

RPA Virtual Hospital Overview and Strategic Priorities 2022 and 2023







Acknowledgement of Country

Sydney Local Health District acknowledges that we are living and working on Aboriginal land. We recognise the strength, resilience and capacity of Aboriginal people on this land. We would like to acknowledge all of the traditional owners of the land and pay respect to Aboriginal Elders past and present.

Our District acknowledges Gadigal, Wangal and Bediagal as the three clans within the boundaries of the Sydney Local Health District. There are about 29 clan groups within the Sydney metropolitan area, referred to collectively as the great Eora Nation. Always was and always will be Aboriginal Land.

We want to build strong systems to have the healthiest Aboriginal community in Australia.

Together under the Sydney Metropolitan Partnership Agreement, including the Aboriginal Medical Service Redfern and in collaboration with the Metropolitan Local Aboriginal Lands Council, Sydney Local Health District is committed to achieving equality to improve self-determination and lifestyle choices for our Aboriginal community.

Ngurang Dali Mana Burudi - A Place to Get Better

Ngurang Dali Mana Burudi - a place to get better, is a view of our whole community including health services, Aboriginal communities, families, individuals, and organisations working in partnership. ANG DALI MANA BURUS

Our story

Sydney Local Health District's Aboriginal Health story was created by the District's Aboriginal Health staff.

The map in the centre represents the boundaries of Sydney Local Health District. The blue lines on the map are the Parramatta River to the north and the Cooks River to the south which are two of the traditional boundaries.

The Gadigal, Wangal and Bediagal are Y DY ACE TO GET BE the three clans within the boundaries of Sydney Local Health District. They are three of the twenty-nine clans of the great *Eora Nation*. The centre circle represents a pathway from the meeting place for Aboriginal people to gain better access to healthcare.

The Goanna or Wirriga

One of Australia's largest lizards, the goanna is found in the bush surrounding Sydney.

The Whale or Gawura

From June to October pods of humpback whales migrate along the eastern coastline of Australia to warmer northern waters, stopping off at Watsons Bay the traditional home of the Gadigal people.

The Eel or Burra

Short-finned freshwater eels and grey Moray eels were once plentiful in the Parramatta River inland fresh water lagoons.

Source: Sydney Language Dictionary

Artwork

Ngurang Dali Mana Burudi — a place to get better

The map was created by our Aboriginal Health staff telling the story of a cultural pathway for our community to gain better access to healthcare.

Artwork by Aboriginal artist Lee Hampton utilising our story.



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Purpose

The purpose of this document is to outline the strategic objectives and direction of RPA Virtual Hospital (**rpa**virtual) for 2022 and 2023, including ongoing and new models of care and other priorities related to infrastructure, workforce, demand management, research and evaluation.

The strategic priorities herein have been developed based on consultations with specialist departments, the **rpa**virtual Steering Committee and Clinical Advisory Council, planning sessions with the District's Chief Executive and with review and input from the **rpa**virtual Executive and Consumer Network.

The document also provides an overview of **rpa**virtual's inception, governance, workforce, collaborative partnerships, integrated care features, activity classification and funding model.





Introduction

Virtual health care comes in many forms, from the simplest use of mobile technologies to enable clinicians to stay in touch with patients through to large open access standalone services that deliver or coordinate medical services remotely, from virtual extensions to in-person care to wholly virtual care, and from add-on care to complete substitutions for in-person care.

RPA Virtual Hospital (**rpa**virtual) was established in February 2020 as a new and innovative way to deliver hospital level care in the community and provides a sustainable solution to the increasing demand on health care in Sydney.

The **rpa**virtual model was conceived and developed as a purpose designed service that is embedded within the Sydney Local Health District (SLHD). A comprehensive and unique governance structure has been designed and operates in accordance with the general and clinical governance expectations of the District.

rpavirtual acts both as an extension to existing health care services as well as providing purpose designed new health care services. The medical support provided to patients is supplemented where necessary by drawing on the existing specialist services of Sydney Local Health District. As such, it sits towards the more sophisticated, complex, and larger end of the virtual care spectrum internationally. **rpa**virtual acts as a bridge between hospital specialist services and patient care in the community. **rpa**virtual has developed the infrastructure, workforce and governance arrangements required to deliver in home community care alongside new innovative virtual care models to patients within Sydney Local Health District.

rpavirtual incorporates two key service arms, Sydney District Nursing (SDN) and a multi-disciplinary Virtual Care Centre.

A purpose-built Virtual Care Centre operates 24 hours a day, 7 days a week and was established on the Royal Prince Alfred Hospital campus and equipped with 'Care Pods' that include videoconferencing technology and the ability to remotely monitor patients with wearables.

Sydney District Nursing services are located in five sites and provide generalist community nursing care and specialist community nursing palliative care services.

Background to the development of RPA Virtual Hospital

There is international recognition of the need to reduce hospitalisations, readmissions, and lengths of stay which are common and costly. Virtual hospitals provide hospital level care in the community with a view to relieving pressure on overburdened health care systems and to achieving equivalent or better clinical and health system outcomes.

The population served by Sydney Local Health District is growing rapidly. The ageing population and increasing incidence of chronic conditions mean that demand for health care is increasing more than ever before.

During 2019 and prior to the development of **rpa**virtual, Sydney Local Health District had been actively exploring existing virtual models of health care which included a tour of North America hospital sites and a NSW government delegation visit to Israel with a particular focus on healthcare technology. This coincided with planning for the redevelopment of RPA Hospital and consideration of population projections and hospital bed requirements.

It became evident that new models of care were needed that could deliver health care that is person centred, effective and efficient and not heavily reliant on infrastructure such as physical space or hospital beds.

The potential benefits of a virtual hospital model are significant and include inpatient hospital admissions avoided, reduction of unnecessary emergency department presentations, better coordination of care across hospital and community settings, increased patient and carer satisfaction, by supporting patients to remain in their home or to remain in a local hospital with specialised support provided from a distance.

In February 2020 Sydney Local Health District launched RPA Virtual Hospital, known as **rpa**virtual, as a new way of delivering hospital level care in the community. **rpa**virtual's objectives focus on supporting patient flow in our acute hospitals by delivering hospital care in the community, an improved patient experience and informing the role of virtual care by articulating the model and its capabilities.

rpavirtual has demonstrated its ability to scale up without the challenges associated with traditional hospital infrastructure. Virtual care has been delivered to nearly 50,000 patients from only 500 square metres of physical space, carefully designed and constructed to maximise utilisation of space and clinician comfort. An existing building of architectural significance has been repurposed, preserving its heritage. Patient care can be delivered with significantly less expenditure on infrastructure and provides a higher turnover per square metre.

A virtual hospital has the potential to generate cost savings through minimal need for repairs and maintenance and with no domestic services required. Virtual care eliminates the need for fleet management and reduces the need for patient and clinician road travel thus reducing traffic congestion and emissions.

In 2021, there were 15,000 occasions of direct care for patients who would otherwise have had to travel to hospital. This saved nearly 8 million kilometres of travel which equates to 1.4 tonnes of carbon emissions avoided.

In densely populated inner-Sydney, suitable land for new health buildings is in short supply. Capital investment can instead be prioritised towards technology that will further enable virtual care delivery.

The initial infrastructure for **rpa**virtual was designed to consider the interaction between people and technology including privacy and soundproofing, clinician comfort and ergonomics, maximising light, replicability and ability to expand.

Some early achievements of **rpa**virtual have included establishing a stand-alone facility with a new 24/7 Virtual Care Centre and a comprehensive governance structure that demonstrates all the features of a traditional hospital with additional focus on robust clinical protocols for new virtual models of care.

In the two year period since launching, new virtual clinical care has been delivered to 32,000 patients, quarantine discharge support to 15,000 patients and in-person community nursing care to 8,000 patients in their homes.

The key challenges for **rpa**virtual in the next two years will be to implement non-pandemic virtual care at scale and move towards a business as usual model.

Strategic Objectives

The strategic objectives for **rpa**virtual were developed in 2020 and have recently been expanded (objectives 5-8). The objectives are to:

- Support patient flow in Sydney Local Health District's acute hospitals by delivering hospital care in the community.
- 2. Reduce unnecessary Sydney Local Health District hospital emergency department presentations, hospital admissions and overly long inpatient lengths of stay.
- 3. Enhance the patient experience of health care.
- Inform the understanding of the role of virtual care by articulating the model and its capabilities and demonstrating its viability and financial sustainability.
- 5. Continue to leverage Sydney Local Health District specialist services to identify opportunities for collaborative case management.
- Continue to collaborate with primary care on identified patient cohorts, strengthen communication and referral pathways and support General Practice to provide virtual care.
- 7. Continue to investigate opportunities to support Sydney Local Health District services to enhance existing models of care through the introduction of virtual care.
- Inform the broader adoption of virtual health across Sydney Local Health District and NSW Health by:
- developing and pilotting new technological capability;
- participating in local and state-wide virtual care strategic committees and forums;
- contributing to local Sydney Local Health District virtual care related planning;
- convening an annual research and evaluation forum;
- offering consultancy, presentations, and site visits;
- sharing learnings via program evaluation, conference presentations and publication of journal articles; and,
- participating in research projects.





Governance and Leadership

Workforce

Due to the temporary nature of the virtual hospital trial in 2020, all staff including the Executive were on temporary secondments in the first year of operations. When originally established, the Virtual Care Centre was staffed by six Registered Nurses with oversight by a Director of Nursing.

The average full-time equivalent employees for 2020/21 was 155.31fte, of which 105.70fte was in Sydney District Nursing. As at 31 January 2022, the average had increased to 220.79fte, of which 97.83fte was in Sydney District Nursing, with a total headcount of 274. It should be noted that these totals included periods of surge staffing associated with increased pandemic activity.

Overarching clinical governance is provided by a Clinical (Medical) Director and supported by a medical team of Emergency Medicine Specialists, General Practitioner VMOs, and Registrars on term rotation.

The Virtual Care Centre nursing service includes Registered Nurses, Midwives, Clinical Nurse Consultants, a Nurse Practitioner, Clinical Nurse Educator and a tier of Nurse Managers.

The Allied Health Service includes Clinical Psychologists, Physiotherapists, Social Workers, Speech Pathologists, Occupational Therapists and an Allied Health Assistant. A new Community Pharmacist will be trialled with **rpa**virtual in 2022.

Sydney District Nursing includes Nurse Managers, a range of specialised Clinical Nurse Consultants (Palliative Care, Wound Care, Infection Control, Hospital in The Home, HIV), Nurse Practitioner (HIV Mental Health) and Clinical Nurse Educators. **rpa**virtual's workforce design enables the delivery of hybrid models that require virtual care as well as in-person clinical assessment and care.

An Executive Team provides strategic and operational leadership to the service and clinical models of care. The Executive team includes the General Manager, Clinical Director, Director of Nursing, and Director Performance Reporting and Clinical Services Support.

The General Manager's Unit supports facility governance, daily operations and strategic improvement and includes the Clinical Governance Manager, Patient Experience and Service Development Manager, Finance and Corporate Services Manager, Operational Support Manager, Work Health Safety Manager and Research and Evaluation Manager. A Research and Evaluation Unit supports model of care evaluation and new research.

An Aboriginal Cultural Support Team provides complex cultural care and care navigation, along with a longstanding Aboriginal Chronic Conditions 48-hour Follow-Up team.

