

# TRANSLATIONAL RESEARCH GRANTS SCHEME

## EXPRESSION OF INTEREST

Example of effectiveness study that if proven effective can also support implementation

This document shows examples of key sections of the EOI form to illustrate how to meet the selection criteria. This is directly linked to the checklist available on the TRGS website: <http://www.health.nsw.gov.au/ohmr/Pages/trgs.aspx>

- **Right question for TRGS** – Are you answering an important policy relevant question that addresses an evidence gap?
- **Right capacity and support within your organisation** – Does your organisation want to know the answer to this question and will it commit to scale up any resulting intervention if proven?
- **Right stakeholders and partners** – Have you engaged the relevant partners across the NSW health system?
- **Right mechanism for translation** – Does your intervention have the potential to be scaled up across the system?
- **Right design and method** – Can the study design answer the question with methodological rigour?
- **Right research team** – Do you have the right research skills across your team to answer the question?

## Translational Research Grants Scheme Expression of Interest

SECTION A – OVERVIEW	
Chief Investigator (applicant)	Chief Investigator
Host Organisation	LHD 1
Project title	Implementation of an Aboriginal Transfer of Care (ATOC) model: impact on unplanned readmissions, ED re-presentations and discharge against medical advice.
List all sites in which the project will be conducted:	<p>The following hospitals will be involved in the trial:</p> <p><b><u>Intervention hospitals</u></b></p> <p><u>LHD 1</u></p> <ul style="list-style-type: none"> <li>• Hospital 1</li> <li>• Hospital 2</li> </ul> <p><b><u>Control hospitals</u></b></p> <p><u>LHD 1</u></p> <ul style="list-style-type: none"> <li>• Hospital 3</li> <li>• Hospital 4</li> </ul> <p><u>LHD 2</u></p> <ul style="list-style-type: none"> <li>• Hospital 5</li> </ul> <p><u>LHD 3</u></p> <ul style="list-style-type: none"> <li>• Hospital 6</li> </ul> <p>The control hospitals have been selected as they cover neighbouring urban areas with a large Aboriginal population. The similar demographic profile of these control hospital LHDs make them the most appropriate comparison group.</p> <p>While this study focuses on an urban area, it is foreseeable that the model will be transferable to rural settings. Rural perspectives will be incorporated from an early stage as described above.</p>

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**Right stakeholders and partners** – Have you engaged the relevant partners across the NSW health system?

- Have you engaged partners that have the ability to implement or influence change in the system that may result from this project
- Do you have other LHDs, Specialty Health Networks, pillars, parts of NSW Health and branches within the Ministry of Health involved as partners?  
(e.g. more than one LHD, a pillar, a policy branch within MoH, consumers)

### SECTION A – OVERVIEW

Project partners	Position	Organisation	Contribution to project
	Chief Executive	LHD 1	LHD support for project (infrastructure, networks, staff resources, IT, governance framework), and future implementation
	Principal Research Fellow	Aboriginal Health & Wellbeing team, Centre for Health Research, University	Advise on study methodology and assist with project evaluation
	Principal Advisor	Health Improvement and Support, Centre for Aboriginal Health, MoH	Engage with key stakeholders to ensure project is implemented as intended and provide advice on translational plan and policy implications
	Manager	Centre for Aboriginal Health, MoH	Engage with key stakeholders to ensure project is implemented as intended and provide advice on translational plan and policy implications
	Medical Advisor	Office of the Chief Health Officer, MoH	Engage with key stakeholders to ensure project is implemented to time and cost; Contribute to operationalisation of project; Contribute to reports and implementation of findings; Provide advice on translational plan and policy implications
	Director	Centre for Epidemiology and Evidence, MoH	Advise on evaluation methodology and assist with statistical analysis

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	Principal Analyst, Strategic Information	Centre for Epidemiology and Evidence, MoH	Advise on evaluation methodology and assist with statistical analysis
	Director Professor of Public Health	Epidemiology Unit, LHD 1 University	Advise on data analysis and assist with statistical analysis.
	Chief Executive	LHD 2	LHD support for project (infrastructure, networks, staff resources, IT, governance framework), and future implementation
	Chief Executive	LHD 3	LHD support for project (infrastructure, networks, staff resources, IT, governance framework), and future implementation
	Chief Executive	Aboriginal Medical Service	Support for project and future implementation
	Clinical Director	ACI – Emergency Care Institute	Engage with key stakeholders in Emergency Departments across the State.

