received. The intervention included a rapid response seven-day, extended hours service, which included a team of physiotherapists, social workers, and occupational therapists providing timely allied health multidisciplinary treatment at the front door.

Impact

Since its implementation in October 2020, the team have seen over 3,500 patients with over 59% of these patients directly being discharged from ED; with 31% of these discharged patients receiving additional follow-up care and services arranged post discharge.

Table 1 below illustrates the efficiencies made in the period between October and December 2020 across both Westmead and Blacktown sites.

Table 1: Whole of ED performance metrics

KPI	Westmead	Blacktown
TOC (average)	Improved by 3%	Improved by 6%
ETP (average)	Improved by 3%	Improved by 7%
ED ALOS	Improved by 34 mins	Improved by 74 mins

Table 2 reflects the performance metrics with regards to falls patients seen at both sites.

Table 2: RAID ED performance re: falls patients (Cat 2-5)

KPI	Total
Number of falls patients Cat 2-5 seen by RAID in ED	268
Number of falls patients Cat 2-5 seen by RAID in ED and admitted	188 (13% of total RAID activity)
Average inpatient bed day savings per patient	1.65
Bed day cost savings due to decrease in inpatient ALOS	310.2
Bed day cost $$ efficiency due to decreased in inpatient ALOS	$310,200

Critical Success Factors

- Encouraging transdisciplinary working within the team e.g. both physiotherapists and occupational therapists undertaking mobility assessments
- Training sessions were organised for all Allied Health staff in the model
- The skill mix was designed to align with patient demands and service gaps
- Strong, capable, change champions that supported the pilot and encouraged staff to “buy-in” to new model. Executive support provided to promote and advocate for the new model of care
- Effective consultation with all stakeholders about the change, including feedback sessions to capture real-time issues/concerns

Case Study: Quick Access Response Team (QuART)

Background

The Illawarra Shoalhaven Local Health District (ISLHD) has responsibility for health services in the Illawarra Shoalhaven region – a catchment area extending along the coastline from Helensburgh in the north, to North Durras in the south with over 400,000 residents. This catchment covers four Local Government Areas (LGAs): Wollongong, Kiama, Shellharbour and Shoalhaven. The population is expected to grow to over 450,000 people, placing increased demand on existing services. The community is, on average, more disadvantaged than the rest of NSW, based on the composite Socio-Economic Index for LGAs, with the exception of Kiama. There is a higher proportion of people aged 75 years and older (8.3%) when compared to the NSW average (6.74%), and people aged over 65 years is the fastest growing age group.

What did they do?

The Quick Access Response Team (QuART) is a transdisciplinary team of allied health staff, based in Shoalhaven Hospital and Wollongong Hospital, which provides a short intensive two-week service to patients in their homes.

- The Shoalhaven team consists of Occupational Therapy, Physiotherapy, Social Work and Speech Pathology
- The Wollongong team consists of Dietetics, Exercise Physiology, Occupational Therapy, Physiotherapy and Social Work

While the teams consist of a variety of Allied Health Professions to maximise the breadth of skills of the workforce, team members are trained in core competencies across professions to build capacity and enable more comprehensive care delivery for each interaction. The primary aim of the team is to provide coordinated allied health support and intervention to enable the avoidance of an imminent admission; or support early discharge for patients requiring urgent medical investigation/interventions in the first 72 hours of admission.

Impact

During the pilot, the following results contributed to improved patient flow:

- Emergency Department avoidance (threatened presentation) – 51 patients
- Admission avoidance of patients who presented to Emergency Department – 185 patients
- Facilitation of early discharge of admitted patients (<72hr admission) – 37 patients

Since the implementation of the pilot in August 2020, the majority of the impact seen has been through admission avoidance – reflecting a significant number of avoided admissions across both sites. This results in improved patient flow, less occupancy and creating capacity for potential COVID-19 related surges. During this pilot phase, a non-cash value bed day saving was estimated by using an average length of stay for each site.

Site	No. of patients	Average acute admission cost for site (NWAU for Acute services)	Cost avoidance	Bed Day Savings
Wollongong	124	$6,033 per admission	$748, 092	441 bed days
Shoalhaven	112	$5,400 per admission	$604,800	320 bed days
Total			$1,070,904	761 bed days

The pilot also had a smaller, secondary effect in increasing safe, supported discharges across sites, accumulating in a total length of stay saving of 92.5 days.

https://www.health.nsw.gov.au/innovation/2021awards/Pages/secretarys-award.aspx#secretary-finalist2

As a result of the successful planning and implementation of the model, QuART was a finalist for the Secretary's Award which recognises initiatives that support NSW Health's vision for a sustainable health system to deliver outcomes that matter to patients, is personalised, invests in wellness and is digitally enabled.

Critical Success Factors

- Provision of interdisciplinary training for the team, focusing on honing core competencies across the professions to build capacity and provide comprehensive care to patients
- Developing a holistic care mindset within the team, to enable interdisciplinary work
- Development of a clear, purpose driven plan that is supported by executives
- Embracing technology as an enabling factor to implement the model of care

https://vimeo.com/706764844/db60b5ace3?embedded=true&source=vimeo_logo&owner=91455748

5.2 COVID-19 Care in the community

Transfer of healthcare services from hospitals to primary care, relocation of hospital services to primary care, and shared chronic care between primary care and hospitals have been found to improve access to specialist services and reduce demands on acute hospitals and patient outcomes. The pandemic required the health system to pivot to more community-based care delivery due to two main reasons. Firstly, hospital systems were struggling to cope with the additional pressure that COVID-19 introduced and secondly, hospital environments provided vulnerable patients an increased risk of infection. Care was provided to the community through multidisciplinary allied health teams managing patients in two ways:

- Monitoring and managing COVID-19 positive cases in the community
- Additional allied health enhancements in the community

5.2.1 Monitoring and managing COVID-19 positive cases in the community

Community management was recommended for approximately 80% of patients with COVID-19, provided there was capacity for counselling, isolation, support, monitoring, and escalation to hospital-based care in the event of deterioration. During the pandemic when case numbers were comparatively low, allied health would offer logistical support and social care – food provision, transport, counselling, and housing support are some examples. As the case numbers increased, more cases were managed through the community. Patients that registered a positive Rapid Antigen Test (RAT) or a Polymerase Chain Reaction (PCR) test were followed up by an MDT community management team that would undertake initial assessments, provide holistic care for the patient, manage risks, and set up escalation pathways if necessary.