The role of Digital Patient Navigator was introduced in 2020 to support patients to access virtual care using technology. This includes assistance with tech set-up, demonstrations, trouble-shooting, development of instructional material and arranging to loan devices and data packages as required.

The District's Cardiac and Respiratory Chronic Care Nursing teams will transition to be managed by **rpa**virtual before 30 June 2022. This will allow for consideration of opportunities for strengthened collaboration with Sydney District Nursing and the Virtual Care Centre (including its after-hours functions). The teams will be under the governance of the Director of Nursing.

The work of these teams and Sydney District Nursing will be complemented by the introduction of a newly funded, community-based Chronic Disease Palliative Care program from July 2022. This multi-disciplinary team will provide care to patients with late-stage degenerative, chronic conditions and progressive disability in the last two years of life – specifically Chronic Obstructive Pulmonary Disease, Chronic Heart Failure, Dementia and Neurodegenerative Diseases.

The **rpa**virtual organisational structure in Appendix 1 details the reporting lines and management structure of **rpa**virtual.

Clinical Governance

Good clinical governance is crucial to ensuring safe and high-quality health care. **rpa**virtual is committed to designing and sustaining robust clinical governance systems and expects all staff to contribute to the safety and quality systems that support the delivery of safe and high-quality healthcare.

The **rpa**virtual Clinical Governance Framework outlines the governance systems, processes, roles and responsibilities in place to ensure patient care is appropriate, safe and of high quality. The Framework aligns with the five core components of the National Model Clinical Governance Framework (ACSQC, 2017) and the Sydney Local Health District Clinical Governance Framework (Sydney Local Health District, 2019).



The **rpa**virtual Clinical Director is responsible for ensuring comprehensive medical governance and the development and delivery of all new models of patient care. The **rpa**virtual Clinical Director ensures all models of care align with best practice, are based on available evidence and/or are supported by thorough audit, evaluation, and research protocols. The Clinical Director also ensures this clinical governance includes the appropriate and safe integration of digital, telehealth and ICT capability into virtual clinical care.

Palliative Care Outcomes Collaborative

Palliative Care Outcomes Collaborative (PCOC) is a national palliative care project funded by the Australian Government Department of Health. The use of PCOC enhances the understanding and delivery of palliative and end of life care. PCOC is a standardised assessment and documentation process which provides a unique common language and scoring for assessment and evaluation of a palliative care patients. Sydney District Nursing was the first publicly funded community nursing service in Australia to begin using PCOC routinely. PCOC benchmarking drives quality improvement and service innovation by providing opportunities to compare data with other national services. The PCOC data is valuable in assessing the palliative care needs of a patient and provides clinical data as evidence to enhance health service delivery and development.

Accreditation

rpavirtual self-assessment against National Safety and Quality Health Service Standards 1,2 and 3 was completed in February 2022. **rpa**virtual will undergo a complete National Standards accreditation survey in March 2023 as a stand-alone facility.

The Aged Care Quality Standards are an addition to the Australian Commission on Safety and Quality in Health Care, National Safety and Quality Health Service Standards. Sydney District Nursing receives funding from the Commonwealth Home Support Programme (CHSP) to support in the home care initiatives for patients over the age 65 years. CHSP quality is regulated by the Australian Government Aged Care Quality and Safety Commission. The Commission has developed the Aged Care Quality Standards, eight standards focusing on outcomes for consumers that reflect the level of care and services the community can expect from organisations that provide Commonwealth subsidised aged care services.

Accreditation against these eight quality standards occurs approximately every three years and is conducted by an external regulator. Sydney District Nursing have previously been successfully accredited and recently conducted a self-assessment in preparation for accreditation including compiling the necessary evidence to demonstrate compliance.

Committee Structure

The RPA Virtual Hospital governance structure has been designed to mirror that of a traditional hospital, with additional focus on robust clinical protocols for new models of virtual care.

The peak **rpa**virtual committees providing clinical governance include:

- RPA Virtual Hospital Steering Committee
- RPA Virtual Hospital Clinical Advisory Council
- RPA Virtual Hospital Clinical Quality Council
- RPA Virtual Hospital Infection Control Committee

Clinical governance committees are complemented by the following peak **rpa**virtual committees providing corporate governance:

- RPA Virtual Hospital Research Steering Committee
- RPA Virtual Hospital Evaluation Steering Committee
- RPA Virtual Hospital Budget and Performance Reporting Meeting

- RPA Virtual Hospital Executive Committee
- RPA Virtual Hospital Consumer Network
- RPA Virtual Hospital Aboriginal Health Steering Committee
- RPA Virtual Hospital Work Health and Safety Committee
- RPA Virtual Hospital Policy Committee
- RPA Virtual Hospital Emergency Management Committee

Some committees include important sub-groups including an ICT Working Group and the Evaluation Working Group.

The Steering Committee, Research Committee and Clinical Advisory Council include representation from a range of Sydney Local Health District Clinical Directors. ICT Services are represented on the Steering Committee, Evaluation Committee, Research Committee, Clinical Advisory Council and ICT Working Group. Consumer Network members participate in the Evaluation Committee, Research Committee and Clinical and Quality Council. A General Practice representative participates on the Clinical Advisory Council.

rpavirtual is also represented on various District and Ministry of Health Committees. The committee structure included as Appendix 2 details overall reporting structure and governance.

Regular reporting informs key governance committees and stakeholders and ensures accountability and performance monitoring.



Quality improvement

rpavirtual is committed to a continuous cycle of quality improvement. Opportunities are identified when reviewing and managing clinical incidents, patient feedback, clinical data from a variety of systems including ims+, eMR electronic reports, Patient Reported Experience Measures, Patient Reported Outcome Measures, clinical research evaluation outcomes and staff feedback. Monthly **rpa**virtual incident and patient feedback reports also capture lessons learnt and identify further opportunities for improvement.

Quality improvement projects are supported by team managers and the Clinical Governance Manager and monitored by the General Manager and the RPA Virtual Hospital Clinical Quality Council.

Collaborative partnerships and integrated care

As a patient facing service delivering hospital care in the community in patients' homes, **rpa**virtual is extremely well positioned to better integrate care between hospital and community-based services including primary care.

rpavirtual's scope and reach is broad and current programs include a wide variety of clinical conditions and patient cohorts. **rpa**virtual endeavours to reach into the District's 'bricks and mortar' hospitals to identify unnecessary presentations, admissions and lengths of stay and co-design with hospital specialists, new ways of delivering care that will improve the patient experience.

The **rpa**virtual workforce facilitates medical escalation, with agreed pathways in place for all models of care to in-person specialist assessment as required. Emergency medicine specialists and general practitioners in our medical service allow for both urgent care assessment and review as well as primary care assessment for specific cohorts who are unable to engage with a regular GP. Sydney District Nursing service further supports hospital avoidance by delivering Hospital in The Home, palliative care, complex and chronic care in patients' homes and in community-based health clinics. This service and allied health teams also support hybrid virtual care models that require an element of in-person care, eg – intravenous antibiotic administration, wound care, home modification assessments.

RPA Virtual Hospital key strategic partners

Being a new and innovative service model, **rpa**virtual is continually working and collaborating with internal and external facilities, services and programs to develop new models of care and support patient flow.

Key strategic relationships have been developed with the following agencies:

- Aboriginal Medical Service Redfern
- Central and Eastern Sydney Primary Health Network
- Institute for Musculoskeletal Health
- NSW Ministry of Health
- NSW Ambulance
- Far West Local Health District
- NSW Health Pathology
- eHealth NSW
- Menzies Centre for Health Policy and Economics (University of Sydney)
- Digital Health Cooperative Research Centre
- Sydney Health Partners Virtual Care Clinical Advisory Group

- Australian Commission on Quality and Safety in Health Care
- RPA Virtual Hospital Consumer Network
- Sydney Local Health District Allied Health Services
- Sydney Local Health District Information and Communications Technologies Service
- Sydney Local Health District The Special Health Accommodation
- Sydney Local Health District Clinical Streams
- Royal Prince Alfred Hospital
- RPA Institute of Academic Surgery
- Balmain Hospital
- Concord General Repatriation Hospital
- Canterbury Hospital

Collaborative research relationships have also been established with the following partners:

- Menzies Centre for Health Policy and Economics, University of Sydney
- Centenary Institute
- George Institute for Global Health
- NHMRC Clinical Trial Centre
- RPA Green Light Institute
- Digital Health Cooperative Research Centre, University of Sydney
- Sydney School of Health Sciences, University of Sydney
- Boden Institute, University of Sydney
- Susan Wakil School of Nursing, University of Sydney
- Centre for Primary Health Care and Equity, University of New South Wales
- RPA Institute for Academic Surgery
- Institute for Musculoskeletal Health.

Models of Care Design

rpavirtual was the first service in NSW to introduce remote monitoring for COVID-19 positive patients in isolation and its clinical care protocol has directly informed state-wide management guidelines for COVID-19.

The **rpa**virtual COVID-19 Community Care model of care was developed collaboratively with RPA Hospital specialists in respiratory medicine, emergency medicine, infectious diseases and public health.

This collaborative method has formed the basis of the process applied to the development of all new virtual

models of care. Consultation includes assessment of the suitability of clinical conditions and patient cohorts for virtual care and technology solutions.

A governance group is formed to work up a model, with consensus achieved on workflow, referral and escalation pathways, and acceptable clinical risk when managing patients in the virtual environment.

Detailed documentation includes workflows, clinician scripts, eligibility criteria, technology used, patient materials, agreed indicators for transfer to hospital, and evaluation measures. Governance groups remain in place to guide and monitor implementation and complete evaluation.

Partnership Analysis Survey

A brief Partnership Analysis Survey (VicHealth Partnership Analysis Tool 2016) was distributed in March 2022 to eighty-three stakeholders who have specifically partnered with **rpa**virtual to develop new virtual models of care or to collaborate on research projects.

The survey tool synthesises the factors that contribute to a successful partnership and highlights future action that may be required. Questions are asked under the following domains:

- Determining the need for the partnership
- Choosing partners
- Making sure partnerships work
- Planning collaborative action
- Implementing collaborative action
- Minimising the barriers to partnerships
- Reflecting on and continuing the partnership

40% (n=33) partners completed the survey.

Scores are aggregated and correlate to one of three conclusions regarding the partnership. Results will be detailed in the **rpa**virtual Year 2 Evaluation Report, however preliminary findings indicate that: 'A partnership based on genuine collaboration has been established. The challenge is to maintain its impetus and build on the current success.'

Patient Centred Care

There are a number of patient-centred features that help support the **rpa**virtual patient experience of care including:

- Comprehensive clinical care protocols ensuring consistency of care
- Availability of medical review and assessment
- Regular communication regarding the patient journey
- Input from our Consumer Network and maturing discussions as our relationship deepens
- Care delivered to patients in the comfort of their own homes
- Carer education and support
- Loaned smart devices and data packages as needed
- Patient liaison and digital literacy assistance through our Digital Patient Navigator
- Health care interpreting provided by telephone and video

Patient self-care is supported with medication monitoring, symptom reporting and preventative health programs.

The Virtual Care Centre 1800 phone line is available 24/7 and Sydney District Nursing operates 7 days (including public holidays) and includes an evening service.

