

REPORT

Telehealth innovations

# Effectively managing time critical patients using telehealth

Western NSW Local Health District



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INNOVATION**

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SHPN: (ACI) 180148

ISBN: 978-1-76000-832-1

**Produced by:** Name of Network, Institute or Taskforce if applicable

Further copies of this publication can be obtained from the Agency for Clinical Innovation website at [www.aci.health.nsw.gov.au](http://www.aci.health.nsw.gov.au)

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**Version:** V1.0

**Date Amended:** 20/01/2018

ACI\_0008-D [02/18]

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## Acknowledgements

Western NSW Local Health District (WNSWLHD) provided content for this document through service documentation and interviews with team members who deliver this telehealth model.

The NSW Agency for Clinical Innovation (ACI) acknowledges the contributions of WNSWLHD and in particular, the individuals listed below who were involved in the consultation underlying this document.

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# Introduction

This document outlines the telehealth components of the Patient Flow Transport Unit, a centrally coordinated district-wide service which merges the functions of patient flow, patient transport and the Critical Care Advisory Service.

The Patient Flow Transport Unit remotely provides:

- rural doctors and nurses with consultant-level advice on immediate life threatening or time critical conditions
- coordination of inter-facility transfers of acute patients requiring specialist care between rural hospital and referral hospitals
- medical advice through a Patient Flow Medical Officer.

Western NSW Local Health District (WNSWLHD) is one of the largest, most geographically diverse, LHDs in NSW. The LHD has health facilities in 40 different locations, including 3 major referral hospitals, 4 district hospitals and 30 rural hospitals.

Like many regional and rural locations, there is a disparate workforce and a high reliance on locums and internationally trained medical officers and nurses.

Managing unwell patients in the LHD's rural sites often provides a challenge to clinicians in these areas. This has led to an unnecessary reliance on transferring patients to major referral hospitals, de-skilling of the rural workforce and significant patient transport costs for the LHD.

Telehealth enables the Patient Flow Transport Unit to coordinate care by virtually visualising the patient and provide rural clinicians with timely specialist advice on how to best manage patients with immediate life threatening or time critical conditions.

## Benefits

### Patients

- Early access to specialist advice and treatment plans.
- Improved safety and quality of care.
- Reduced unnecessary transfers and patients may receive care in their community.
- Decreased length of stay.
- Optimised patient centred care management.

### Health professionals

- Strengthened trust and relationship between treating clinician and their patients.
- Increased senior specialists' understanding of care delivery at rural sites.
- Local clinicians better supported in critical care decisions.
- Strengthened clinician-to-clinician relationships through shared and co-managed approaches to patient care.

### Health services

- Improved emergency department demand and capacity.
- Reduced clinical variations through evidence-based critical care practice.
- Efficient use of LHD resources through more appropriate patient referral to specialist services.
- Reduced transport costs across the LHD.
- Staff support and retention.

**Patient centred care underpins this service model – providing the right care, at the right time and in the right setting at all times.**

**Empowerment and capability building of rural clinicians is key to enabling improved clinical management of patients in their own community.**

***The unit is about standardising safe and quality patient care and supporting our rural colleagues who often do it really tough***

–Patient Flow Transport Unit team member

## Key elements

Element	Detail
Patient population	<ul style="list-style-type: none"> <li>Inpatients admitted to emergency departments or acute care beds</li> </ul>
Referral pathway	<ul style="list-style-type: none"> <li>Local clinician phones through on dedicated 1800 numbers</li> <li>Phone answered by nurse coordinator with critical care experience</li> <li>Relies on local clinician to self-refer to service.</li> </ul>
Healthcare team	<ul style="list-style-type: none"> <li>Nursing staff with critical care experience</li> <li>Intensivist</li> <li>Patient Flow Medical Officer – Fellow of the Australasian College for Emergency Medicine</li> <li>Specialist consultants</li> <li>Advanced Trainee</li> </ul>
Technology	<ul style="list-style-type: none"> <li>Teleconference lines with headsets</li> <li>Videoconferencing</li> <li>57 high resolution network roof mounted cameras with pan, tilt and zoom function</li> <li>228 telehealth devices (including E-robots)</li> </ul>