Both Mid North Coast and Western NSW LHD's had strong COVID-19 Care in the Community programs, supported by allied health staff. Dietitians, physiotherapists and social workers were part of the multidisciplinary team and integral in providing a more holistic service to patients that were already anxious about an unknown situation. Stakeholders reported that the collaboration within the multidisciplinary team was excellent and a great opportunity to build better relationships with their medical and nursing counterparts. Furthermore, partnerships with Aboriginal Medical Service (AMS) ensured positive outcomes for Indigenous people. Given that Aboriginal communities were expected to be significantly affected by COVID-19, ensuring that they were still receiving necessary care delivered by trusted services was important. Allied health, working with the AMS, created a bridge of communication where services could be delivered where needed.

5.2.2 Additional Allied Health enhancements in the community

Hospital in the Home (HiTH) is an admitted acute care service provided to patients in their own home, or another suitable environment outside hospital. Services are provided by members of the multidisciplinary team including nurses, doctors, and AHPs. While HiTH is an existing service and not set up specifically as a COVID-19 response strategy, LHD/SHNs used this as a way to circumvent overcrowding the hospital system.

Evidence has shown that HiTH can provide the same quality of care as traditional, hospital-based care for patients, and in some cases, can be better for vulnerable patients.[8] This was an especially appropriate strategy as, those with underlying medical conditions, suppressed immune systems and the elderly had a higher risk of COVID-19 related deterioration. A key advantage was that allied health services and care could be redirected to a different location, freeing up resources, time, and effort to the hospital where appropriate. More importantly, patients who required treatment were still able to receive care and were not subjected to the normalised delays that occurs in the traditional hospital setting, further increasing potential exposure to the virus.

Nepean Blue Mountains LHD for example increased their HiTH capacity to accept patients requiring Physiotherapy to facilitate patient flow and remove the potential exposure to COVID-19. The model also enabled Physiotherapy treatment of COVID-19 positive patients as staff were provided full PPE where appropriate. With the additional enhancement, there was sufficient capacity to meet the increased demand for services.

Furthermore, as the pandemic progressed, it became clearer to system leaders that combatting the virus in the community was the optimal approach to ensuring good health outcomes for patients and the appropriate management of capacity within the wider health system.

5.3 Allied Health in an Intensive Care Unit (ICU)

During the initial stages of the pandemic, experience in severely affected countries suggested that between 5% and 16% of laboratory-confirmed COVID-19 patients would require admission to an ICU.[9][10]

This highlighted the need to plan and implement rehabilitation services on a larger scale, both during and after ICU discharge. In conjunction with the knowledge that there would be non-COVID-19 related patients admitted to the ICU, a need for additional allied health resourcing was identified.

The Agency for Clinical Innovation (ACI) released a document in 2021 that provided recommendations to support ICU surge demand during the COVID-19 pandemic. The paper suggested supplementing the standard ICU workforce model with allied health staff capable of critical care skills. Physiotherapists, social workers, pharmacists, occupational therapists, speech pathologists, radiographers and dietitians should be engaged and mobilised to support the increased number of patients. In instances where the workforce is compromised, critical care allied health staff are encouraged to oversee and support non-critical care allied health practitioners and allied health assistants working within ICU.[11]

Reducing ICU associated morbidity, and improving the quality of physical, cognitive, and psychological recovery for patients is the primary focus of the ICU multidisciplinary team. The allied health workforce emerged as a natural focus point to provide the therapeutic, patient-centred care necessary for rehabilitation of the patient after admission in ICU.[12] The benefits of ICU intervention from Dietetics, Physiotherapy, Social Work, and Speech Pathology to enhance patient rehabilitation and outcomes are supported by research.[13][14]

8 Health.nsw.gov.au. 2022. Hospital in the Home (HITH) – Performance [online]. Available at: <https://www.health.nsw.gov.au/Performance/Pages/hith.aspx> [Accessed 19 July 2022].

9 Grasselli, G., Pesenti, A., & Cecconi, M. (2020). Critical care utilization for the COVID-19 outbreak in Lombardy, Italy: early experience and forecast during an emergency response. Jama, 323(16), 1545-1546.

10 Guan, W.J., Ni, Z.Y., Hu, Y., Liang, W.H., Ou, C.Q., He, J.X., ... & Zhong, N.S. (2020). Clinical characteristics of coronavirus disease 2019 in China. New England Journal of Medicine, 382(18), 1708-1720.

11 Health.nsw.gov.au. 2022. Adult intensive care workforce report in COVID-19 pandemic – Communities of practice. [online] Available at: <https://www.health.nsw.gov.au/Infectious/covid-19/communities-of-practice/Pages/guide-aic-workforce-report.aspx> [Accessed 17 July 2022].

12 Play Video Coronavirus: NSW Government funding physios to help with COVID-19 (2020) 9News. Available at: https://www.9news.com.au/videos/health/coronavirus-nsw-government-funding-physios-to-help-with-covid-19/ckajdfmpo00170gpcf1qhm6po (Accessed: December 9, 2022).

13 NICE. Rehabilitation after critical illness in adults – Quality standard158, 2017. Available: https://www.nice.org.uk/guidance/qs158/resources/rehabilitation-after-critical-illness-in-adults-pdf-75545546693317 [Accessed 18 Aug 2021].

14 Twose P., Jones U., Bharal M., Bruce J., Firshman P., Highfield J., Jones G., Merriweather J., Newey V., Newman H., Rock C., Terblanche E. (MBE), Wallace S. (OBE). Exploration of therapists' views of practice within critical care. BMJ Open Respir Res. 2021 Nov;8(1):e001086. doi: 10.1136/bmjresp-2021-001086. PMID: 34750167; PMCID: PMC8576474.

5.3.1 Nutrition and Dietetics

Within ICU, dietitians play an important role in the advocacy and monitoring of nutrition progress within the context of the individual patient's clinical condition, as well as providing expert advice regarding strategies to manage any problems encountered. This includes provision of nutrition via a gastric tube (enteral nutrition) or intravenously (parenteral nutrition) and, in the late ICU and post-ICU stages, tailor individualised nutrition plans to patients based on the specific barriers each patient is facing regarding nutrition intake.