Additional measures have been put in place to meet the needs of vulnerable patients with COVID-19. For example, extending high risk clinical criteria to incorporate disability, significant mental illness and drug and alcohol dependence, Aboriginality, and being 75 years or over with no social support.

rpavirtual has been able to attend to the primary welfare needs of patients such as the provision of food hampers and vouchers, assistance applying for income support and the prescribing and delivery of medication. Low literacy patient material has been developed and is available in community languages. A specific screening questionnaire has been applied to assess wellbeing and social supports.

Patient Experience Measures

The introduction of a new virtual hospital presented an important opportunity to evaluate the patient experience of virtual care. Virtual Care Centre patient experience surveys have been administered since March 2020 and over 2,500 completed surveys now collected and analysed. Patient experience surveys are also administered to Sydney District Nursing patients, with just over 1,000 surveys collected to date.

Responses are entered into a research database, with analysis reported monthly to all service managers and governance committees. Collated results are included in evaluation reports. There has been one publication to date in an international journal of patient experience.

Patient stories are routinely collected and used to educate staff, promote virtual care and inform quality improvement activities.

Coordination of Care

There are a number of strategies that will be implemented in 2022 and 2023 that will improve care planning, navigation and the coordination of **rpa**virtual patient care. These include:

- Revision of the role description and titles of the Aboriginal Health Workers in the Aboriginal Cultural Support Team to recognise the significant care navigation support they provide to Aboriginal patients.
- Introduction of new multi-disciplinary teams and models of care to:
 - coordinate care for identified patients who are frequent presenters to the RPA Hospital Emergency Department. This will include generalist coordination of care from rpavirtual using, for example, an rpavirtual GP VMO to ensure that coordination of care is by a community-based practitioner with experience in managing chronic conditions;
 - support earlier discharge home and short-term intensive multi-disciplinary rehabilitation for eligible adult patients;
 - provide in-home support to palliative patients with degenerative and chronic conditions and disabilities in the last two years of life.
- Transition of the District's Cardiac and Respiratory

Chronic Care Nursing teams to **rpa**virtual which will support collaboration and coordination of care with Sydney District Nursing and the Virtual Care Centre.

 Assessment of the suitability of referrals for the District's Long COVID clinical service, and provision of psychological care and social work support for Long COVID clinic patients.

Working with General Practice

There are a number of strategies that will be implemented in 2022-2023 that will strengthen **rpa**virtual's relationship with general practice. These include:

- Development of HealthPathways for new models of care accepting referrals from general practice, for example the Virtual Fracture Clinic.
- Continuing to accept GP referrals to Sydney District Nursing services, in particular for community palliative care and complex wound care.
- Supporting ease of referral from general practice by providing online eReferral forms.
- A COVID-19 Clinical Advice Line for General Practitioners was introduced in December 2021 to support the management of lower risk COVID-19 patients in general practice. This is a temporary initiative funded by the Central and Eastern Sydney Primary Health Network (CESPHN).
- Participation in a research trial to pilot the use of an online shared care planning platform to improve engagement and access to mental health care for vulnerable or disengaged members of the community. This will also support and develop the provision of mental health services through primary care.
- Improved discharge communication to general practice.
- Other service improvements informed by consultation with general practice and in collaboration with the CESPHN.

Aboriginal Health

An Aboriginal Health Impact Statement has been completed and is included in Appendix 3. **rpa**virtual has also completed the Aboriginal Cultural Engagement Self-Assessment Audit Tool.

Clinical care is offered to all patients by telephone, video conferencing, in-person care and community clinic appointments (available at Redfern, Marrickville and Croydon Health Centres). Care coordination for Aboriginal patients includes the Aboriginal Medical Service Redfern as a critical stakeholder.

Specific Aboriginal Health Workers are attached to some programs including the Chronic Disease Post-Discharge (48hr) Follow-Up Program and a newly introduced community-based Chronic Disease Palliative Care Program for patients with degenerative and chronic conditions and disabilities in the last two years of life.

The **rpa**virtual workforce is multidisciplinary and Aboriginal patients receive care from Medical Officers, Nurses, Allied Health Professionals and Aboriginal Health Workers.

There are specific programs planned for inception in 2022 and 2023 that will specifically impact the local Aboriginal population. These include:

- Aboriginal Chronic Conditions Post Discharge (48 hour) Follow Up Program
- COVID-19 Community Care
- Emergency Department to Community Program
- Chronic Disease Palliative Care Program
- Virtual Urgent Care

Aboriginal people experience greater environmental and social risk factors than non-Aboriginal people. This includes overcrowded housing, unemployment, educational and socioeconomic disadvantage. Specific health risk factors include tobacco, alcohol exposure and poor nutrition.

A number of these factors have impacted on the experience of previous Aboriginal patients with COVID-19, including transmission within households and the need for additional support to meet welfare needs. Patients unable to safely self-isolate were also offered accommodation in the Sydney Local Health District Special Health Accommodation for the period of their isolation.

A Virtual Care Readiness Survey will investigate access to virtual care for the local Aboriginal population and associated barriers and enablers to inform new digital inclusion strategies. The results of the survey will be shared with the community, along with new strategies for implementation. Currently patients who do not have



access to mobile devices are loaned a mobile phone or iPad along with a data package.

Barriers to accessing healthcare contribute to the poor health of Aboriginal people. Accessible services are those that address cultural competence, acceptability and appropriateness. An important **rpa**virtual strategy to achieve this includes the introduction of an Aboriginal Cultural Support Team which has enabled complex cultural support for close contacts and COVID-19 patients in the community, in inpatient wards, as part of vaccination drives and outbreak responses.

This unique team has demonstrated holistic family, household and community care. The Aboriginal Care Navigators work alongside **rpa**virtual clinicians to support care planning and escalation of concerns. They are able to link patients to Hospital Aboriginal Liaison Officers, social work and other support services in the District and externally. They have coordinated support from community groups, nongovernment organisations, the Aboriginal Medical Service Redfern and business and corporate partners. As part of the COVID-19 response they ensured patient's welfare needs were met through universal distribution of care packages and food hampers to COVID-19 patients and their families in isolation.

There is enormous potential for this team to enhance all clinical care models by continuing to provide culturally complex support and client navigation and care coordination.

The team are also involved in the development of new models of care planning from initiation, the design and development of patient material, workforce education and capacity building, and broader cultural consultancy regarding service initiatives.

Activity classification and funding model

All public hospitals are required to report patient activity to state and federal authorities. There are currently five patient activity data collections: Acute Admitted Patient, Emergency Care, Sub-Acute and Non-Acute Admitted Care, Mental Health Care and Non-Admitted Patient.

The Non-Admitted Patient classification (Tier 2) is the least refined of all the classification systems. It is understood that work is underway through the Independent Hospital Pricing Authority to develop a new classification system for non-admitted patient services, although this work has been delayed due to the COVID pandemic.

The RPA Virtual Hospital model challenges existing hospital activity reporting paradigms which require new models of care to be categorised as either Hospital in The Home or Tier 2 service. This limits the emergence of innovative clinical models which require more flexibility and different classification systems for different patient cohorts.

Current hospital funding models are constructed using physical hospital cost drivers and cost profiles incorporating costs associated with hotel, cleaning and utility costs that are not incurred by a virtual hospital. Digital infrastructure costs are not reflected in the national activity-based funding price weights, nor are the ongoing costs associated with remote monitoring activity. A virtual hospital presents a unique opportunity to develop and pilot value-based funding models that are patient centred and outcome based.

rpavirtual and the District's Finance Department and Performance, Innovation and Redesign Unit worked with the NSW Ministry of Health's Activity Based Management Team in 2020 and 2021 to prepare a Commonwealth funding submission for **rpa**virtual.

The submission proposes a period of block-funding to allow for consolidation of the virtual hospital model and concerted effort to carefully code and report all patient activity. This will enable sufficient time to develop an appropriate activity reporting, case mix classification and innovative funding model for virtual hospital services.





Summary of Activity Year 2: Feb 2021 to Jan 2022

Virtual Care Centre Activity

 A total of 33,553 patients were admitted for care. Of this total, 27,901 were unique patients, with an average age of 37 years and an average length of stay of 12 days. Eight patients were over 100 years of age.

Table 1: Age breakdown

Age Group	Percentage of Patient Admissions	Number of Patients
Under 5 years	4.66	1,562
5-9 years	4.24	1,422
10–17 years	7.20	2,414
18-29 years	23.04	7,728
30-49 years	33.97	11,383
50-64 years	14.45	4,847
65–79 years	9.01	3,020
80+ years	3.46	1,163

- 3.7% (n=1,242) of admitted patients were Aboriginal and/or Torres Strait Islander.
- 366 patients living in a Housing NSW property received care and support.
- 2,437 admitted patients received a Social Work service only. 951 admitted patients received a Psychology service only.
 - A total of 182,183 occasions of service were delivered:
 - 44.1% (n=80,284) of all occasions of service were conducted by telephone and 32.5% (n=59,132) by video conference
 - 19.8% (n=36,062) of all activity was indirect care including case planning, management and review, and case conferencing
 - 81.2% of OOS (n=147,980) were delivered by the nursing service, 10.8% (n=19,623) by the allied health team and 7.2% (n=13,090) by the medical service
- **rpa**virtual continued to respond to the clinical care needs of patients with COVID-19 Isolating at Home or in the Special Health Accommodation.

- COVID-19 Positive Patient Cohort:
 - 54.30% of Virtual Care Centre patient admissions (n=18,160; 17,643 were unique patients) were COVID-19 Positive; 65.33% were Isolating at Home and 34.66% in the Special Health Accommodation.
 - The surges in activity observed in the graph above align with the outbreaks of COVID-19 Delta and Omicron variants of concern.
 - The first patient with the Delta variant seen in Australia was admitted to the Special Health Accommodation and under **rpa**virtual care in mid-June 2021.
 - The first patient with the Omicron variant seen in Australia was admitted to the Special Health Accommodation and under **rpa**virtual care in late November 2021. The patient had returned from travel overseas to southern Africa.
 - The further surge in December 2021 and January 2022 aligns with the subsequent community spread of the Omicron variant.
 - In collaboration with the Central and Eastern Sydney Primary Health Network and HealthPathways Sydney, **rpa**virtual began referring COVID-19 positive patients at low risk of deterioration to general practitioners in early October 2021. Those patients at greatest risk of deterioration, Aboriginal and Torres Strait Islander patients and people with disabilities living in group homes continued to receive **rpa**virtual care and support. A social support screening function was also introduced for patients living in social housing and patients over 75 years.
 - A related COVID-19 GP Clinical Advice Line was introduced in early December 2021 to further support general practice. There were 407 incoming calls to the advice line in the period 4 January to 29 March 2022, 323 of these calls were from GPs and general practice staff.



Chart 1: Admissions/Discharges Trend







Chart 3: Total SDN Admissions by Medical Service Type

Sydney District Nursing Activity

 A total of 4,090 patients were admitted for care in this period The average length of stay was just under 22 days, with the shortest average lengths of stay generally for those patients under 40 years. The longest average length of stay was for those patients over 100 years at 35 days. There were 5 patients over 100 years of age and only 16 patients under 18 years of age.