## Patient Flow Transport Unit

- Provides a dedicated '1800' number for critically ill referrals, answered promptly and a dedicated '1800' number for non-emergency referrals with phone prompts: '1' for critical care/life threatening; '2' for transport enquiry; '3' for patients with specialist care or advice.
  - Phone answered by nurse coordinator with critical care experience (recorded for quality assurance)
  - script with standard prompts for standardised practice
  - directs event to the most relevant person (e.g. medical officer in patient flow; specialist consultants) and remains on the call for the consultation with the specialist to ensure care coordination.
- Mobile E-robots used for consultations when there is no medical officer at the peripheral site or when visualising the patient will benefit patient management. E-robots enable difficult conversations with patients or carers about care options and goals; strengthens partnerships and engages the patient in decision making.
- Individual management plans established according to LHD and NSW pathways and best practice.
- LHD hospitals assisted with patient flow principles including demand and capacity planning, clinical support and guidance to transport crews.
- Operates from seven days a week from 7am–11pm with plans in progress for a 24/7 service.

### Standard script

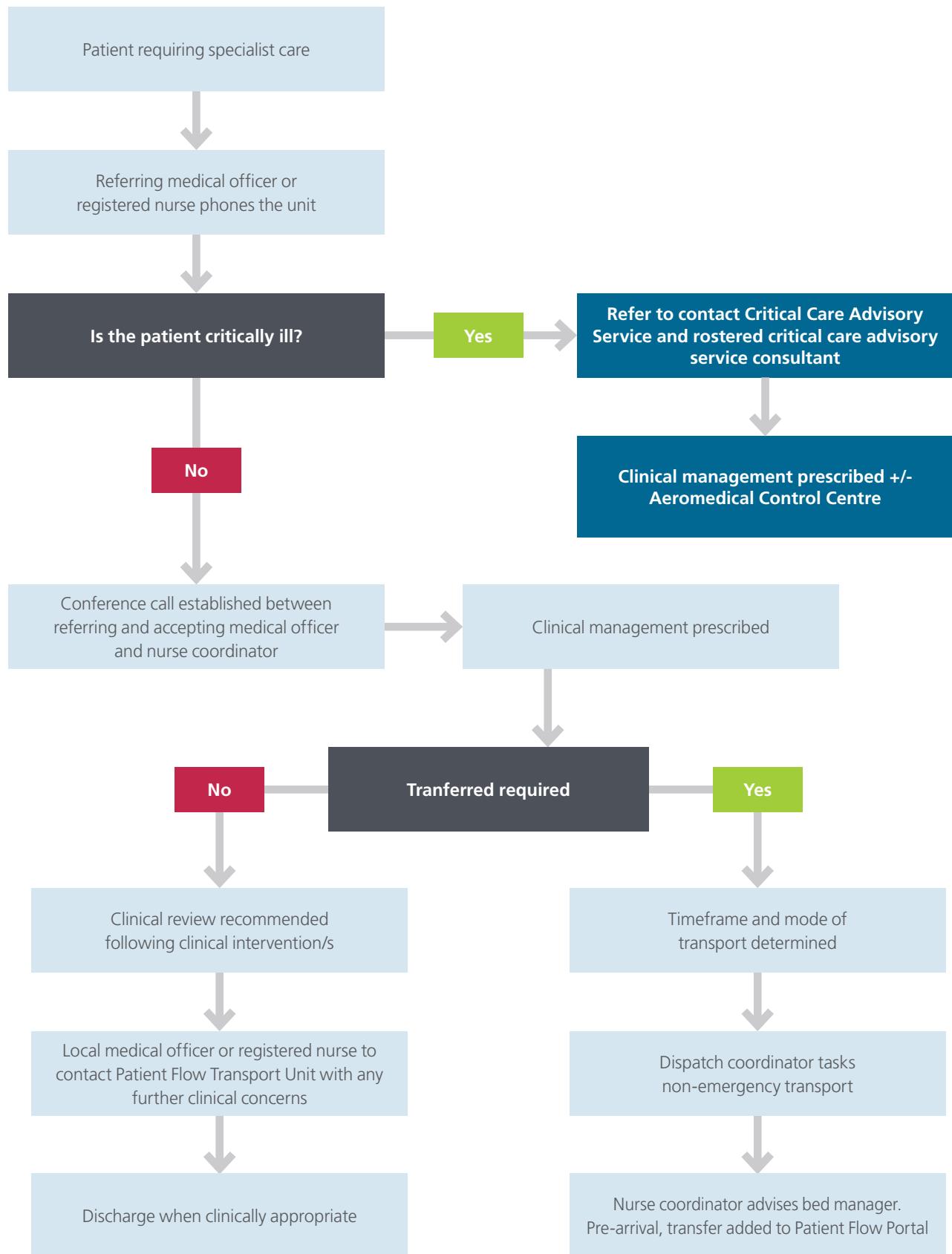
- Introduction: caller – who, designation, where?
- Situation
  - Patient name, date of birth, specific location of patient (high dependency unit, emergency ward, general practice surgery)
  - Current clinical problem – 'what is your main concern?'
  - Reason for admission or presenting clinical problem – 'what did they present with?'
- Vital signs: 'Are the patient's vital signs outside the flags?' Yes/No
 