List essential partners required for successful conduct of the project and implementation of the outcomes (e.g. LHD Director of Clinical Governance, Director of Nursing, Director of a University Research Centre)

Essential partners may include people other than Associate Investigators (see Section C.2)

Applicants are encouraged to partner with other Local Health Districts and Specialty Health Networks to improve the generalisability of research findings. Justification is required if this is not considered appropriate for the research project.

### SECTION B – ELIGIBILITY CRITERIA

#### B.1 Priority research

Describe why this research will answer a question that is a priority for the State and/or locally for your organisation. Include reference, to relevant State or Host Organisation strategic plans.

**Right question for TRGS** – Are you answering an important policy relevant question that addresses an evidence gap?

- Is your question focused on a priority health system and/or local need? (i.e. not niche)
- Will the answer to this question support the NSW health system in disease prevention, patient care or health service delivery?

Improving Aboriginal health outcomes is a national, state and LHD priority.

- 2016 BHI report<sup>1</sup>: 16% of Aboriginal patients in NSW reported inadequate discharge arrangements
- In 2015-16, Aboriginal patients
  - were 2.5 times more likely than non-Aboriginal patients to discharge against medical advice from NSW hospitals.<sup>2</sup> DAMA is associated with higher rates of unplanned readmission and risk of mortality at 1-year.<sup>3</sup>
  - had 1.1 times the rate of unplanned 28-day readmissions compared with non-Aboriginal patients.
  - had 1.4 times the rate of 48-hour ED representations compared with non-Aboriginal patients.
- DAMA, unplanned 28-day readmissions and unplanned 48-hour ED representations are service measures in the LHD Service Agreements.

#### Link to strategic plans

- National Aboriginal and Torres Strait Islander Health Performance Framework<sup>4</sup>
- NSW Aboriginal Health Plan 2013-2023<sup>5</sup>
- National Safety and Quality Health Service Standards<sup>6</sup>
- NSW Government's 10-year plan ("NSW 2021: A plan to make NSW number one")<sup>7</sup>
- LHD 1 priority strategic directions<sup>8</sup>

References provided in application, not listed in this example document.

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### B.2 Governance structure

Provide a brief description of the governance structure for the project, including project Steering Committee with links to the Executive structure and clinical streams of TRGS Host Organisations (150 words)

Include the research oversight function within the governance structure, identifying members of the team(s) that will steer the research from a technical perspective and note how and when they will be involved.

**Right research team** – Do you have the right research skills across your team to answer the question?

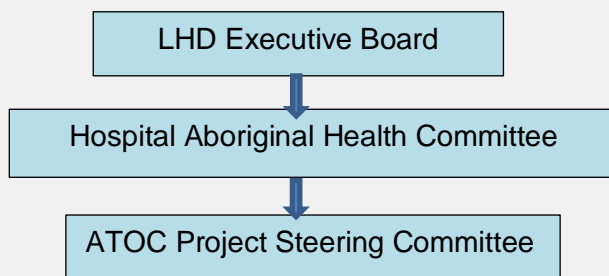
- Do you have senior academics on the team who will technically steer this project?

**Right capacity and support within your organisation** – Do you want to know the answer to this question and will committee to scale up any resulting intervention if proven?

- Is it a priority for your organisation to conduct a project in this area?
- Is there strong executive support for this project? (i.e. an executive champion who has reviewed this application)
- Does your organisation have the ability to scale up any intervention that might result from this study? (i.e. it lies within your organisation's span of control)
- Will your CEO commit to funding the scale up of this project up if it is proven successful?

The governance structure of ATOC ensures direct input from key stakeholders with high level executive support to enable its translation into wider practice and policy.

ATOC will fall under the existing LHD 1 governance structure overlooking Aboriginal health:



The Aboriginal Health Committees at Hospitals 1 and 2 comprise the AMS, the hospital General Manager and Executive representatives, the Aboriginal Health Unit and ALO. The Committee provides oversight of the ATOC trial, and ensures community partners have the opportunity to review the service model collaboratively with clinical staff and each hospital's management.

The **steering committee** (made up of the investigators, representatives of partner organisations, clinical teams in the hospitals, GPs/AMSs and representatives from selected rural LHDs) will have overall responsibility for execution of the study design, protocol, data collection, analysis plan and publications. An operational committee (made up of the investigators and site-based research staff) will be responsible for central study coordination.

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### SECTION C – RESEARCH TEAM

#### C.1 Chief Investigator details

The Chief Investigator (applicant) must be employed by the Host Organisation.

Full Name	Chief Investigator
Position	Director of Aboriginal Health
Organisation	NSW LHD 1

#### C.2 Associate Investigator(s)

Include other proposed investigators in this section (maximum 10).