Age Group	Percentage of Patient Admissions	Number of Patients
Under 5 years	0.02	1
5–9 years	0.02	1
10–17 years	0.34	14
18-29 years	2.86	117
30-49 years	11.22	459
50-64 years	21.78	891
65-79 years	30.56	1,250
80+ years	33.17	1,357

Table 2: Age breakdown

- 16.55% (n=677) of admitted patients identified as Aboriginal and/or Torres Strait Islander.
- Proportion of patients by medical service admission:
 - 36.91% (n=1,510) for general community nursing including wound care
 - 26.72% (n=1,093) were palliative care patients
 - 18.43% (n=754) Hospital in The Home patients
 - 15.08% (n=617) were for the Aboriginal Chronic Conditions Post-Discharge (48hr) Follow-Up Program
 - 2.34% (n=96) were Hospital in the Home patients from hospitals external to Sydney Local Health District
 - 0.48% (n=20) were chronic and complex care patients
- A total of 89,064 occasions of service were delivered. Activity remained reasonably steady across the year with reductions observed in the months of May 2021 and January 2022 and the highest activity in March 2021.

Research and Evaluation

An evaluation framework for the initial twelve month RPA Virtual Hospital proof of concept trial was codesigned with the Menzies Centre for Health Policy and Economics at the University of Sydney. The evaluation process was overseen by the RPA Virtual Hospital Evaluation Steering Committee and supported by an evaluation working group.

The evaluation of the proof of concept trial is comprehensive and identified a number of enablers including governance, leadership, relationships, organisational structure, infrastructure, workforce, and the pandemic context. The report also identified the following barriers, again the pandemic context, funding classifications, infrastructure, and workforce.

Of significance, the evaluation report includes a health economic analysis of the District's provision of quarantine accommodation and clinical care, including **rpa**virtual clinical care, for COVID-19 positive patients and COVID-19 negative patients in the Special Health Accommodation.

The evaluation report was formally submitted to the NSW Ministry of Health and is available on the University of Sydney Library website under the Faculty of Medicine and Health: https://ses.library.usyd.edu.au/ handle/2123/27474

Specific evaluation measures are designed for each new **rpa**virtual model of care, with common measures across all such as patient experience measures and cost-benefit analysis.

Patient Reported Experience Surveys (PREMS) continue to be administered and as at 31 March 2022, have been completed by 2,546 patients of the Virtual Care Centre and 1,038 Sydney District Nursing patients.

A collated year two evaluation report for the period February 2021 to January 2022 is in progress.

Learnings regarding virtual care and virtual hospital models continue to be shared widely across NSW Health, interstate and overseas. This has included mostly presentations and site visits, but also a small number of conference papers and published articles.

rpavirtual is committed to contributing to the evidence for innovative, effective, and sustainable models of virtual care through high quality research and evaluation generated at the service level and/or through partnerships with other relevant services, tertiary institutions, and medical and health research centres. **rpa**virtual has established a clear research agenda, research governance structures and introduced systems to attract research funding and manage relationships with research partners.

The RPA Virtual Hospital Research Steering Committee (established May 2020) provides overarching governance. The Committee meets monthly and is chaired by the Sydney Local Health District Chief Executive, membership is comprehensive and includes members of the District Executive, Sydney Local Health District Director of Research, Clinical Directors, a consumer and tertiary partners.

For the period 1 May 2020 to 28 February 2022, the Committee reviewed 41 research proposals including 28 clinical studies (the majority related to COVID-19), 10 service delivery/models of care studies and 3 patient/ clinician experience studies. Of these, 31 studies have been supported.

Collaborative research relationships have been established with the following partners:

- Menzies Centre for Health Policy and Economics, University of Sydney
- Digital Health Cooperative Research Centre, University of Sydney
- Sydney School of Health Sciences, University of Sydney
- Boden Institute, University of Sydney
- Susan Wakil School of Nursing, University of Sydney
- Centre for Primary Health Care and Equity, University of New South Wales
- RPA Green Light Institute
- RPA Institute for Academic Surgery
- Institute for Musculoskeletal Health
- Centenary Institute
- George Institute for Global Health
- NHMRC Clinical Trial Centre

An **rpa**virtual Research Hub has been established with a mixture of permanent and temporarily funded positions.

rpavirtual is currently collaborating on a number of clinical trials and studies:

 'Remote Monitoring Technology into Digital Health Infrastructure study (ReMoTe study)' with the Menzies Centre for Health Policy and the Collaborative Research Centre in Digital Health. The study aims to improve the quality, safety and efficiency of remote patient monitoring in virtual hospitals using **rpa**virtual experience with pulse oximetry in COVID-19 patients.

- 'Virtual Care of Acute Diverticulitis the iCAD trial' with the RPA Institute of Academic Surgery to assess remotely monitoring and treating patients with acute uncomplicated diverticulitis.
- 'A randomised trial of Dexamethasone for Emergency and Life Threatening Admissions due to COVID-19 in Virtual Care – the DELTA Study' with the Green Light Institute to evaluate the efficacy of a short two day course of oral dexamethasone on COVID-19 related Emergency Department presentations, hospitalisations, Intensive Care Unit admissions or death in a population of mild to moderate COVID-19 patients in a virtual hospital setting.
- 'The BayEsian Adaptive platform randomised controlled Trial to evaluate the efficacy and safety of interventions for COVID-19 — (BEAT COVID-19)' with the NHMRC Clinical Trials Centre to evaluate the efficacy and safety of inhaled ciclesonide 320mcg daily for 14 days in COVID-19 positive patients.
- 'Statin TReatment for COVID-19 to Optimise NeuroloGical Recovery - (STRONGER trial)' with The George Institute for Global Health to evaluate treatment with 40 mg of atorvastatin in adults with long COVID neurological symptoms.

rpavirtual nursing research is currently being conducted in the areas of experience delivering virtual care, wound care, palliative care, HIV care, and patient engagement applications.

rpavirtual is also represented as investigators or committee members on the national Digital Health Clinical Research Centre, the Centre of Research Excellence for Integrated Health and Social Care, and the Sydney Health Partners' Virtual Care Clinical Academic Group. All will present opportunities for collaborative research across virtual care sites in NSW and inter-state.

The inaugural RPA Virtual Hospital Research Showcase Forum Webinar was held on 14 December 2021 to showcase **rpa**virtual's research activities, new models of virtual care and to highlight the important role that **rpa**virtual has played in the District's and the state's response to the pandemic. The forum will be held as an annual event.

Sydney District Nursing Activity

rpavirtual endeavours to share its learnings regarding the design and introduction of new virtual care through conference papers and publications.

Conference presentations

Case Study: Learnings from RPA Virtual Hospital. Hutchings, O. & Shaw, M. *National Telehealth Summit,* May 2022.

Keynote: NSW's First Virtual Hospital Two Years On. Shaw, M. *Australian Healthcare Week,* March 2022.

Case Study: The Journey of Australia's First Virtual Hospital. Shaw, M. *Future Hospital Strategy and Development Forum,* Malaysia, February 2021.

Virtual Health Care Reshapes Health Care Delivery. Shaw, M. *APAC Patient Experience & Innovation Summit,* Singapore, July 2021.

An economic evaluation of COVID-19 Special Health Accommodation quarantine and caring for resident's self-isolating in the Community with **rpa**virtual: The first 3 months. Cunich, M. Oral presentation at the 2021 *International Health Economics Association World Congress*, July 2021.

Providing better access and care through a virtual fracture clinic. Teng, MJ. Oral presentation at the *National Allied Health Conference,* August 2021.

Community Specialist Nursing Care through the COVID-19 Pandemic. Cummins, D. & Andersson- Noorgard, K. ePoster at the 2021 *Joint Australasian HIV & AIDS and Sexual Health Conference,* September 2021.

Preparing Undergraduate Nurses to Care for People Living with HIV. Cummins, D. Oral presentation at the 2021 *Joint Australasian HIV & AIDS and Sexual Health Conference,* September 2021.

Back@Home: a virtual hospital model of care for acute back pain in the SLHD. Melman, A., Richards, B., Rogan, E., Anandacoomarasamy, A., Coombs, D., Li, Q., Billot, L., McCaffery, K., Hutchings, O., Machado, GC., Maher, CG. Poster at the *Implementation Science Health Conference*, November 2021.

Medical record review of admitted patients with LBP: identifying patients potentially eligible for a novel virtual hospital model of care. Melman, A., Richards, B., Needs, C., Rogan, E., Teng, MJ., Machado, GC., Maher, CG. Poster at the Back and Neck Pain Forum, *Global Virtual Conference*, November 2021.

Published papers

Shaw et al, '**rpa**virtual: Key lessons in healthcare organisational resilience in the time of COVID-19'. *International Journal of Health Planning and Management*. 2022; DOI: 10.1002/hpm.3430.

Dinh et al, 'Emergency department presentations from quarantine hotels in Sydney, Australia, during the COVID-19 outbreak – an analysis of clinical patterns and outcomes' *Med J Aust* 2021:214(10): 473-474. doi: 10.5694/ mja2.51046.

Cummins, D & Andersson- Noorgard, K. 'Community HIV care through the Covid-19 pandemic'. *Australian Nursing & Midwifery Journal: ANMJ*. 2021 April 27. Available online at https://anmj.org.au/community-hiv-care-through-thecovid-19-pandemic/

Cummins, D & Andersson- Noorgard, K. 'Preparing undergraduate nurses to care for people living with HIV infection'. *Australian Nursing & Midwifery Journal: ANMJ*, 2021; 27 (3), 22-25.

Foley L, Avramidis P, Randall S. 'New to the community setting: nurses' experiences and the importance of orientation'. *Aust J Prim Health.* 2021; 27(1):50-56. doi: 10.1071/PY20129. PMID: 33352086.

Fotheringham et al, 'Control of COVID-19 in Australia through quarantine: the role of Special Health Accommodation (SHA) in New South Wales, Australia' *BMC Public Health* (2021) 21:225. https://doi.org/10.1186/ s12889-021-10244-7

Hutchings et al, 'Virtual Health Care for Community Management of Patients with COVID-19 in Australia: Observational Cohort Study' *J Med Internet Res* 2021; 23(3):e21064. DOI: 10.2196/21064

Raffan et al, 'The virtual care experience of patients diagnosed with COVID-19', *Journal of Patient Experience* Volume 8: Article first published online: April 18, 2021. https://doi.org/10.1177%2F23743735211008310

New Research Projects

New, temporary funding has been received in 2022 to enhance **rpa**virtual research infrastructure including for a Research Data Manager, Clinical Research Fellow, and Research Officer Health Economics.

Focus will be on building **rpa**virtual's research capacity with new research planned for execution during 2022 and 2023 includes:

- Applying an implementation science framework to identify the key factors which underpin successful implementation of virtual hospital models of care
- Investigating access to virtual care for vulnerable populations (specifically low socio-economic status, low English proficiency, Aboriginal populations) and associated barriers and enablers to inform new digital inclusion strategies
- Building the evidence of delivering virtual care by conducting internal clinical trials
- Qualitative research interviews with patients and carers to provide a deeper understanding of their experience of virtual care; and, collaborating partners regarding their experience working with **rpa**virtual to develop new models of virtual care and collaborate on research
- Application of remote monitoring devices in virtual care
- Assessing and analysing patients' digital health literacy needs and capacities
- Investigating research opportunities using existing data sets, for example, building a health profile of COVID-19 negative patients
- Engaging consumers meaningfully in research, including consumers with low English proficiency and digital health literacy
- Effects of virtual fracture clinic care compared with in-person fracture clinic care on physical function in people with minimally displaced fractures: a noninferiority randomised trial
- Evaluation of the Back@Home low back pain model of care
- Evaluation of short-term intensive multidisciplinary rehabilitation provided through virtual care (vRehab pilot)

Current clinical models of care

Clinical models of care for the Virtual Care Centre and Sydney District Nursing are described below and a consolidated table provided in Appendix 3.