**Yes:** use prompts for consideration of Critical Care Advisory Service pathway

  - Are they breathing?
  - GCS15?
  - Systolic blood pressure?
  - Critically ill or life threatening concerns?
  - Medical escort for transport? Level A or P1?
  - ICU or HDU destination?

Yes or No answer by referring clinician leads to a decision tree with relevant prompts to aid decision making process and streamline calls to the most appropriate pathway.

## Patient flow



# Making it happen

This section outlines the key enablers and challenges identified by those involved in implementing this model. Addressing these factors effectively has been critical to successful implementation and these learnings can be used by other health services in the development of local models.



## Local planning, service design and governance

The Patient Flow Transport unit was based on the following:

### Centralised and consultant-level service

- Provides a central phone number for streamlined access (prompts for different services).
- Consultant-led service supports collaboration and empowerment of service with rural clinicians.
- All senior nursing staff have critical care experience and understand referral processes.
- Requires senior clinical team with strong communication skills and core values to align objectives, build rapport with all service partners.

### Defined service model and clinical governance

- Service model is clearly defined with integrated systems, processes and technology to sustain safe and quality service.
- Robust escalation planning using 'Between the Flags' to ensure timely and appropriate system management.
- Clinical pathways to connect and coordinate standardised care, utilising agreed care pathways where they exist (e.g. Chest Pain Evaluation, NSW Chest Pain Pathway, Guidelines for the use of Telehealth for Clinical and Non Clinical Settings in NSW).
- Clinical and operational risk management approach established through induction of senior critical care RNs, Fellow of the Australasian College for Emergency Medicine and intensivists, including knowledge of the referral process, clinicians and services available, and knowledge of the area, transport system and resources.
- Consider the role of mandating protocols and empowering Patient Flow Transport Unit team to support standardisation further.
- Engaging key stakeholders in escalation phase (i.e. Health Service Manager, Sector Manager).

### Strong alignment with LHD priorities

- Telehealth identified as a LHD priority through LHD strategic plan and telehealth strategy.
- Telehealth model addresses rural and regional access challenges to specialist care and support staff experiences.
- Close alignment with Living Well Together philosophy.
- Strong district and facility executive buy-in.

### Considerations for implementation

- Clinical engagement in procuring the technology is critical to its uptake.
- Digital health tools need to become part of ongoing mainstream emergency education for service providers and service users.
- Greater integration of telehealth tools with network platforms to enable ease of remote access.
- Informed consent from patient/carer is needed to use cameras during the camera assisted consultation.
- Requires information and communication technology support for operational hours and downtime procedures.
- Build partnerships with the focus on service objectives instead of the digital tools.
- Consider a physical location for the central service that supports patient confidentiality and privacy during videoconferencing (e.g. private rooms).



## Building engagement with primary healthcare

Building trusted relationships between service providers and service users enabled success.