As part of their enhancement, Central Coast LHD established a 6-day dietitian service to manage a potential increase in referrals in ICU and across the hospital. This enabled enteral feeds to be reviewed and commenced by a dietitian over the weekend, which would otherwise not be feasible, as prior to the enhancement the LHD were not able to implement a 6-day service from their existing resourcing availability. Mid North Coast also used the additional funding to secure extra dietitian resources to support inpatients across the hospital.

5.3.2 Physiotherapy

Prior to the pandemic, physiotherapists were already embedded in the ICU team. Treating and restoring muscular and physical function via exercise rehabilitation, are primary aims of Physiotherapy in the ICU setting alongside cardiorespiratory assessment and treatment. For COVID-19 patients who required ventilation, Physiotherapy was an important intervention that aimed to mitigate adverse effects of prolonged bed rest.[15]

In March 2020 NSW Health ramped up its response to the COVID-19 health crisis and physiotherapists were to be deployed to provide specialised ICU care to ventilated patients. St Vincent's Hospital was instrumental in the creation of a guiding document[1516] that outlined recommendations for Physiotherapy management of COVID-19 in the acute hospital setting. It became a guiding document on appropriate Physiotherapy acute care management of patients with confirmed of suspected COVID-19.

In March 2020, 351 NSW Health physiotherapists completed the Physiotherapy Virtual Cardiorespiratory ICU Training. The Ministry of Health funded the training to optimise a preparedness response. The virtual training was hosted by the Ministry of Health and HETI in partnership with the Australian Physiotherapy Association. It educated physiotherapists on how to effectively treat the increasing ICU cases of COVID-19. As of May 2022, 1033, NSW physiotherapists have accessed the training, while 2300 external staff have accessed the training including locations such as Turkey, India, Canada, and the United States making NSW leaders in this space.[16]

Murrumbidgee LHD employed an additional Physiotherapy resource in the ICU. The goal was to increase the physiotherapy service and ensure that the workforce was prepared for a potential COVID-19 emergency. The model resulted in increased referrals and increased staff competency through increased staff competency through working in the ICU. There was also an increased understanding of role/benefits by the multidisciplinary team and the opportunity to improve patient outcomes, specifically in relation to early mobilisation and deconditioning for ICU patients.

5.3.3 Social Work

A wide range of services are provided by social workers to patients and carers throughout an ICU admission. These can include psychosocial assessments, facilitation of complex communication between parties, grief and bereavement support, adjustment to illness/reduced function, counselling, risk assessments, crisis intervention, practical assistance and education.

Central Coast LHD allocated a Social Work resource to ICU on a Monday to Friday basis to proactively manage increased demand for these services. Staff satisfaction surveys from the pilot demonstrated that staff considered that this model provided a better service for patients, carers, and MDT than a previous model of sharing Social Work resources with the emergency department.

15 Marti, J.D., Ntoumenopoulos, G., & Torres, A. (2013). Physiotherapy in mechanically ventilated patients: why and how. Clinical Pulmonary Medicine, 20(6), 292-299.

16 Health Education Training (2021) Physiotherapy virtual cardiorespiratory ICU training, HETI. The Health Education and Training Institute (HETI). Available at: https://www.heti.nsw.gov.au/education-and-training/our-focus-areas/allied-health/physiotherapy-virtual-cardiorespiratory-icu-training (Accessed: December 12, 2022).

5.4 Seven-day Allied Health Service

Early, additional, or higher intensity allied health services can improve health outcomes for patients.[17] There is strong support to provide some AHP services on a seven-days a week basis, as patients admitted on the weekend suffer from poorer functional outcomes than those admitted during the week.[18] Continued allied health services over seven days results in improved functionality in patients, leading to improved patient flow through the hospital system and increased safe discharges. However, unlike the medical and nursing workforce, allied health service provision on the weekend is variable across NSW. The reasons are multi-factorial, with budget constraints is a key limitation. Several LHDs/SHNs chose to deploy additional allied health services to a six, or seven-day service to guarantee additional resources on the ground during the Pandemic.

Mid North Coast LHD, implemented weekend rehab physiotherapy at Kempsey District Hospital. The goal for the hospital was to enhance their current service provision by supplying two additional days of physiotherapy to rehabilitation services. The model demonstrated that additional allied health interventions within patient rehabilitation settings were effective. Additionally, patients who received weekend rehabilitation physiotherapy had an overall Functional Independence Measure (FIM) improvement. The weekend physiotherapy not only had positive impact on patient outcomes, staff culture and communication within the rehab ward, there were flow on benefits for weekday physiotherapy department including:

- Efficient Monday workload management, with a reduction in new patient assessments, as the rehabilitation physiotherapist would also assess any new patients admitted to the medical ward. As a result, falls management plans and mobility plans were developed in a timely manner to support better patient care
- There was a physiotherapist on site to support any discharges that arose over the weekend

Murrumbidgee LHD implemented a seven-day physiotherapy service at Griffith Base Hospital for two 4-hour shifts on Saturday and Sunday. They reported improved patient flow, earlier discharge, and improved patient outcomes through timely comprehensive assessment. The hospital is currently working on a rostering and business model for BAU because of the successful trial.

Nepean Blue Mountains LHD introduced weekend physiotherapy aimed at improving rehab outcomes and reducing length of stay. While patients' Functional Independence Measures (FIM) improved, the model did not contribute to increasing weekend discharges as projected. Weekend occupational therapy was also introduced to facilitate patient flow and reduce length of stay. While weekend discharges increased, the LHD reflected on the need to focus on a more coordinated and whole health approach to implement this model as BAU project.

Finally, the Sydney Children's Hospitals Network established a seven-day service for social work to address increased level of parental and family stress due to a child having COVID-19. They reported improvements in patient experience, staff satisfaction and wellbeing (both within social work and medical and nursing staff) because of quicker access to social work resourcing on the weekends. Due to their successful pilot, a new seven-day social work service model has been implemented.

5.4.1 Expanded Allied Health Assistant Support

Allied Health Assistants (AHAs) generally support AHPs to meet workforce demands in healthcare systems. They work under the supervision and delegation of AHPs, supporting the delivery of care through clinical and non-clinical tasks, allowing AHPs to work at the top of their scope. In the past, there has been some reluctance in utilising AHAs to their potential. Factors contributing to this include a lack of clarity around role delineation and perceived lack of time to commit to training/supervision for AHAs.

17 Philip, K. (2015). Allied health: untapped potential in the Australian health system. Australian Health Review, 39(3), 244-247.