Virtual Care Centre Current Clinical Models of Care

a. Virtual Fracture Clinic

The Virtual Fracture Clinic is a collaboration between **rpa**virtual and the RPA Hospital Orthopaedics and Physiotherapy Departments, to manage the care of patients with simple fractures or musculoskeletal injuries.

The Virtual Fracture Clinic is a direct substitution model for an in-person hospital outpatient department appointment. Patients are referred to the Virtual Fracture Clinic from RPA Hospital Emergency Department. The program will be made available to Concord Hospital and Canterbury Hospital Emergency Departments in 2022 and will then move to accept direct GP referrals.

Patients are contacted by senior physiotherapists who provide a management plan and follow-up consultation arrangements. Consultations are conducted using a videoconferencing platform or telephone. Patients are also provided with electronic information (fact sheets) regarding their condition.

Key stakeholders for this program include the Orthopaedics, Physiotherapy and Emergency Departments at Royal Prince Alfred Hospital, Concord Hospital, Canterbury Hospital, Central and Eastern Sydney Primary Health Network, and General Practitioners. Key workforce dependencies for this program include existing Virtual Care Centre allocated clinicians (Physiotherapists). The program will utilise GoShare for distribution of information to patients.

b. Medication Monitoring: Tuberculosis Directly Observed Therapy

Medication monitoring is conducted for patients with Tuberculosis in Directly Observed Treatment (DOT) and can be seen as a direct substitution for an outpatient clinic appointment.

Directly Observed Therapy (DOT) aligns to NSW Health Policy 'Principles for the Management of Tuberculosis in New South Wales' (PD2014_050).

The program provides care to patients with Tuberculosis

who access care through the Sydney Local Health District Chest Clinics at Concord, Canterbury and Royal Prince Alfred Hospitals, who require Directly Observed Therapy (DOT) for long term medication management.

Key stakeholders for this program include the Respiratory and Critical Care Clinical Stream. Key workforce dependencies include existing Virtual Care Centre allocated nursing clinicians, with medical staff available for escalation.

c. Medication Monitoring: Subcutaneous Immunoglobulin

rpavirtual supports patients to self-administer Subcutaneous Immunoglobulin (SCIg) at home through a program which provides education and remote monitoring.

Patients receive two in-person training sessions from their treating specialist or nursing team to ensure they or their support person are competent in providing the infusion. This is followed up by support from **rpa**virtual, who provide education through a videoconferencing platform which is then used to perform an additional observation of the SCIg administration.

This model of care reduces the number of hospital visits for the patient and allows them to administer SCIg at a time that suits them. Regular infusions also provide a more consistent level of immunoglobulin, compared to monthly transfusions, which is an additional benefit to the patient.

Key stakeholders for the program include Sydney Local Health District Patient Blood Management Nurse Manager, Sydney Local Health District Haemovigilance Clinical Nurse Consultant, Royal Prince Alfred Hospital Haematology, Endocrinology, and Neurology Departments, Concord Hospital Haematology, Endocrinology, and Neurology Departments and NSW Health Pathology East. Key workforce dependencies include existing Virtual Care Centre allocated nursing clinicians.

d. Residential Aged Care Facilities Triage Line (after-hours)

The AHCC&R Access Care Team provides clinical advice to Residential Aged Care Facilities (RACFs) between 8:00am to 8:00pm, 7 days a week. The Virtual Care Centre delivers the service after-hours and nurses provide clinical advice to RACFs when a resident's condition deteriorates. Part of this model includes the monitoring of the NSW Ambulance board. The Virtual Care Centre nurses can intercept escalations to the Emergency Department and provide virtual care or triage as appropriate.

Key stakeholders for this program include the Aged Health, Chronic Care and Rehabilitation Clinical Stream, NSW Ambulance and RACFs within the District catchment area. Key workforce dependencies include existing Virtual Care Centre allocated nursing clinicians.

e. Health Maintenance Program for Patients with Lower Leg Ulcers

In February 2017, Sydney District Nursing conducted an audit which found that 63% of their patients with healed vascular lower leg ulcers had a recurrent vascular lower leg ulcer. This highlighted a requirement for ongoing support and health maintenance to reduce the reoccurrence and readmission related to vascular lower leg ulcers.

This model of care transitions Sydney District Nursing patients who have completed their episode of care to the Virtual Care Centre for ongoing maintenance support through an SMS and telephone-based program. SMS and phone calls are prescribed at monthly intervals to ensure skin checks have been completed, that there is nil deterioration and that the patient is wearing compression garments daily. Contact is also scheduled to remind patients when their compression garments are due for replacement.

The Health Maintenance Program for Patients with Lower Leg Ulcers is currently being revised to incorporate the Perx Health application and to strengthen the shared care between Sydney District Nursing and the Virtual Care Centre.

Key stakeholders for this program include Sydney District Nursing, Cardiovascular Services and the Central and Eastern Sydney Primary Health Network / General Practitioners. Key workforce dependences include existing Virtual Care Centre allocated nursing clinicians.

f. Clinical Care for COVID-19 Positive Patients

Sydney Local Health District was the first local health district in NSW to introduce virtual care for COVID-19. This model of care was used to underpin the state-wide model of care 'Caring for adults with COVID in the home' and has since been identified by eHealth NSW as one of three COVID-19 'exemplar' models of care in NSW. Once risk stratified, patients are clinically assessed by a Virtual Care Centre nurse using a videoconferencing platform at prescribed intervals which are dependent on their level of risk. High risk patients also receive pulse oximeters to monitor their oxygen saturation and pulse rate. Patients in Sydney Local Health District Special Health Accommodation have vital signs monitored by the hotel nurses on-site.

COVID-19 positive and negative patients in Special Health Accommodation are supported by **rpa**virtual specialist models of care, including obstetrics and midwifery, paediatrics, drug and alcohol, mental health, geriatric medicine, allied health and medication management. Multidisciplinary case review meetings are held daily with the relevant hospital medical specialists in attendance.

To prepare for a further surge in community transmission, on 6 October 2021, **rpa**virtual had the foresight to begin formally referring lower risk COVID-19 adult patients to general practice and was the first LHD in NSW to do so. An associated Health Pathway, eReferral form and patient brochure were developed and information disseminated through the CESPHN. Due to low Commonwealth supply of pulse oximeters, **rpa**virtual initially distributed these to patient homes on behalf of GPs. The CESPHN has now taken over coordination of oximeter distribution to general practice patients.

This collaboration with general practice has preserved the Virtual Care Centre resources for those patients at very high risk of clinical deterioration. The Ministry have since adopted this model and implemented related state-wide guidelines. **rpa**virtual has also considered social risk factors and continues to provide cultural and social work support and clinical care as required of all Aboriginal patients and all patients living in social housing and/or over 75 years without social supports.

Key stakeholders for the program include Royal Prince Alfred and Concord Hospitals, Respiratory and Critical Care Services, Infectious Diseases and Microbiology Services, Special Health Accommodation, Public Health Unit, Central and Eastern Sydney Primary Health Network / General Practice, State Health Emergency Operations Centre, Sydney Children's Hospitals Network and NSW Ambulance.

They key workforce dependencies include existing Virtual Care Centre allocated clinicians, inclusive of medical, nursing, psychology, and social work. During periods of high demand for services, staffing models have differed, with further surge required.

g. Clinical Care for COVID-19 Negative Patients in Special Health Accommodation

In late March 2020, **rpa**virtual commenced care for COVID-19 negative patients quarantined in Special Health Accommodation. If a patient is unable to connect with their General Practitioner (GP) via telehealth, if they do not have a regular GP, or if they require hospital-level care, patients are able to access care through **rpa**virtual.

rpavirtual has implemented specialist models of care to support patients in Special Health Accommodation, including obstetrics and midwifery, paediatrics, drug and alcohol, mental health, geriatric medicine, allied health and medication management.

Key stakeholders for this model include the District's Clinical Streams, Special Health Accommodation, State Health Emergency Operations Centre, Health Care Australia and the Sydney Children's Hospitals Network. Key workforce dependencies include allocated clinicians (medical, nursing, psychology, social work, and the discharge support team). Further surge may be required, depending on demand for services.

h. Antenatal Care for Pregnant Women in Quarantine

Antenatal women in quarantine who are COVID-19 positive are provided with care from **rpa**virtual. Midwives provide virtual antenatal clinics for patients in quarantine including those patients accommodated in Police quarantine hotels.

The program partners with maternity services and Special Health Accommodation, State Health Emergency Operations Centre and Health Care Australia. Key workforce dependencies include existing Virtual Care Centre allocated clinicians, including midwives and medical obstetricians / gynaecologists (for escalation).

i. COVID-19 Quarantine Discharge Support Service (function since incorporated into nursing service)

In June 2020, a dedicated Discharge Support Team was established in **rpa**virtual to provide overarching communication, management, and coordination of approvals for discharge of individuals in Special Health Accommodation. With reduced numbers of patients being accommodated in Special Health Accommodation, in January 2022 the Discharge Support Team functions were incorporated into the **rpa**virtual nursing service.

Key stakeholders for this model of care include Special Health Accommodation and the State Health Emergency Operations Centre. Key workforce dependencies for this program include existing Virtual Care Centre workforce.

j. Digital Literacy Support for Patients with Cystic Fibrosis

rpavirtual continues to support patients of the Royal Prince Alfred Hospital Cystic Fibrosis Unit with digital literacy support. In 2022, **rpa**virtual will revisit the opportunity to provide overnight assessment to avoid unnecessary hospital / Emergency Department presentations through collaboration and support between Cystic Fibrosis Services Clinical Nurse Consultants and **rpa**virtual.

Key workforce dependences include existing Virtual Care Centre staff, inclusive of the Digital Patient Navigator.

k. Symptom Monitoring for Community Palliative Care Patients (on-hold)

This model of care enrolled a select group of Sydney District Nursing non-malignant palliative care patients for enhanced symptom monitoring. Patients were provided with an iPad to self-report symptoms daily using a Symptoms Assessment Scale which is part of the Palliative Care Outcomes Collaboration (a national palliative care project funded by the Department of Health).

This program is currently being revised to incorporate an alternative patient facing application for self-reporting of symptoms.

Key stakeholders include Sydney District Nursing, General Practice and the Cancer and Palliative Care Clinical Stream. Key workforce dependences include existing Virtual Care Centre allocated nursing clinicians.

Sydney District Nursing current clinical models of care

a. Community Palliative Care

Sydney District Nursing provides palliative care in the home to patients with a life-limiting illness. The service provided to patients through this model of care includes symptom management, advanced care planning and end of life care.

The Community Palliative Care at End of Life (PaEL) package is also provided through Sydney District Nursing. PaEL packages support patients who wish to die at home or remain at home for as long as possible at the end of their life. The model of care utilises a combination of face-to-face and virtual appointments, which are provided through Sydney District Nursing.