An investigator is expected to steer the project. Ideally the team of associate investigators needs to include senior researchers, managers, policy makers and clinicians from a range of organisations.

#### Right research team – Do you have the right research skills across your team to answer the question?

- Do you have senior academics on the team who will technically steer this project?
- Do you have a multi-disciplinary team with the right research, clinical, management and policy skills to undertake the study?
- Have your research partners worked with you to draft the methods so they are scientifically rigorous (i.e. has a senior academic reviewed the application)

#	Position	Organisation	Contribution
1	Principal Research Fellow, Aboriginal Health & Wellbeing Team, Centre for Health Research	Translational Health Research Institute, University	Advise on evaluation methodology and assist with qualitative component
2	Director	Centre for Epidemiology and Evidence, MoH	Advise on evaluation methodology and assist with statistical analysis
3	Principal Analyst, Strategic Information	Centre for Epidemiology and Evidence, MoH	Advise on evaluation methodology and assist with statistical analysis
4	Director, Epidemiology, Healthy People and Places Unit Professor of Public Health	LHD 1 University	Advise on data analysis and assist with statistical analysis.
5	Clinical Nurse Consultant, Chronic Care Aboriginal Health, Hospital 2	LHD 1	Contribute to operationalisation of trial and implementation of findings. Advising on translational plan and policy implications
6	Clinical Nurse Consultant, Patient Access to Care Team	LHD 1	As above

### SECTION D – RESEARCH PROPOSAL

#### D1, D2, D3

**Right question for TRGS** – Are you answering an important policy relevant question that addresses an evidence gap?

- Is your question focused on a priority health system and/or local need? (i.e. not niche)
- Will the answer to this question support the NSW health system in disease prevention, patient care or health service delivery?
- Is your question answering an evidence gap? (i.e. does your application have a review of the available research in the field, to show you are building on the cumulative science?)
- Is your question is focused on testing a clearly defined intervention that has the potential to improve upon current practice in NSW?
- Is there an evidence-based rationale for why the intervention you want to test might work and why it is better than other available interventions?
- Can this question be answered within two years?

#### D.1 Describe the problem and outline the existing evidence that you have considered before developing this proposal (300 words)

The high prevalence of chronic disease and multiple comorbidities in Aboriginal people<sup>1</sup> mean that continuous, coordinated care is crucial in preventing disease progression and development of complications. In a 2016 Bureau of Health Information report, 16% of Aboriginal patients in NSW surveyed said adequate arrangements were not made for services after they were discharged from hospital (compared to 10% of non-Aboriginal patients).<sup>2</sup>

Lack of timely discussions with patients and their families about the discharge process may also contribute to the higher rates of Aboriginal patients discharging themselves against medical advice. Poor discharge planning and self-discharge are associated with increased unplanned readmissions, morbidity and mortality.<sup>3,4</sup> In 2015-16, Aboriginal patients were 2.5 times more likely than non-Aboriginal patients to self-discharge from hospitals in NSW (Health System Performance Report June 2016).<sup>5</sup> A study by the Ministry of Health found that DAMA was associated with higher rates of unplanned readmission and mortality at 1 year.<sup>6</sup> Incomplete transfer of care arrangements impact on the patient's ability to effectively access essential community-based health and social services.

Effective and timely discharge planning could help to maintain continuity of care for Aboriginal patients and improve health outcomes, thereby contributing to reducing the gap between Aboriginal and non-Aboriginal Australians.

A pilot of a multidisciplinary discharge planning process (ATOC) in LHD 1 decreased unplanned readmissions for Aboriginal patients from 15.6% in January 2016 to 5.7% in April 2016.

The current research project aims to refine and document the ATOC model of care for Aboriginal patients with chronic conditions and evaluate the program using a non-randomised before and after study design with control groups, using linked administrative health data and qualitative research methods.



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### D.2 What is the research question to address the problem? (100 words)

To what extent does implementing a new structured multidisciplinary transfer of care planning process (Aboriginal Transfer of Care model) decrease rates of unplanned hospital readmissions, ED presentations, and rates of DAMA among Aboriginal patients in selected NSW hospitals compared to historical rates, and the rates in similar hospitals?