18 O'Brien, Lisa, et al. "What makes weekend allied health services effective and cost-effective (or not) in acute medical and surgical wards? Perceptions of medical, nursing, and allied health workers." BMC health services research 17.1 (2017): 1-13.

During the pandemic, AHAs were utilised in a multitude of ways. Predominantly AHAs were used in some LHDs to enhance the normal allied health service to a seven-day service. AHAs were able to assist the Allied Health workforce by providing regular and intensive interventions once the initial care plan was set by the AHP. Patients still received high quality care without AHPs having to do some of the more routine, basic tasks. For example, AHAs provided individual therapy sessions, delivered therapy groups, and completed equipment set-up and other administrative tasks.

AHAs were also utilised in supporting menu completion and meal delivery in lieu of HealthShare Food services, often used in vaccination centres and contact tracing roles.

Case Study: Acute Care (Seven-day) Model of Care

Background

South Western Sydney Local Health District (SWSLHD) encompasses seven Local Government Areas from Bankstown to Wingecarribee and has a population of approximately 966,450 people. The district is among the most rapidly growing populations in NSW and projected to grow to over more than a million people in the next decade. It is also a culturally diverse region with almost a third of its population speaking a language other than English at home. Amongst the traditional challenges that health systems face like an aging population, mental health and chronic and complex diseases, South Western Sydney also quickly became one of the COVID-19 hubs in 2021 requiring additional care.

What was done?

The model of care aims to lower the demand on hospital inpatient beds through the provision of additional effective and efficient seven-day allied health services in SWSLHD. The MoH workforce enhancement of Dietetics, Occupational Therapy, Physiotherapy and Social Work services across the SWSLHD facilities was designed to improve access to high quality care, improve clinical outcomes, system efficiency and improve patient and staff experience. The allocation of additional resources over seven days was based on the highest clinical impact areas following consideration of evidence-based models of care and matching to facility inpatient service demands and local context. This covered additional services for Dietetics, Occupational Therapy, Physiotherapy and Social Work.

Monitoring and Evaluation

The monitoring and evaluation plan for the allied health winter strategy and acute care workforce enhancement assessed the impact of the additional workforce by addressing the following components:

- access to care
- the provision of safe, high-quality care
- system efficiency
- patient and staff experience

Potential Impacts

- Improved referral response times for initial assessment
- Increased number of new inpatients seen on weekend and increased number of weekend discharges
- Reduction in the proportion of new (initial) assessments conducted on a Monday
- Patient/carer interviews and rounding feedback to demonstrate improved experience
- Increased treatment intensity, intervention time and/or occasions of service
- Increased direct engagement of family/carers in patient care plans

5.5 Allied Health services delivered via virtual care

Virtual care is any interaction between patients and/or members of their care team occurring using virtual technology with the aim of facilitating or maximising the quality and effectiveness of patient care. It refers to the modality used to connect and provide care and be used for the purposes of assessment, intervention, consultation, education and/or supervision.[19] Prior to the pandemic, health services had various levels of experience with telehealth, ranging from never having offered telehealth appointments, to large integrated services with an existing telehealth platform. While Australia has utilised virtual care services for a significant period of time, the pandemic was an unprecedented catalyst for the widespread, consistent use of virtual care services across NSW.

During the pandemic, physical separation between clinicians and patients was encouraged to help reduce the risk of community transmission of the virus. To help achieve this separation, virtual care services were used as an alternative method of health care delivery.

Some LHDs / SHNs spent the enhancements received by the Ministry on moving to a virtual care allied health service, while others implemented virtual care services as part of the COVID-19 response strategy, outside of the Ministry enhancement. Most LHDs/SHNs moved pre-existing services to a virtual care methodology. Far West LHD services that had previously been provided via face-to-face appointments were changed to a virtual care appointment. This allowed a level of service to continue for children who had already commenced seeing the clinician for therapy (e.g. Speech Pathology). The virtual allied health outpatient services assisted in providing a level of service to some clients that would otherwise have been absent.

Justice Health and Forensic Mental Health Network (JHFMHN) used the funding to hire a casual physiotherapist to undertake remote Physiotherapy service. The virtual care equipment was already in place, but systems and staffing were previously inaccessible without the additional funding. As a result of the additional funding JHFMHN are able to run 20 clinics per month into these remote centres. This has greatly reduced the costs of transfer of patients to metro Sydney while maintaining excellent standards of care.

Murrumbidgee LHD deployed a Dietetics and Physiotherapy virtual care model for in reach to sites that previously had no/limited access. The goal of the model was to increase access to Dietetics and Physiotherapy services, reduce the need to travel to bigger centres for patients and improve flow out to remote sites. This resulted in improved patient outcomes and reduced length of stay and improved relationships with the nurses. Murrumbidgee LHD also provided Social Work services to district hospital sites, as at the start of the pandemic, only three out of 20 hospitals had Social Work services. The virtual care services facilitated early discharge and supported complex discharges and guardianship issues. They reported substantial uptake from all the hospitals within the LHD and received excellent feedback.

The Sydney Children's Hospitals Network Mental Health Psychological Medicine team was well versed to provide services over the virtual space. Individual, family, and group therapy were provided over this medium with a small amount of feedback via virtual care surveys. Virtual care models of care are now being incorporated into the 'Safe Haven' suicide prevention team and the 'Help 2 Win' service. Additionally online group program for parents were developed across the service and implemented with the enhancements provided.

Southern NSW LHD in partnership with Illawarra Shoalhaven Local Health District) created a joint response to the COVID-19 pandemic, establishing the COVID-19 Virtual Care Centre (VCC) to remotely monitor COVID-19 positive patients. The VCC supported low and moderate risk COVID-19 positive patients to be monitored for deterioration in their own homes. This lowers the risk of exposure to COVID-19, for VCC clinicians, hospital staff and inpatients, household members and the community including GPs. The VCC continues to monitor COVID-19 positive patients for the duration of their home isolation, with the ability to link in virtual allied health care as required.

19 Agency of Clinical Innovation, 2022. Virtual care in practice. [online] Sydney: ACI, p.4. Available at: <https://aci.health.nsw.gov.au/__data/assets/pdf_file/0004/651208/virtual-care-in-practice.pdf> [Accessed 17 July 2022].

rpavirtual Hospital

What was done?