Key stakeholders for this model of care include the Cancer and Palliative Care Clinical Stream, referring specialists and General Practice. Key workforce dependencies include existing Sydney District Nursing workforce. Palliative nursing care is delivered by all nursing staff in Sydney District Nursing with support from specialised Palliative Care Clinical Nurse Consultants.

b. Hospital in the Home

Sydney District Nursing provides acute, subacute, and post-acute care as a substitute to in-hospital care to patients in community. Care is provided at the patient's home, at a Health Centre nursing clinic or other community settings, for example, Residential Aged Care Facilities.

Through the Hospital in the Home model of care, Sydney District Nursing provide patients with short-term and long-term IV antibiotic therapy via the peripheral cannula or central venous access device. The conditions treated through this model of care can include for example, cellulitis, bacteraemia, endocarditis, pneumonia, septic arthritis, urinary tract infections, wound infections, and liver abscesses.

Care is provided in partnership with Hospital in the Home Services based at RPA, Concord, Canterbury and Balmain Hospitals to patients who are deemed clinically stable and safe to be treated at home.

Key stakeholders for this model of care include RPA, Concord, Canterbury and Balmain Hospital in the Home Service. Key workforce dependencies include existing Sydney District Nursing workforce. Hospital in The Home nursing care is delivered by all nursing staff in Sydney District Nursing with support from a specialised HITH Clinical Nurse Consultant.

c. Chronic and Complex Care

The chronic and complex care services provided through Sydney District Nursing are facilitated through in-home visits and include wound care assessment and management, continence care assessment and management and external Hospital in the Home which includes drain management. The majority of the chronic and complex care service referrals are for wound care management that requires specialised nursing care. This can include negative pressure wound therapy and compression bandaging therapy, post-surgical wound management, and chronic and complex long-standing wound management.

Key stakeholders for this model of care include General Practice, referring specialists, the Aged Health, Chronic Care and Rehabilitation Clinical Stream, and the Cardiovascular Clinical Stream. Key workforce dependencies include existing Sydney District Nursing workforce. Chronic and complex nursing care is delivered by all nursing staff in Sydney District Nursing with support from specialised Wound Care Clinical Nurse Consultants.

d. Aboriginal Chronic Care 48 Hour Follow-Up Program

The **rpa**virtual Aboriginal Chronic Care 48-hour Follow-Up Program aims to reduce unplanned hospital readmissions while improving the health outcomes and coordination of care for Aboriginal patients with chronic disease. Following hospitalisation, Aboriginal patients are contacted by an Aboriginal Health Worker to ensure appropriate links to General Practitioners, Aboriginal Medical Services, Specialists, and other services that will provide care post discharge. Follow up may also include medication management, referrals to support services and general wellbeing checks. To be eligible, Aboriginal patients need to be 15 years or older with one or more of the following chronic diseases: renal (excluding patients on haemodialysis), cardiovascular disease, chronic obstructive pulmonary disease, asthma and diabetes.

Key stakeholders for this model of care include Sydney Local Health District Hospital Facilities, Cardiovascular Clinical Stream, Sydney Local Health District Aboriginal Health Unit, the Aboriginal Medical Service Redfern, General Practice, and Non-Governmental Organisations. Key workforce dependencies include existing Sydney District Nursing workforce, in particular the Aboriginal Health Workers.

e. RACF Consultancy

Sydney District Nursing provides a Palliative Care consultative service to Residential Aged Care Facilities in Sydney Local Health District. SDN Palliative Care Clinical Nurse Consultants along with Clinical Nurse Specialists provide support and guidance for RACF nursing staff in establishing a palliative care management plan, assist with End of Life management and liaise with patients' GPs as required. This service is generally a stand- alone consult but may on occasion require in person visits to achieve a comprehensive palliative care plan.

f. HIV Specialist Service

The **rpa**virtual HIV Specialist Service provides a responsive, flexible, and evidence-based service for people living with HIV who have complex needs. The aim of the program is to provide appropriate support and care with linkage to other relevant services.

People living with HIV and complex needs can be extremely vulnerable and may experience substance abuse, cognitive impairment, mental illness, behavioural disturbance, homelessness, complex physical illness, and poor access to healthcare. The model of care utilises the services provided through a HIV Clinical Nurse Consultant and a HIV Mental Health Nurse Practitioner, with a broad range of interventions delivered.

Key stakeholders for this model of care include Sydney Local Health District Mental Health Services, RPA Sexual Health Service, Community HIV Service, General Practice, referring specialists, Residential Aged Care Facilities, other Local Health District HIV Services and Non-Governmental Organisations. Key workforce dependencies include existing Sydney District Nursing workforce.





New clinical models of care

Detailed below are the new models of care for the Virtual Care Centre and Sydney District Nursing that will be implemented and evaluated in 2022 and 2023. A consolidated table is provided in Appendix 4.

Virtual Care Centre new clinical models of care

a. Virtual Rehabilitation - 'vRehab'

Virtual Rehabilitation - 'vRehab' - has been developed in collaboration with the Department of Rehabilitation Medicine and Sydney Local Health District Allied Health services. A 12-month pilot program will be launched in April 2022, and will accept patients from Royal Prince Alfred Hospital, the Institute of Rheumatology and Orthopaedics and Balmain Hospital.

Key features of vRehab include earlier supported discharge home from hospital admission, a specialist multidisciplinary team providing early and intensive therapy, and a 7-day service with after-hours support from **rpa**virtual care centre clinicians. The vRehab team includes a rehabilitation staff specialist, physiotherapist, occupational therapist, speech pathologist and allied health assistant.

Key patient cohorts are those recovering from an acute event (stroke), trauma (hip fracture) and elective surgery (knee and hip arthroplasty); as well as those experiencing general deterioration from general surgical or medical issues (reconditioning). Referrals for a rehabilitation consultation can be made by treating teams in Royal Prince Alfred Hospital, the Institute of Rheumatology and Orthopaedics or Balmain Hospital, and will be accepted by a vRehab physician on behalf of the team. Patients will receive a minimum of once daily therapy through a hybrid virtual care model (videoconferencing and applications) and home visits, for an average admission time of two weeks.

Key stakeholders for this model of care include the Aged Health, Chronic Care and Rehabilitation Clinical Stream, Royal Prince Alfred and Balmain Hospitals, Allied Health Services and General Practice. Recruitment to a clinical team for the vRehab model is currently underway and a Rehabilitation Services referral is currently in the development stages.

b. Remote Monitoring for Acute Diverticulitis — 'iCAD Trial'

A remote monitoring model of care to provide out of hospital management of acute diverticulitis has been developed in collaboration with Colorectal Surgery and the Institute of Academic Surgery. Acute diverticulitis can cause pain, nausea and vomiting, fevers, abdominal tenderness and constipation.

The model of care, known as 'iCAD', will be implemented as a 24-month clinical trial evaluation in two phases with an initial 40 patients. The trial will measure whether this model of care is a feasible and safe method for out-ofhospital management of acute diverticulitis assess outcomes to a comparable group of patients who are managed in the hospital setting.

The model of care will require colorectal services referral and virtual care information/Miya Precision dashboard modifications and enhancements.

Key stakeholders for this program include Royal Prince Alfred and Concord Hospitals Emergency Departments, Sydney Local Health District Surgical Services, the Institute for Academic Surgery and NSW Health Pathology. Key workforce dependences include existing Virtual Care Centre and Sydney District Nursing workforce.

c. Virtual Low Back Pain Care - 'Back@Home'

Hospital admission for low back pain places a major burden on healthcare systems, and in many cases may be avoidable. The NSW Agency for Clinical Innovation model of care for acute back pain recommends care that is not complex and could be provided in an outpatient setting.

rpavirtual developed a model of care for management of acute low back pain - Back@Home - which aims to provide high-value patient and family centred care for non-serious low back pain through a virtual platform. The model of care provides patients with multidisciplinary virtual hospital care that provides evidence-based treatment for non-serious low back pain as an alternative to an inpatient admission.

Patients are referred directly from the Emergency Department to prevent an unnecessary inpatient admission. Admitted patients with low back pain can still be referred to the service to facilitate a supported discharge home, deceasing unnecessary prolonged length of inpatient stay. Key stakeholders for this model of care include Emergency Medicine, Rheumatology and General Medicine Departments, Royal Prince Alfred, Canterbury and Concord Hospitals, Sydney Local Health District Physiotherapy Departments, and the Institute for Musculoskeletal. Key workforce dependencies include existing Virtual Care Centre workforce.

d. Support for Frequent Presenters to the Emergency Department – 'ED to Community'

The **rpa**virtual Integrated Care Emergency Department (ED) to Community initiative aims to identify, enrol, and engage in support partnerships with people who frequently use local EDs to improve their health outcomes. Consumers usually have a high rate of comorbidities and compared to non-frequent users of the ED, are more likely to have a mental illness, use substances, have social care needs, be socially isolated and live alone.

The objectives of the 'ED to Community' initiative are to develop a cross-disciplinary framework for the delivery of care in a culturally safe manner, develop inter-sectoral strategies to better support the health and wellbeing of patients and reduce duplication of care. The program seeks to improve patient activation, to enable patients to self-manage and escalate care where required.

The 'ED to Community' model of care requires further refinement to align to the Ministry of Health mandated model of care with **rpa**virtual localised modification. The model of care will prioritise patients who identify as Aboriginal and/or Torres Strait Islander.

Key stakeholders for this program include Royal Prince Alfred Hospital ED (as an initial trial location), Mental Health Services, Drug Health Services, Social Work Departments, Chronic Disease Programs, Department of Communities and Justice, General Practice and Non-Governmental Organisation. Key workforce dependences include existing Virtual Care Centre workforce.

e. Long COVID-19

Sydney Local Health District is developing a Long COVID-19 multi-disciplinary clinic to address the complex range of symptoms that can present twelve weeks or more after initial illness. The anticipated role for the Virtual Care Centre is assessment of referred patients for suitability for the multi-disciplinary clinics at RPA and Concord Hospitals, virtual psychological care and social work support and integrated care with general practice and private allied health providers. The model of care has been funded for an initial twelve-month pilot.

Key stakeholders for this program include RPA Hospital, Concord Hospital, Respiratory and Critical Care, Aged Health, Chronic Care and Rehabilitation Clinical Stream, Allied Health Services and General Practice. Key workforce dependences include existing Virtual Care Centre workforce. The model of care will develop a specific role for the Virtual Care Centre as part of the overall Sydney Local Health District model for care planning.

f. Aboriginal Cultural Support

The overarching aims of the service model include improving engagement, empowerment, and involvement of all Aboriginal and Torres Strait Islander consumers in their care through the provision of holistic clinical and cultural support. The service aims are facilitated through the development of effective partnerships with internal Sydney Local Health District services and external organisations, and collaboration with the Sydney Local Health District Aboriginal Health Unit to increase cultural and clinical engagement with local Aboriginal and Torres Strait Islander communities.

Key stakeholders for this program include all Sydney Local Health District facilities and clinical streams, the Aboriginal Medical Service Redfern, General Practice and Non-Governmental Organisations. Key workforce dependences include existing Virtual Care Centre workforce, noting the Aboriginal Cultural Support Team is currently temporarily funded.

g. Adult and Paediatric Urgent Care

The model of care for adult and paediatric urgent care is currently in the development stage. The overarching aims of the model of care include Emergency Department avoidance, enhanced support for vulnerable communities, and improved streamlining for patients into the right service at the right time using a virtual assessment referral model.