### Strong service relationships between referral hospitals and rural peripheral sites

- Strong relationships required among emergency departments, bed managers and critical care units across district hospitals.
- High level of service coordination required across multiple providers (local and tertiary) over large geographic distances.

### Clinician-to-clinician engagement

- Build strong individual clinician relationships across community, referral and peripheral hospitals through:
  - clear, collaborative and respectful communication between Patient Flow Transport Unit clinicians and service users
  - active networking with all service users and key partners via virtual site visits and email
  - provision of consistently good customer service.
- Provide a clear feedback mechanism to clinicians in rural sites to inform practice change.
  - 24 hour feedback call for Critical Care Advisory Service events
  - Each facility receives a report monthly for Critical Care Advisory Service events after quality audits
  - Critical Care Advisory Service team receives monthly reports
  - Timely feedback is provided as required
- Actively promotes clinical skills locally.

### Considerations for implementation

- An engagement and communication strategy between all stakeholders can help build initial and ongoing awareness and confidence in the service.
- Clinicians may not understand the distinction of critical care, patient flow, and transport – education through resources on the intranet, health service managers induction program, new graduate orientation programs, posters next to phones in emergency department and acute care areas, can support appropriate use of the services.
- Consider mandatory locum and agency staff orientation to the program as these are key roles in promoting the service and adhering to compliance in referral process.
- Formalise referral patterns through state wide mandated policy directives and LHD service patterns.
- Engagement with primary practices and residential aged care facilities minimises unnecessary specialist care presentations to emergency departments.



## Workforce and resourcing

Planning, appropriate staffing and support, and data are key enablers to the success of the model.

### Planning for technology implementation

- Undertake consultation with clinicians to inform the procurement and introduction of the technology to ensure it is fit for purpose.
- Technical support is required which aligns with the service operating hours.
- Map and plan for the impact of technology on clinical workflow to support ease of use in clinical settings.
- Train clinicians in the use of the technology to support the cultural and behavioural change required to workflow.

### Considerations for implementation

- A well designed training and orientation program can help mitigate many of the risks associated with virtual clinical advice services.
- Ensure that the technology solution supports two-way communication (audio and visual).
- 'Bring your own device' policies may help facilitate improved (telehealth) access by service providers and users.

### Staffing model aligned to scope of service

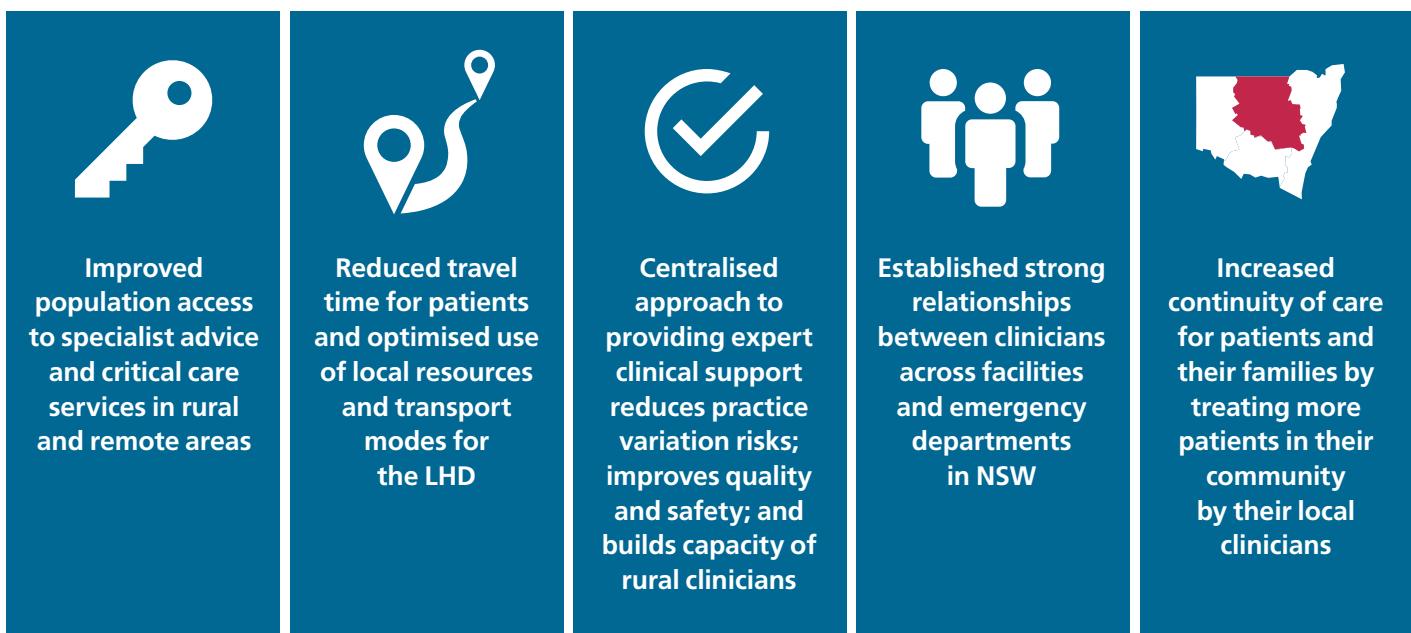
- Develop an efficient staffing model utilising the most appropriate clinical staff for the service.
- Requires technical and administrative support with an understanding of medical terminology.
- Clinical champions to promote awareness of the services across the district.