At the start of the COVID-19 pandemic, rpavirtual hospital pivoted to play a key role in the COVID-19 response strategy. They rapidly responded to the clinical care needs of patients with COVID-19 isolating at home or in the Special Health Accommodation using their Virtual Care Centre.

As part of the COVID-19 response, a seven-day rpavirtual Psychology team was introduced to implement the rapid delivery of psychological care through virtual care. The primary aim of the rpavirtual Psychology team is to provide person-centred, evidence-based, psychological care to (a) COVID-19 positive patients who are isolating at home as well as (b) people in quarantine in the special health managed hotels. Psychological care included assessments, crisis counselling, targeted psychological strategies and interventions as well as appropriate referrals to other services. The rpavirtual Psychology team sits within the larger rpavirtual care team, which includes medical, nursing and allied health.

A rpavirtual Social Work team was also introduced to provide virtual assessment and intervention to patients with psycho-social issues in home isolation or health hotel quarantine related to the COVID-19 pandemic. The service enables patients to continue to focus on their health for the duration of their stay in quarantine and following their discharge back into the community. The Social Work model of care provided both crisis intervention and short-term case management for the duration of hotel or home quarantine including ongoing accommodation, finances, referral services and practical and emotional support.

As the COVID-19 pandemic progressed a range of allied health professions also assisted rpavirtual in their additional COVID-19 response operations including the discharge support team which was established in rpavirtual to provide overarching communication, management, and coordination of approvals for discharge of individuals in Special Health Accommodation.

Impacts

- The rpavirtual Psychology team have received over 2000 referrals and Social Work over 3000 referrals (up to February 2022). The team continues to develop and refine their processes. Social Work have also led a wellbeing service for COVID-19 isolated patients at home who are under the care of rpavirtual medical and nursing teams.
- Rapid response to the COVID-19 pandemic with AHPs embracing new virtual models of care for both Psychology and Social Work which have traditionally been provided face to face.
- Ongoing expansion and development of allied health models of care in rpavirtual including ongoing Psychology and Social Work services, expansion of the rpavirtual fracture clinic (Physiotherapy) and ongoing implementation and evaluation of the new virtual rehab service (includes Physiotherapy, Occupational Therapy, Speech Pathology, Allied Health Assistants).

Critical Success Factors

- The governance framework developed for the rpavirtual service ensured there were the policies and procedures in place to support the delivery of safe and quality care, and engendered confidence within clinicians
- Executive sponsorship supported quick decision making that enabled rapid growth and change
- The willingness and flexibility of the district's clinical workforce to move into new and temporary roles

5.6 Special Health Accommodation Hotels led and supported by Allied Health

As Australia introduced quarantine as part of their containment strategy, it was recognised that there was a need for a health facility that could manage non-COVID-19 related medical illnesses in the people required to quarantine, as well as ensuring appropriate implementation of the other public health measures required for containment. To meet this need, Sydney LHD implemented the Special Health Accommodation (SHA), a service that provides a quarantine environment with the ability to test suspected cases, clinically manage suspected and confirmed cases and manage complex individuals in a supportive setting.

Clinical management of patients who were positive for COVID-19 occurred through RPA virtual (virtual hospital operating from SLHD's RPA Hospital) and the SLHD Public Health Unit (PHU). This service provided remote, around-the-clock care for COVID-19 and other patients. It was supported by RPA Hospital specialists with an on-call roster for all sub-specialties.

A variety of health care workers were drafted to work on site 24/7 in the SHA. Registered nurses (RN) and assistants-in-nursing (AIN) were present 24/7 on site for any and all health care needs, in conjunction with Allied Health. Allied Health staff on site consisted of dietitians, social workers, physiotherapists, psychologists and speech pathologists. Together, the multidisciplinary team was able to cater to the varied needs of the residents as they arose.

Stakeholders reported how well the hotels operated, especially with respect to building relationships between the medical, nursing and allied health professions. Allied health provided comprehensive, holistic care that was required for patients at the time, with clinicians targeting functionality, nutrition, and other core allied health skills. Stakeholders reported a newly fostered awareness and respect for the Allied Health workforce, especially in the SHA environment. Doctors and nurses trusted their allied health counterparts and viewed them as the "eyes and ears" on the ground due to the amount of time they spent with patients.

5.7 Redeployment of Allied Health

It was expected at the start of the pandemic that the health system would be stretched to capacity, in ways not seen in recent history. COVID-19 intensified the pressure on a healthcare workforce that was already stretched, and frontline clinicians could not afford to work in the same ways as they have always done. Health care settings are more likely to encounter people with COVID-19 and thus have higher rates of potential exposure for workers. Staff were furloughed (placed on a leave of absence from work) as COVID-19 numbers continued to rise and more close contacts came into light. As a result, tasks and functions that would traditionally be filled by nursing, were unable to be fulfilled due to a workforce shortage and furloughing. Allied health were deployed instead to meet the potential unmet demand, especially within COVID-19 testing clinics and later, in the vaccination centres.

Several LHD/SHNs redeployed allied health to work in COVID-19 screening and fever clinics, conducting tasks such as nasopharyngeal and oropharyngeal swabbing. Sydney LHD was heavily involved in redeploying their allied health staff screening and testing clinics, particularly in areas of concern that had increased demand. Sydney Local Health District led an outbreak management team using a mobile squad response to contain the potential outbreak. The rapid deployment of the mobile team was implemented to test staff and residents, with repeat testing in accordance with public health guidance. There were no further cases. The mobile squad team succeeded in containing the possibility of an outbreak in a high-risk, high-density setting.

Stakeholders have reported several allied health professions such as physiotherapists, dietitians and speech pathologists were utilised in these roles. While there was some unwarranted resistance to the deployment of allied health in this area, the need for a highly clinically trained workforce conducting testing at clinics far outweighed any reluctance.

Similarly, allied health were also deployed in vaccination centres. A COVID-19 Vaccinator, Authorised Health Practitioner position was created to allow allied health professionals (and other professions) to conduct the vaccinations in the vaccine hubs.

Pharmacists also played a vital role in Qudos Bank Arena Vaccination Centre operating to its full potential. A team of pharmacists were responsible for drawing up each dose of the Pfizer COVID-19 vaccination into individual syringes to exact measurements ready to

administer the vaccines. Baxter Healthcare Compounding Services was collaborating with Western Sydney LHD and NSW Health to support the vaccination centre by overseeing the preparation of doses and training the pharmaceutical staff in 'compounding' – the process by which the vaccines go from storage below zero degrees to being in the syringe and ready to administer.