The model will provide acute virtual nursing and medical assessment to patients in their home who would have otherwise required urgent care or attendance to an emergency department. Following assessment, patients can be directly streamed within Sydney Local Health District to the appropriate service for face-to-face interventions, treatment and/or referral to the appropriate service for further care and follow up. The types of care that can be treated through this model of care include assessment of fever, sore throat, ear and eye pain, stomach pain, minor injuries, headache, back pain and exacerbations of chronic illness such as chronic obstructive pulmonary disease and heart failure.

Referral sources may include NSW Ambulance, General Practice, Chronic Care and Community Support services including Disability and Aboriginal Cultural Support Teams, Emergency Departments for certain cohorts, self-referral and health advice services.

Key stakeholders for this program include NSW Ambulance, Central and Eastern Sydney Primary Health Network, Women's Health, Paediatrics and Neonatology Clinical Stream, Royal Prince Alfred, Canterbury, Concord, and Balmain Hospitals Emergency Departments, and Health Direct. Key workforce dependences include existing Virtual Care Centre workforce. Further workforce recruitment for scaling may be required.

h. Virtual Minor Trauma Follow-up Care

The Virtual Minor Trauma Follow-up model of care provides services to patients through a multi-disciplinary clinic led by a **rpa**virtual Emergency Physician and coordinated by a Trauma Clinical Nurse Consultant with referral pathways to psychology, social work, and physiotherapy. The vision of this clinic is to deliver cohesive care to patients who have sustained minor to moderate physical trauma. The clinic aims to reduce hospital length of stay, prevent unnecessary presentations or re-presentations to the Emergency Department, and enhance patient outcomes relating to function and mental health following trauma. The clinic will also provide care coordination and support General Practitioners in posttrauma care.

The initial phase of the model will focus on the follow-up of trauma patients discharged from hospital, while the second phase will involve acute trauma care to facilitate early discharge.

Key stakeholders for this program include Royal Prince Alfred Hospital Emergency Department, Surgical Services, Mental Health Services and General Practice. Key workforce dependences include existing Virtual Care Centre workforce and the introduction of a new Trauma Clinical Nurse Consultant (currently in discussion).

i. Wound Care Command Centre

The Wound Care Command Centre is a centralised system with the capacity to use a Digital Wound Application to facilitate excellent patient care, clinician and patient education, clinical workflow and clinician-patient communication for patients with wounds. The Wound Command Centre Project aims to improve assessment, monitoring, tracking, management and documentation of all patients within the Sydney Local Health District catchment area with complex and chronic wounds.

It is anticipated that the implementation of this project will streamline the inter-disciplinary coordination of services across the District to enable timely access to care and specialist treatment, increase patient access to wound care post-discharge, as well as to patients referred in from other services, both internal and external to Sydney Local Health District. The Digital Wound Application provides clinical decision support to assist in the overall management of care for wound patients within the Sydney Local Health District community.

Key stakeholders for this program include all District hospital facilities, other external hospital facilities that Sydney Local Health District patients attend, Sydney District Nursing and General Practice. Key workforce dependences include existing Virtual Care Centre workforce, specifically the Wound Care Nurse Practitioner. A business case for implementation of this model, including additional clinicians, is currently under review.

j. After-Hours Palliative Care Patient Advice Line

The After-Hours Palliative Care Advice Line will be transferred to the management of the Virtual Care Centre in early 2022. This service provides after-hours advice to palliative care patients (and their carers) who are under the care of Sydney District Nursing. The after-hours advice line provides patients with advice about symptoms, medication, and can assist in decision making regarding care planning. The after-hours advice line is available on weekends, public holidays, and every evening from 4.30pm to 8.30am.

Key stakeholders for this program include Sydney District Nursing, Sydney Local Health District Cancer and Palliative Care Clinical Stream, General Practice and NSW Ambulance. Key workforce dependences include existing Virtual Care Centre workforce.

k. Virtual Drain Management External Hospital in the Home

The Virtual Drain Management model of care aims to support patient flow in Sydney Local Health District acute hospitals through the delivery of hospital level care in the community. The service is a hybrid model providing virtual care and in-person nursing care.

Patients and their family/carers will be provided with daily management and support, education, and monitoring of their surgical drain by the Virtual Care Centre. Sydney District Nursing will be engaged at the end of the patient's care when their drain is ready to be removed. Sydney District Nursing services may also be utilised if ad hoc visits are required to the home to provide additional face to face support and dressing materials.

Key stakeholders for this program include Sydney District Nursing and General Practice. Key workforce dependences include existing Virtual Care Centre and Sydney District Nursing workforce.

Sydney District Nursing new clinical models of care

a. Patient Involvement in Wound Management

The patient involvement in wound management model aims to engage Sydney District Nursing patients in their own wound management to optimise their health and wellness and to improve sustainability of health service resources.

The clinician uses inclusion/exclusion criteria to assess each patient for suitability to be involved in their own wound management. Once suitability has been assessed the clinician utilises the 'teach back' communication tool and 'return demonstration' technique to evidence patient willingness and ability.

Patients will be equipped with educational tools to encourage and support their engagement. The clinician will review the patient regularly and adjust care planning and patient involvement as required.

Key stakeholders for this program include Sydney District Nursing and General Practice. Key workforce dependences include existing Sydney District Nursing workforce.

b. Enhanced Care for Sydney District Nursing Chronic Care Patients

The Perx Health application is currently being piloted as a research study with sub-cohorts of Sydney District Nursing chronic care patients to improve clinical health outcomes. These cohorts include patients with Diabetes, Wound Care and Lower Leg Ulcer patients. The objective of the study is to assess the impact of Perx Health on clinical outcomes, patient reported outcomes, patient experience and patient engagement.

Key stakeholders for this program include Aged Health, Chronic Care and Rehabilitation Clinical Stream and General Practice. Key workforce dependences include existing Sydney District Nursing workforce.

c. Community-based Chronic Disease Palliative Care Team (late stage degenerative and chronic conditions and late-stage progressive disability)

The community-based Chronic Disease Palliative Care Team has been established to enhance community care for people with late-stage degenerative and chronic conditions and disability (last two years of life). This hybrid model will provide in-person care as well as virtual care.

The model of care aims to enhance quality of life and comfortability for patients through the provision of allied health and nursing care. For example, the communitybased Chronic Disease Palliative Care Team will provide psychosocial assessment, case management, care coordination, counselling and carer support, financial assistance, nutrition management, management of dysphagia with a focus on safe swallowing, fatigue management, respiratory care, enduring Guardianship, referrals, and linkage to community support for respite and carer support, and assistance with supports facilitated through the National Disability Insurance Scheme.

A new team will be established and include allied health staff (Clinical Psychologist, Social Worker, Dietician, Speech Pathologist, Physiotherapist, Occupational Therapist), a Clinical Nurse Consultant and an Aboriginal Health Worker. The after-hours Palliative Care Advice Line will also transition to be managed by the communitybased Chronic Disease Palliative Care Team.

Key stakeholders for this program include the Cancer and Palliative Care Clinical Stream, Sydney Local Health District Allied Health Services and General Practice. Key workforce dependences include the new (Ministry of Health funded) community-based Chronic Disease Palliative Care Team, as well as existing Virtual Care Centre, Sydney District Nursing and Respiratory and Cardiac Chronic Care Nursing workforce.

Cardiac and Respiratory Chronic Care Team

The District's Respiratory and Cardiac Chronic Care Nursing Programs will transition to be managed by **rpa**virtual in mid-2022. This will allow for consideration of opportunities for strengthened collaboration with Sydney District Nursing and the Virtual Care Centre (including its after-hours functions). The teams will be under the governance of the Director of Nursing.

The model will focus on reviewing the current models of care and will incorporate virtual innovations to enhance the management of patients in their own homes with respiratory and cardiac chronic care conditions.

Further opportunities for the introduction of virtual care are also being explored in collaboration and with endorsement from the Clinical Directors of Respiratory and Critical Care and Cardiology.

Key stakeholders for this program include the Sydney Local Health District Respiratory and Critical Care Clinical Stream, Sydney Local Health District Cardiovascular Clinical Stream, Sydney Local Health District Aged Health, Chronic Care and Rehabilitation Clinical Stream and General Practice. Key workforce dependences include existing Cardiac and Respiratory Chronic Care Nursing Teams, Allied Health Professionals and Virtual Care Clinicians.





Strategic Priorities

Models of Care

- a. Finalise design, implement and evaluate confirmed new models of clinical care.
- b. Finalise design, recruit staff, implement and evaluate a new community-based Chronic Disease Palliative Care program for patients with degenerative and chronic conditions and disabilities in the last two years of life.
- c. Implement an After-Hours Palliative Care Advice Line for patients and their carers.
- d. Implement virtual care drain management care, including daily management, support, education and monitoring, for patients discharged from hospital with surgical drains.
- e. Pursue opportunities for the development of additional collaborative clinical virtual models of care, including further collaboration with surgical services
- f. Collaborate with Surgical Services to consider opportunities to pilot a 'surgical-hotel' model of care on RPA campus to reduce hospital length of stay for surgical patients.

Information, Communication and Technologies

- a. Implement use of the Virtual Care Integration System (Miya Precision) as a clinical monitoring and decision support tool.
- b. Identify a solution for managing prescribing, medication dispensing, imaging and pathology documentation in the eMR for **rpa**virtual patients receiving care in the community.
- c. Implement a new cloud-based telephone network in the Virtual Care Centre to support remote working and productivity monitoring.
- d. Implement the use of the GoShare Healthcare platform to support **rpa**virtual patient access to online information regarding their treatment and care.
- e. Complete the research study regarding the use of the Perx Health application to support patient adherence to medication and treatment recommendations continues. Once evaluated, consider opportunities for wider use across all relevant patient cohorts.

- f. Trial a digital health intervention/online platform to provide opportunities for patients to engage in cognitive behavioural therapy outside of their scheduled appointments.
- g. Continue to support patients, carers and families to access technology through the loan and delivery of mobile devices and data packages, sharing information on how to use technology and ensuring access to the Digital Patient Navigator.
- h. Collaborate with HealthPathways Sydney to develop online referral pathways, clinical management guidelines and eReferral forms for new models of care that accept referrals from general practice.

Workforce

- a. Integrate the workforce across **rpa**virtual, in particular the nursing workforces.
- Successfully transition the District's Cardiac and Respiratory Chronic Care nursing teams to rpavirtual.
- c. Continue to host final year and graduate students including internships and capstone projects for implementation science and eHealth students.
- d. Redesign the Virtual Care Centre nursing workforce to enable rotation between virtual care and in-person clinical care roles.
- e. Introduce and recruit Aboriginal Cultural Care Navigators to the Aboriginal Cultural Support Team that will have a care navigation/care coordination function.

Sydney District Nursing Demand Management Strategy

a. Complete the redesign of the Sydney District Nursing Demand Management Strategy in collaboration with the District's Performance, Innovation and Redesign Unit.

Funding Model

a. Secure external funding to allow for consolidation of the virtual hospital model and careful coding and reporting of all patient activity.