### D.3 Indicate where, on the research translation path, current evidence exists and where this proposal sits.

Refer to the Translational Research Framework, available on the TRGS website.<sup>1</sup>

	Idea generation	Feasibility	Efficacy	Replicability and adaptability	Effectiveness	Scalability	Monitoring
<b>Current evidence</b>		X	X				
<b>Proposed research</b>				X	X		

<sup>1</sup> Sax Institute, Translational Research Framework: Testing innovation in policy, programs and service delivery, 2016. Available from <http://www.health.nsw.gov.au/ohmr/Documents/trgs-round2-translational-research-framework.pdf>

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### D4, D5

**Right design and method** – Can the study design answer the question with methodological rigour?

- Is the study design matched to the research question?
- Are the methods rigorous in terms of sampling, statistical analysis and the selection and measurement of outcomes? (e.g. objective outcomes are better than self-reported outcomes)  
For more detail see the [Translational Research Framework](#)
- Do you have costings or some kind of health economic analysis included that is matched to your question? (e.g. if assessing feasibility then costings, if assessing effectiveness then cost-effectiveness)

### D.4 Describe the approach, including research design and methods (600 words)

Include details such as study design, intervention, sample and setting including control group where appropriate, primary and secondary outcomes, data sources/research tools, data collection methods including time points for baseline and follow up periods, sample size and power calculations, statistical analysis plan.

#### Study design

This translational research project has three complementary knowledge generation components: (1) a before and after study with control groups using linked administrative health data to assess health outcomes; (2) a quantitative component measuring the extent to which ATOC processes are implemented; and (3) a qualitative component investigating factors affecting implementation and capturing patient and family/carer experiences.

#### Intervention: ATOC model

This a patient-centred, holistic discharge planning model where eligible Aboriginal patients are provided with a personalised plan by a multidisciplinary Transfer of Care team during admission.

Five key elements:

- Discharge planning by a multidisciplinary team within 24 hours of admission
- Patient and carer/family understand the follow-up care plan
- Patient's GP or AMS aware of follow-up arrangements
- Referrals organised with community providers
- Patient has the necessary medications, equipment and discharge summary prior to discharge

#### Samples

##### Eligible Patients

- are 15 years or older
- self-report they are an Aboriginal or Torres Strait Islander person
- have  $\geq 1$  of the following conditions:
  - Cardiovascular disease
  - Diabetes
  - COPD
  - Chronic kidney disease (not on dialysis)
  - Asthma

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### Study period

1 January 2014 to 31 December 2018 - two-year pre-intervention period and the two-year post-intervention period.

### Cases

Aboriginal patients 15 years and over with ATOC conditions admitted to the Hospitals 1 and 2 (Intervention Hospitals) in LHD 1.

### Controls

There are three control groups:

1. The "Before" Group: Aboriginal patients admitted to the Intervention Hospitals prior to the roll-out of the ATOC model
2. The "Control Hospital" group: Aboriginal patients admitted to control hospitals.
3. The "Non-Aboriginal" group: Non-Aboriginal eligible patients admitted to any of the Intervention or Control Hospitals.

### Outcomes

1. Rate of unplanned hospital readmission or ED presentation within 28 days. (primary)
2. Rate of discharge against medical advice (DAMA).
3. 1-year premature mortality (aged 75 or less) rate post Transfer of Care (cases) or discharge (controls).
4. Time to unplanned hospital readmission or ED presentation.

### Data Linkage Plan

The final analysis dataset will contain all linked records of the NSW APDC, NSW Emergency Department Data Collection (EDDC) and NSW Registry of Births Deaths and Marriages death registrations for cases and controls for the period 1 January 2014 to 31 December 2018.

### Statistical Analysis Plan and Power Calculation

An interrupted time-series approach will be used, excluding records from the Intervention Hospitals during the actual phasing in of the ATOC approach. In financial year 2014-15, there were approximately 650 hospital episodes of care reported to the APDC for ATOC conditions among Aboriginal patients in the two Intervention Hospitals. This sample size will permit an absolute change of 11 percentage points in the rate of unplanned hospital readmission or ED presentation within 28 days to be measured with 80% power.

### **Process and qualitative Secondary outcomes** (audits, interviews and surveys):

- A local audit will be undertaken to quantify the coverage of the ATOC model within the hospitals where it has been implemented, and the extent to which the ATOC processes are fully implemented.
- Costing of implementation of the ATOC model, to determine the allocation of staff time in in person-hours towards ATOC activities.
- Qualitative:
  - Acceptability by hospital staff and community providers
  - Identification of barriers and enablers
  - Patient/carer-reported experience and outcome measures

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**D.5 Provide the rationale for the approach and any potential barriers and mitigation strategies. List key approvals that will be required before the research project can proceed, i.e. ethics and governance approvals (200 words)**

### **Rationale for study design**

Due to the relatively low numbers of Aboriginal patients admitted to the trial hospitals over the period, a quasi-experimental trial is a pragmatic way to recruit sufficient numbers in order to quantify and demonstrate any statistically significant improvements in the outcome measures. Comparisons will be made with similar, non-participating hospitals (for the measures of unplanned hospital readmissions, ED representations, discharge against medical advice and 1-year mortality).