In 2021, pharmacists were authorised to administer certain COVID-19 vaccinations. NSW recognised that there was a need to improve vaccine coverage, particularly in regional and remote areas. In the context of the COVID-19 pandemic, amid strained health systems, community pharmacists were well-placed to provide this essential primary health care service.

Megan Bryne, a dietitian by background was the Operational Director of the Qudos Bank Arena Vaccination Centre. She was responsible for the day-to-day operations of the largest vaccination hub in Sydney in 2021, vaccinating over 360,000 recipients in ten weeks and overseeing the coordination of 1200 staff onsite. She led a team of clinical and non-clinical staff and was an early advocate for the training of allied health clinicians to work as vaccinator and quickly integrating these staff into the vaccination hub operations. Megan won the Allied Health Leader of the Year at the 2021 NSW Excellence in Allied Health Awards.

6. Lessons Learned

This section outlines the key strengths and challenges identified by those involved in responding to the COVID-19 pandemic and utilising the funding offered. Stakeholders reported many enabling factors had strengthened as the pandemic progressed. This is consistent with reports from the sector about their ability to rapidly adapt, enhance and improve their capacity to perform in pandemic conditions. However, some challenges, such as maintaining staffing levels and workforce wellbeing became more challenging over the extended period. Addressing these factors effectively is essential in successfully establishing different models and these learnings can be used by NSW Health to critically analyse how to innovate during crisis in the future.

6.1 Strengths

The stakeholder engagement process highlighted several changes of practice / new ways of working that went well during the pandemic. These have been explored in the section below:

6.1.1 Allied Health Professions operating in a more generalist capacity to ease system pressure by providing clinical support

The term generalist refers to a service, or to a position or practitioner delivering services, that responds to the broad range of healthcare needs of a community. This includes delivering services to people with a wide range of clinical presentations from across the age spectrum, and in a variety of clinical settings (inpatient, ambulatory care, and community).

In response to the growing capacity concerns during the first wave of the pandemic, allied health staff were deployed in more generalist roles to release other clinical resources to focus elsewhere. This approach was based on the acknowledgment that all the clinical professions understand patient care, and the emergent nature of the pandemic required the blurring of professional boundaries to meet the challenge of COVID-19. For example, to ensure nursing resources were used in the most appropriate way, AHPs were deployed to operate the COVID-19 testing pop-up clinics. This meant they were utilising skills that may not be “typical” to an Allied Health professional, but one they were qualified for, given adequate training.

The LHDs/SHNs that implemented this model during the early stages of the pandemic reported positive feedback, declaring the model was incredibly effective at a time where there was so much uncertainty about surge capacity. One stakeholder commented that it was crucial to have access to a qualified workforce at a time when nursing workforce was limited for COVID-19 testing clinics and highlighted the importance of Allied Health working in versatile modes of care.

As resourcing constraints exist in healthcare systems outside of the pandemic, there is potential to explore how AHPs are used in the workforce in more cross functional capacities. Allied Health staff working in an extended scope of practice could be an efficient and effective way to manage the ever-increasing demands on the health system, while retaining job satisfaction and excitement for AHPs.

6.1.2 Empowered Allied Health workforce encouraged to utilise funding in the best way to support population’s needs and unite under a common goal

The pandemic has shown allied health to be a flexible, diverse, and efficient workforce, able to adapt quickly and support a whole of system response. There was consensus that a key strength was that “everyone was down in trenches” together, united under the common goal of getting through the pandemic. Unification toward the defeat of COVID-19 inspired more collaboration and encouraged AHPs to try different ways of working. It was acknowledged that this was also driven by strong, executive leadership championing the allied health workforce.

Stakeholders advised that the autonomy given to the LHDs/SHNs in how to utilise the enhanced funding was crucial to the success of the models implemented. Stakeholders appreciated that the Ministry of Health knew that Allied Health Directors and their frontline clinicians would know how and where to best place the

additional funding, instead of imposing models from other parts of the globe. Trust was engendered between the Ministry of Health and allied health leads, which trickled down to trust within the teams in the models implemented. However, other stakeholders indicated that more guidance indicating how the funding could have been fully utilised would have made using the enhancement funding easier.

6.1.3 Casual pools of Allied Health to be able to cover in case there was a surge situation that required extra resources at short notice

An effective COVID-19 response strategy across the system has been to set up and maintain allied health casual pools to supplement the core workforce. This was due to two main reasons:

- If/when the core allied health workforce became depleted due to sickness or annual leave, resourcing from the casual pool could be used. As there was a high likelihood of this occurring during a pandemic, it is logical that the availability of casual pools was increased.
- Should demand for services increase beyond the forecasted workforce planning, the casual pool would be part of the surge capacity potential. This would also be relevant if there was transmission within the hospital / ward and entire rosters needed to be quarantined.

As recruitment was difficult for all LHD/SHNs at this time, due to a limited skilled workforce, there were plans to leverage overtime, additional hours, and staff that had recently left the role to build the casual pool. LHD/SHNs had to be creative and send expressions of interest to staff who had left within 12 months or were on extended leave or make casual roles more attractive to those that were suited to it. Non-standard forms of employment often suit workers with family or care giving responsibilities, those wishing to gain extra income or pursue education or training, or those wanting to have flexible or decreased work hours.

Supplementing full-time employees with a casual pool may be viewed by employers as sound economics as casual staff are able to be utilised according to patient and workforce requirements. The nursing workforce has utilised this method of recruitment for some time now, and there is potential for the ongoing use of an allied health casual pool for future workforce planning.

6.1.4 Consistent adoption of virtual care to provide services that would otherwise be suspended

One of the main consequences of COVID-19 was the deferring of care due to the infection-control measures implemented which restricted much non-urgent medical care. Many outpatient services were suspended as a result of the pandemic, implying those needing treatment did not receive it. Fortunately, many services could be moved to a virtual care environment avoiding poor health outcomes for patients.

Although Australian Government funded virtual care / tele-health initiatives have been available since 2006, the pandemic provided the impetus for the widespread embrace of virtual care as a valid, safe, and effective mode of healthcare delivery. This was reflected through nearly all the LHD/SHNs establishing and operating virtual allied health services. Frontline workers that were once reluctant to transition from face-to-face consultation patient care quickly shifted to a virtual care model to maintain patient and practitioner safety. Virtual care afforded patients to receive care safely in their home environment, reduced risk of COVID-19 exposure for patients and frontline workers, and ultimately avoided aggravated service waitlists once the pandemic was managed. Patients who ordinarily found it difficult to access face-to-face therapy due to a multitude of reasons (lack of transport, multiple children, family dysfunction, violence etc.) reported ease of accessibility of services.