Accommodation

- a. Identify additional space to accommodate new positions and programs.
- **b.** Identify opportunities for routine working from home arrangements for Virtual Care Centre clinicians.

Research and Evaluation

- a. Comprehensively evaluate each new rpavirtual model of care, with common measures across all such as patient experience measures and cost-benefit analysis. This will include the twelve-month pilots of the Virtual Rehabilitation Service and the Aboriginal Cultural Support Team.
- b. Complete an overall evaluation of the period February 2021 to January 2022, aligning with the domains of the NSW Health Virtual Care Strategy Monitoring and Evaluation Framework.
- c. Administer a virtual care readiness survey with local Aboriginal communities to inform new strategies to support **rpa**virtual access for Aboriginal patients.
- d. Continue to participate in existing research projects, with an additional focus on building rpavirtual's internal research capacity through new research planned for execution during 2022 and 2023 and collaboration with other virtual care sites.

Education

a. Complete a needs assessment to determine the specific virtual care related education and training requirements for clinicians and develop related education modules in collaboration with the District's Centre for Education and Workforce Development.

Accreditation

- a. Achieve full accreditation as a stand-alone facility under the National Standards in Quality and Safety in Health Care in March 2023.
- Achieve full accreditation from the Australasian College of Emergency Medicine (as a virtual care site) and the Royal Australian College of General Practitioners.





Appendices

Current Clinical Models of Care

Model of Care/Program	ICT criticality to proceed	Key Partners	Key Dependencies
Clinical Care for COVID-19 Positive Patients	High	Internal: RPA and Concord Hospitals; Respiratory and Critical Care; Infectious Diseases; Special Health Accommodation; Public Health Unit External: General Practice; Central and Eastern Sydney Primary Health	 Existing Virtual Care Centre workforce Workforce surge as required Virtual Integrated System/Miya Precision dashboard end-to-end integration with wearable devices
		Operations Centre – NSW Ministry of Health; Sydney Children's Hospitals Network; NSW Ambulance	
Clinical Care for COVID-19 Negative Patients in Special Health Accommodation	Low	Internal: Multiple streams; Special Health Accommodation External: State Health Emergency Operations Centre – NSW Ministry of Health; Healthcare Australia; Sydney Children's Hospitals Network	 Existing Virtual Care Centre workforce Workforce surge as required Special Health Accommodation
Antenatal Care for Pregnant Women Patients in Quarantine	Low	Internal: Women's Health, Paediatrics and Neonatology Clinical Stream; Special Health Accommodation External: State Health Emergency Operations Centre – NSW Ministry of Health; Healthcare Australia	 Existing Virtual Care Centre workforce Special Health Accommodation NSW Police Quarantine Hotels
COVID-19 Quarantine Discharge Support Service (function since incorporated into nursing service)	Low	Internal: Special Health Accommodation External: State Health Emergency Operations Centre – NSW Ministry of Health	 Existing Virtual Care Centre workforce Special Health Accommodation National SONG Guidelines for release from isolation
Virtual Fracture Clinic	Low	Internal: Orthopaedics; Physiotherapy Department; RPA Emergency Department; Concord and Canterbury Hospitals External: General Practice; Central and Eastern Sydney Primary Health Network	 Existing Virtual Care Centre workforce Emergency Department referral General practice referral Implementation of Go Share for ease of access to all patient cohorts to information
Medication Monitoring: Tuberculosis Directly Observed Therapy	Low	Internal: Respiratory and Critical Care Clinical Stream	 Existing Virtual Care Centre workforce Renal Service and Infectious Diseases Department referrals
Medication Monitoring: Subcutaneous Immunoglobulin	Low	Internal: Sydney Local Health District Patient Blood Management Nurse Manager; Sydney Local Health District Haemovigilance Clinical Nurse Consultant; RPA and Concord Hospital Haematology, Endocrinology, and Neurology Departments External: NSW Health Pathology East	Existing Virtual Care Centre workforce

Model of Care/Program	ICT criticality to proceed	Key Partners	Key Dependencies
Residential Aged Care Facilities Triage Line (after-hours)	Low	Internal: Aged Health, Chronic Care and Rehabilitation Clinical Stream	Existing Virtual Care Centre workforce
		External: Residential Aged Care Facilities; NSW Ambulance	 Residential Aged Care Facility awareness and use of triage line
Health Maintenance Program for Patients with Lower Leg Ulcers	Low	Internal: Cardiovascular Clinical Stream; Sydney District Nursing External: General Practice; Central and Eastern Sydney Primary Health Network	 Existing Virtual Care Centre workforce Sydney District Nursing referral Program needs revision Role for Perx Health application (currently being piloted)
Digital Literacy Support for Patients with Cystic Fibrosis	Low	Internal: RPA Hospital Cystic Fibrosis (state-wide) service	 Existing Virtual Care Centre workforce Cystic Fibrosis Service referral Implementation of Go Share for ease of access to all patient cohorts to information
Community Palliative Care	Low	Internal: Sydney Local Health District Cancer and Palliative Care Clinical Stream External: Referring Specialists; General Practice	 Existing Sydney District Nursing workforce The Community Palliative Care at End of Life (PaEL) package
Hospital in the Home	Low	Internal: Sydney Local Health District Hospital in the Home Service (RPA, Concord, Canterbury, and Balmain Hospitals)	Existing Sydney District Nursing workforce
Chronic and Complex Care	Low	Internal: Aged Chronic Care and Rehabilitation Clinical Stream; Cardiovascular Clinical Stream	Existing Sydney District Nursing workforce
Aboriginal Chronic Care 48 Hour Follow-Up Program	Low	Internal: Sydney Local Health District Cardiovascular Clinical Stream; Sydney Local Health District Aboriginal Health Unit; Sydney Local Health District Hospital Facilities	Existing Sydney District Nursing workforce
		External: Aboriginal Medical Service Redfern; General Practice; and Non- Governmental Organisations	
HIV Specialist Service	Low	Internal: Sydney Local Health District Mental Health Services; RPA Sexual Health Service; Community HIV Service	 Existing Sydney District Nursing workforce
		External: General Practice; referring specialists; Residential Aged Care Facilities; Non-Governmental Organisations; other Local Health District HIV Services	

Model of Care/Program	ICT criticality to proceed	Key Partners	Key Dependencies
Symptom Monitoring for Community Palliative Patients (on-hold)	High	Internal: Sydney District Nursing; Sydney Local Health District Cancer and Palliative Care Clinical Stream External: General Practice	 Existing Virtual Care Centre workforce Sydney District Nursing referral Alternative patient facing platform required to replace The Diary (Miya Care – TBC)

*Note: ICT Services essential non-clinical partner for all models of care



New Clinical Models of Care

Model of Care/Program	ICT criticality to proceed	Key Partners	Key Dependencies
Virtual Rehabilitation — 'vRehab'	Low	Internal: Aged Health, Chronic Care and Rehabilitation Clinical Stream; RPA and Balmain Hospitals; Allied Health (various) External: General Practice	 Funding for 12 month pilot Recruitment to clinical team underway Rehabilitation Services referral District process for review and recommendation of apps
Remote Monitoring for Acute Diverticulitis — 'iCAD Trial'	High	Internal: RPA Hospital and Concord Hospital Emergency Departments; Surgical Services External: Inst for Academic Surgery; NSW Pathology	 Existing Virtual Care Centre and Sydney District Nursing workforce 24 month clinical trial in two phases Colorectal Services referral Virtual Care Information System/Miya Precision dashboard modifications and enhancements
Virtual Low Back Pain Care — 'Back@Home'	Low	Internal: Emergency Medicine, Rheumatology and General Medicine Departments, Royal Prince Alfred, Canterbury and Concord Hospitals, Sydney Local Health District Physiotherapy Department	 Existing Virtual Care Centre workforce Emergency Department referral May need to increase depending on growth Use of Physitrack application
		External: Institute for Musculoskeletal Health	
Support for frequent presenters to the Emergency Department — 'ED to Community'	Low	Internal: RPA Hospital Emergency Department (initially); Mental Health Services; Drug Health Service; Social Work Departments; Chronic Disease Programs	 Ministry of Health mandated model of care (able to be localised) Within existing funds/workforce — no additional Ministry funding allocated Model of care to be finalised
		Communities and Justice; General Practice; NGOs	
Long COVID-19	Low	Internal: RPA Hospital; Concord Hospital; Respiratory and Critical Care; Aged Health, Chronic Care and Rehabilitation Clinical Stream; Allied Health Services	 Specific role for Virtual Care Centre to be determined as part of overall District model of care planning Funding for 12 month trial
Aboriginal Cultural Support	low	External: General Practice	Existing Virtual Care Centre workforce
	2011	Streams External: AMS Redfern; General Practice; NGOs	 Positional gradings to be finalised Model to be developed/extended beyond pandemic
Adult and Paediatric Urgent Care	Low	Internal: Women's Health, Paediatrics and Neonatology Clinical Stream; RPA Hospital Emergency Department	Existing Virtual Care Centre workforceModel to be developed
		External: Health Direct (model dependant)	

Model of Care/Program	ICT criticality to proceed	Key Partners	Key Dependencies
Enhanced care for Sydney District Nursing Chronic Care Patients	Medium	Internal: Aged Health, Chronic Care and Rehabilitation Clinical Stream External: General Practice	 Existing Sydney District Nursing workforce Pilot of Perx Health application underway with SDN cohorts (Diabetes, Wound Care, Lower Leg Ulcers) Technology upgrades Sydney District Nursing centres to match Virtual Care Centre capability Broader roll-out will require Perx Health contract revision
Community-based Chronic Diseases Palliative Care Team	Low	Internal: Cancer & Palliative Care Clinical Stream; District Allied Health Services External: General Practice	 Dependant on outcome of funding submission to Ministry of Health (multi- disciplinary team) Existing Virtual Care Centre workforce Existing Sydney District Nursing workforce Existing Respiratory and Cardiac Chronic Care Nursing Teams Transition of after-hours Palliative Care Advice Line
Virtual Minor Trauma follow-up care	Low	Internal: RPA Hospital Emergency Department; Sydney Local Health District Surgical Services; Mental Health Services	 Existing Virtual Care Centre workforce Funding for PT Trauma CNC (TBC) Model to be finalised
Wound Care Command Centre	High	Internal: Sydney District Nursing; District Hospital Facilities (RPA, Concord, Canterbury and Balmain Hospitals); other external Hospital Facilities that Sydney Local Health District patients attend External: General Practice	 Existing Virtual Care Centre workforce (funded) Wound Care Nurse Practitioner to be recruited Model to be finalised and additional resourcing requirements confirmed through business case Procurement of Digital Wound Application
After-hours Palliative Care Advice Line	Low	Internal: Sydney District Nursing; Sydney Local Health District Cancer and Palliative Care Clinical Stream; External: General Practice; NSW Ambulance	Existing Virtual Care Centre workforce
Virtual Drain Management External Hospital in the Home	Low	Internal: Sydney District Nursing; District Surgical Services External: General Practice	Existing Virtual Care Centre and Sydney District Nursing workforce
Self-Wound Care Management	Low	Internal: Sydney District Nursing External: General Practice	 Existing Sydney District Nursing workforce Funded Wound Care Nurse Practitioner Procurement of a Digital Wound application

*Note: ICT Services essential non-clinical partner for all models of care









Sydney Local Health District