### Data

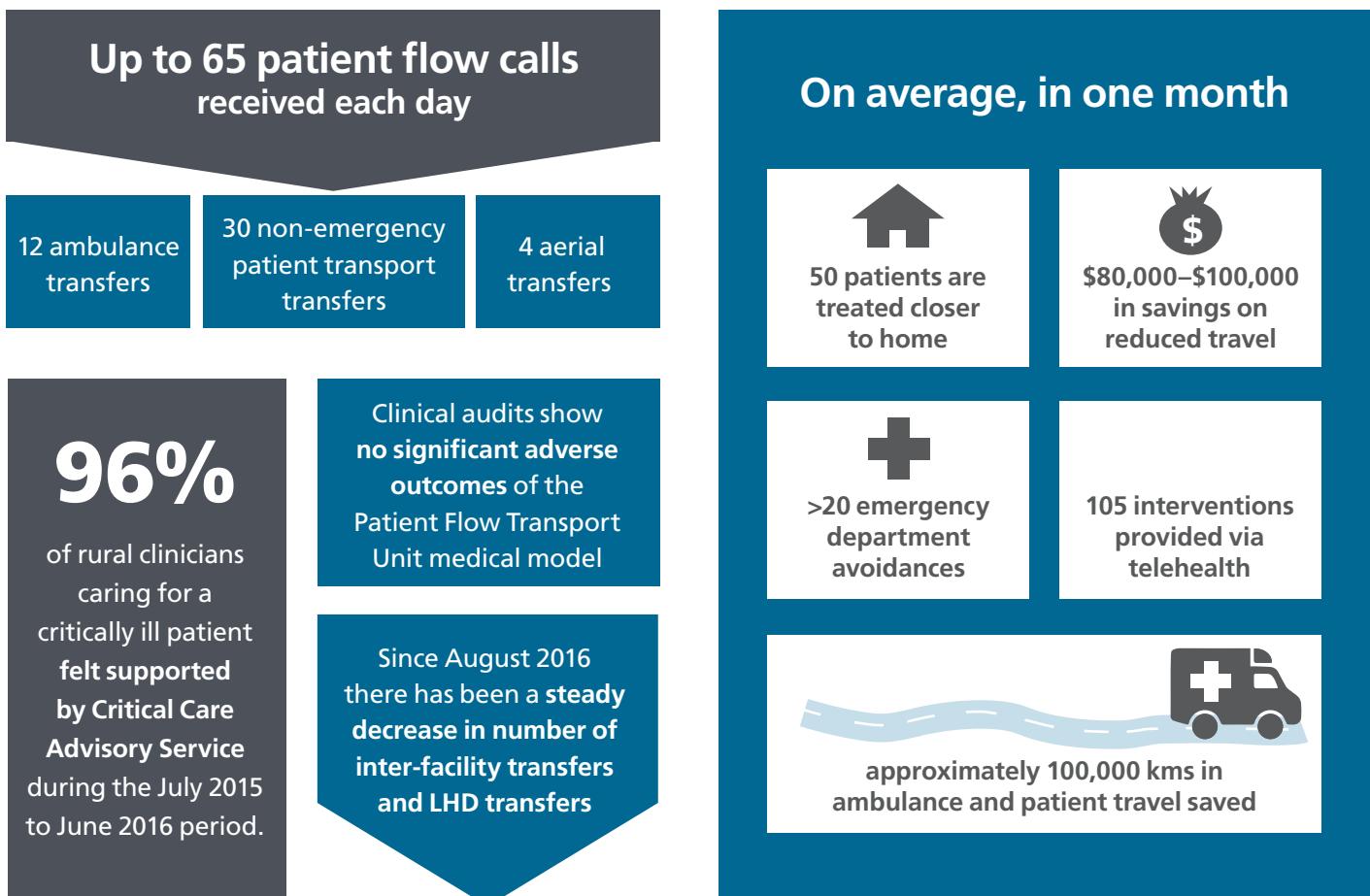
- Integrated database which links with electronic medical records (eMR) for optimised clinical documentation of patient information.
- Live dashboards to support real-time tracking of patient flow.
- Clinician end data collection.