Despite initial challenges around adoption changing how certain interventions were delivered and by whom, stakeholders reported that most clients and staff adapted well and quickly to telehealth delivery. As the pandemic progressed, telephone and video appointments were being routinely offered to patients and consumers across most program areas. These approaches often combined a range of modalities including:

- initial face-to-face assessments
- home delivery of supporting information
- wellbeing check phone calls between appointments
- collection and delivery of pathology specimens.

Some program areas and disciplines were found to be more challenging to deliver by telehealth. Commonly cited services and supports included exercise programs, psychology, and family violence counselling services. However, this was also dependent on the different demographics of different LHDs.

There were reports of social support staff feeling isolated when delivering services from home. Most health services are looking to provide more support and training for their staff in the future, recognising that face-to-face skills are not always transferable to telehealth, and that some clinicians feel less confident utilising telehealth.

Even after the pandemic peaks and passes, there will be an opportunity to reform health systems. Patients will have changed expectations of how care should be delivered and will increasingly expect virtual care options to supplement in-person attendances. Similarly, AHPs, and clinicians in general, will be more comfortable with the use of technology to deliver care. To capitalise on this, there is an opportunity for the health sector to build partnerships between the technology sector and providers to drive virtual care innovation. Governments should explore regulatory pathways that balance robustness with ease to support the adoption of new virtual care technologies.

6.2 Challenges

Although the challenges faced during this time were countless, stakeholders identified the following as the most detrimental to success:

6.2.1 Recruitment of Allied Health Professionals

The vast majority of the LHDs/SHNs reported challenges in recruiting additional staff to supplement their current allied health workforce. The survey results indicated that this was caused predominantly by the recruitment process and timeframes involved in enlisting AHPs into NSW Health, followed by maintaining the casual pools and finally recruiting to rural / remote areas. The quote below encapsulates how stakeholders felt during this time:

> "Overall, from an allied health point of view recruitment was difficult. Positions were advertised but unfilled for prolonged periods of time and in some cases the time limited funding impacted on the ability to recruit at all. Finding experienced staff who could "hit the ground running" was challenging and at times impossible".

Recruitment Processes and Timeframes

The NSW Health recruitment process is designed to appropriately vet and select the most suitable candidate for the position. This can involve candidates responding to initial selection criteria questions pre-interview, in-depth behaviour-based questioning in front of multi-member interview panels, and multiple approval points before being hired. However, participants indicated that during a global pandemic the process was too laborious. Processes which are designed to challenge and screen candidates may be too cumbersome in an emergency. There is also the additional challenge of the administrative work that comes with hiring an additional resource. Role descriptions, expressions of interest (EOIs) and training/ onboarding procedures all take considerable time and effort to complete, adding additional pressure on a strained workforce.

There is a need to consider the "lead in" time that comes with NSW Health staff readiness. Criminal Record checks, Working with Children Checks (WWCC) and evidence of vaccination status are examples of potential checks that need to be verified before being employed by NSW Health.

In a rapidly changing crisis environment, the scouting, hiring, and onboarding of talent should be swift and simple, appointing AHPs in places of need. Without established procedures for recruitment in emergency situations, recruitment may be the challenge that holds NSW Health back from responding appropriately to a health crisis in a timely manner. Much of the feedback from stakeholders asked the Ministry of Health to consider a centralised pool of resources to deploy Allied Health professionals from. To support a centralised resourcing pool, there should be standardised role descriptions, EOIs and other resources to support rapid recruitment and training of common roles required to support the pandemic response.

Recruitment to rural / remote areas

The ability to recruit allied health staff to rural / remote areas has been a consistent challenge for all professions within the workforce. This can be attributed to various reasons, remuneration, lifestyle, and career progression are leading amongst them.

It is understandable therefore, why the additional pressures of the pandemic made recruiting to more rural / remote areas significantly challenging. Rural and remote areas represented a significant risk in the event of a surge in COVID-19 activity, as they had pre-existing resourcing issues, limited ability in some facilities to

support acute patients and constraints on patient transport in certain areas. In addition to the typical obstacles faced with recruitment to rural / remote geographic areas, during the first wave of COVID-19 in 2020, rural LHD/SHNs were competing with metropolitan LHD/SHNs to attract and hire Allied Health professionals to supplement the models that had plans to implement. The added competition made it even more of a challenge to recruit to these areas.

Maintaining casual pools

Due to the fluctuating needs of healthcare, many hospitals and health services in Australia have a casual pool to supplement core staff during busy periods, and to cover sick or annual leave of permanent staff. As the coronavirus (SARS-CoV-2) is a highly contagious virus, with the potential to decimate carefully structured workforce rosters, it was an obvious strategy for many LHD/SHNs to create and maintain a casual pool of AHPs. However, while this was an effective strategy, there were recruitment challenges in growing and maintaining the casual pool. Recruitment of allied health talent into the pools was difficult for the following reasons:

- The allied health workforce contains specialist workforces that had the potential to be hard to fill on short notice and could impede the systems' ability to surge
- Processes to recruit talent would be lengthy and require additional administrative work and a multilayered recruitment approach
- Competition across LHD/SHNs would mean that specialist resources will be in short supply.

6.2.2 Time-limited funding and consequences

This was identified as the most significant challenge experienced by the stakeholders. There was an overall concern that the funding would be withdrawn from the districts and specialty networks, and as a result, stakeholders were hesitant about creating additional demand for services that could not be met soon. For example, some LHD/SHNs took the opportunity to utilise the enhanced funding and create allied health positions that have been needed for a considerable period in order to address local demands. However, once the funding was depleted, the roles were not able to be renewed and the level of care could not be provided on an ongoing basis.

Furthermore, the design and implementation models of care requires a lot of time, effort, and consultation within the service. Buy-in to the change can sometimes be very difficult, and the model must demonstrate value to those who encounter it. This is generally an iterative process that requires trust, leadership and demonstrated value, which can be difficult to accumulate. Therefore, stakeholders felt a level of wariness in utilising the funding due to the creation of additional work that would not be followed through. Stakeholders felt like the process for utilising the funding was adding pressure when systems and people were already at capacity.