## Benefits of the model

### Benefits



### Results



## **Monitoring and evaluation**

The aim of introducing the service was to increase the number of patients being maintained locally rather than being sent to tertiary hospital for management. Data on number of calls, transfers, kilometres saved, interventions provided and emergency department avoidance come from the patient transport database.

WNSWLHD undertakes regular audits of all critical care advisory service events, which are monitored and recorded. Feedback reports are provided following these audits. Staff complete a short questionnaire following Critical Care Advisory Service events, where queries arising are investigated and actioned.

WNSWLHD has informally partnered with the University of Sydney to investigate ways to quantify the impact of the model on patient outcomes. The Patient Flow Transport Unit is also investigating patient satisfaction data collection methods for patients that are acutely unwell in emergency situations.

This model was awarded a NSW Premiers award in 2017 for excellence in improving service levels in hospitals.

This award category recognises those who have worked on programs, initiatives, innovations or improvements that lead to more patients going through emergency departments within four hours.

**The service is based in the largest, most geographical diverse LHD. The model has potential application to a range of sub-acute clinical streams where a networked consultative model may improve patient access to care (in both regional and metropolitan health services).**

## References and links

Supporting tools and documents available from the ACI website:

[www.aci.health.nsw.gov.au/make-it-happen/telehealth](http://www.aci.health.nsw.gov.au/make-it-happen/telehealth)

Guidelines for the use of Telehealth for Clinical and Non Clinical Settings in NSW

[www.aci.health.nsw.gov.au/\\_data/assets/pdf\\_file/0010/258706/ACI-telehealth-guidelines.pdf](http://www.aci.health.nsw.gov.au/_data/assets/pdf_file/0010/258706/ACI-telehealth-guidelines.pdf)

Information on the Telehealth Capability Interest Group:

[www.aci.health.nsw.gov.au/make-it-happen/telehealth/telehealth-capbility-interest-group](http://www.aci.health.nsw.gov.au/make-it-happen/telehealth/telehealth-capbility-interest-group)

The ACI partnered with staff from Local Health Districts, Primary Health Networks and consumers to document this telehealth innovation series. The four sites are listed below.

Site	Description
Mid North Coast and Northern NSW LHDs	Supporting patients to access follow-up cancer care at home in partnership with their primary care team.
Murrumbidgee LHD	Using technology to link remote patients and an allied health assistant to a senior physiotherapist.
Western NSW LHD	Using technology to effectively manage life threatening and time critical patients to coordinate inter-facility transfers between rural and referral hospitals.
St Vincent's Hospital Sydney	Enhancing clinician capacity to manage older patients living with mental health issues in partnership with a specialist multi-disciplinary team.