6.2.3 Border closures

State border closures were highlighted as a challenge, impacting the availability of staff across several LHDs (HNELHD, MLHD, MNCLHD, NNSWLHD). LHDs with borders were raised as a significant risk, with harder border closures potentially impacting their ability to sustain services in a potential COVID-19 surge. This was further exasperated as those trying to recruit additional allied health workforce were essentially competing with other LHD/SHNs.

To note – Queensland permitted AHPRA clinicians to cross the border, however self regulated workforces such as Social Work, Speech Pathology and Dietetics were arbitrarily not permitted.

6.2.4 Staffing fatigue and wellbeing

Globally, the pandemic has led to increased depression, anxiety, or worsening of existing mental health issues in healthcare workers within the system.[20] This is due to the strain that the pandemic has placed on staff professional and social life, as well as the additional occupational risks associated with exposure to the virus, leading to increased physical and mental fatigue as well as burnout.

Stakeholders have advised this is no different in the NSW system. Allied health staff have felt exhausted, especially as the pandemic progressed. The initial eagerness to play a part in this crisis, to get "stuck in" and to make a difference is slowly starting to be affected by the additional work, feelings of anxiety and weariness that the system may not return to a "normal state". Stakeholders also reported that they have been struggling with higher levels of sick leave, some of which can be attributed to COVID-19, but also the fatigue that has been a consequence of the last two years.

20 De Kock, J.H., Latham, H.A., Leslie, S.J. et al. A rapid review of the impact of COVID-19 on the mental health of healthcare workers: implications for supporting psychological well-being. BMC Public Health 21, 104 (2021). https://doi.org/10.1186/s12889-020-10070-3

6.3 Scalability and Sustainability

Three overarching principles are required to retain the advancements made during the pandemic and further innovate in the health sector:

1. A flexible, and assured, funding model which overcomes current challenges such as the nature of funding, a focus on activity rather than outcomes, and an inflexible model limiting opportunity for adaptation and change
2. Strong executive leadership supporting the building of relationships with different professions, community health and partnering with other parts of the care continuum
3. Empowering the workforce to innovate on a regular basis, focusing on increasing workforce capability and giving staff permission to try new things

Stakeholders identified four main models that could be scaled up post pandemic. These have been highlighted in the table below including the benefits they would have on the system and the considerations required to implement the model.

Table 3: Retaining or adopting COVID-19 models

Model to be implemented	Identified benefits	Key challenges/considerations
Shifting to a virtual care model for outpatient services	– Fair and equitable distribution of services improving access – Provides greater flexibility reduces travel costs and time for clients – The ability to have a state-wide IT platform which makes it easier for patients and clinicians to adopt consistently – Ability to have a centralised workforce and flexible working arrangements	– Change management required for new IT structures/virtual platforms – IT infrastructure upgrades, including video technology and portable devices – Increasing capability of workforce and provide technical support when necessary – Ensuring the right patients receive virtual care provided by the right people
Implementing a multidisciplinary allied health team in the ED of a hospital to include a rapid response seven-day, extended hours service, with a team of physiotherapists, social workers, and occupational therapists. Child Life Therapists included as part of the Paediatric ED Model of Care.	– Continuity of care for patients – Remove unnecessary duplication – Facilitate comprehensive care plans, initial assessment, and planning – Reduce hospital acquired functional decline in older and frail patients – Career progression for clinicians and access to different areas – Reduce costs and bed blocks	– Industrial challenges – recruitment, rotating rosters (between ED and ICU), weekend shifts – Funding required to sustain the teams within the ED – Strong partnerships required with community health – Strong relationships required with ED staff
Expanded Allied Health Assistant support	– Reduction in hospital acquired functional decline – AHAs provide activities/mobility for patients – Increasing the intensity of interventions – consistency through AHAs – Enable AHPs to work at top of scope – Easier to recruit AHAs – beneficial for workforce – Reduction in length of stay – AHAs often happier to work extended hours – AHAs can run groups, efficiency of service – Supporting collaborative care models	– Developing and delivering training and education to AHAs to work in a cross-disciplinary function – Funding required to add to the AHA workforce – Recruiting a skilled workforce – Supervision in rural and remote areas may become a challenge – Liaison with the university as students are a strong source of candidates – Capacity required for in-house training
Quick Access Response Team (QuART)	– Improved patient flow – Emergency Department avoidance – Hospital admission avoidance – Facilitation of early discharge – Safe, supported discharge – Patient satisfaction – Staff satisfaction	– Provision of interdisciplinary training for the team, focusing on honing core competencies across the professions to build capacity and provide comprehensive care to patients – Developing a holistic care mindset within the team, to enable interdisciplinary work – Development of a clear, purpose driven plan that is supported by executives – Embracing technology as an enabling factor to implement the model of care

7. Opportunities for Innovation

The pandemic created an impetus for change and has required organisations to question how healthcare is best delivered. Throughout the past year, allied health has set a precedent for working in new, innovative ways in response to a crisis. As NSW Health begins to think about recovery, there are several key recommendations to consider in moving forward and strengthening the system that have been identified below:

1. **Improve system focus on multidisciplinary and transdisciplinary models of care** that encourage staff to practise at top of scope across clinical workforces, speeding the delivery of safe, high-quality, patient care, while providing greater access to allied health service.
2. **Provide training** for the Allied Health & Allied Health Assistant workforces to operate in more cross functional capacities, promoting multidisciplinary and transdisciplinary models of care within allied health.
3. **Build a workforce culture that supports innovation**, such that staff are encouraged and are aware that they have permission to explore alternative ways of working to deliver health services.
4. **Foster relationships between allied health professions** and other parts of the care continuum to create a more integrated service that meet community needs.
5. **Invest in the development of strong allied health leaders** supported by a robust governance framework that enables change in a safe way.
6. **Review and update the current recruitment practices** for allied health to reduce lengthy processing times and ensure efficient onboarding of staff, to ensure NSW Health particularly remains competitive in the tight, post-pandemic talent market.
7. **Establish a centralised pool of allied health resources** for rural and remote areas to expedite the sourcing of candidates and alleviate periodic / crisis-driven staffing shortages.
8. **Standardise the set of procedures required for the implementation of Virtual Care models for allied health** and enhance the adoption of these services state-wide.

NSW Health

NSW GOVERNMENT