### **Potential barriers and mitigation strategies**

- Lack of clinician support for the ATOC model. Potential mitigation strategy - memo from the LHD Chief Executives to clinical staff about the ATOC model.
- Lack of patient engagement with the ATOC discharge planning process. Potential mitigation strategy - explanation the discharge planning process to be provided to all Aboriginal patients and families at time of admission, as well as awareness raising with Aboriginal community

### **Key approvals required**

- LHD 1 Ethics Committee
- Aboriginal Health & Medical Research Council (AH&MRC) Ethics Committee

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### D.6 Describe consideration given to scalability and value for money of your research project and outcome (150 words)

**Right mechanism for translation** – Does your intervention have the potential to be scaled up across the system?

- Is the intervention you are testing feasible for larger scale up across the NSW health system (i.e. it is cost effective and relevant to the whole system)
- Have you identified existing state-wide initiatives that your intervention can be scaled up through?

#### **Scalability of ATOC model**

If the ATOC model proves successfully reduces 28-day unplanned hospital readmissions, 48-hour ED representations and discharge against medical advice, this model could be scaled up across other LHDs through provision of a suite of tools and resources to support implementation. Lessons learned from this project will be shared with other LHDs, especially barriers and enablers to implementation.

#### **Value for money**

Modelling work using data from NSW hospitals has shown that hospital expenditure for Aboriginal patients is 9.5% higher per separation compared to non-Aboriginal patients, and higher still for Aboriginal patients from remote areas.<sup>1</sup> Non-communicable chronic diseases account for the highest admitted patient expenditure for Aboriginal people, largely due to chronic obstructive pulmonary disease and diabetes complications in 2010-11.<sup>2</sup>

Thus, reducing unplanned readmissions due to an effective discharge planning process that facilitates better primary care of chronic health conditions for Aboriginal patients can result in cost savings.

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**D.7 What new or relevant evidence will the research project generate for policy and/or practice? What are the likely impacts of the results of the project on disease prevention at a population level, individual patient care or health service delivery? (300 words)**

**Right question for TRGS** – Are you answering an important policy relevant question that addresses an evidence gap?

- Is your question focused on a priority health system and/or local need? (i.e. not niche)
- Will the answer to this question support the NSW health system in disease prevention, patient care or health service delivery?
- Is your question answering an evidence gap? (i.e. does your application have a review of the available research in the field, to show you are building on the cumulative science?)
- Is your question is focused on testing a clearly defined intervention that has the potential to improve upon current practice in NSW?
- Is there an evidence-based rationale for why the intervention you want to test might work and why it is better than other available interventions?
- Can this question be answered within two years?

**Right mechanism for translation** – Does your intervention have the potential to be scaled up across the system?

- Is the intervention you are testing feasible for larger scale up across the NSW health system (i.e. it is cost effective and relevant to the whole system)
- Have you identified existing state-wide initiatives that your intervention can be scaled up through?

### **New evidence for policy/practice**

The study will generate knowledge about evidence-based practical changes to the health system to reduce the high rates of unplanned hospital readmissions, ED representations and DAMA among Aboriginal patients. Learnings from the study will identify system barriers and enablers to delivering the most efficient discharge planning service for Aboriginal people that facilitates continuity of care and connections with other services. There are currently no evidence-based recommendations from studies conducted in NSW on strategies to reduce unplanned hospital readmissions, ED representations or DAMA in Aboriginal patients. It is anticipated that learnings from this study will allow the development and refinement of a practical toolkit for LHD staff to utilise when managing the discharge planning of adult Aboriginal patients with chronic disease and complex (often multiple agency) needs.

### **Impact on health service delivery**

If successful, expansion of an ATOC model to other LHDs will optimise health service utilisation, decrease the direct and indirect costs of unplanned readmissions, ED presentations and DAMA, and reduce the burden of ill health due to uncoordinated care.

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### D.8 Comment on the extent to which anticipated outcomes from the research can be generalised, scaled, translated or embedded into practice. How will you ensure this occurs? (300 words)

In this section include details such as the mechanism/vehicle by which the research findings can be translated into change (e.g. communication with state and local decision maker, funder, committee, network, agency), key stakeholders that you will engage with to scale up your research (e.g. MoH, ACI, CEC, eHealth NSW, HETI, state-wide clinical networks, other LHDs/speciality networks), how the results of your study can support or integrate with existing State or regional initiatives or health services.

**Right mechanism for translation** – Does your intervention have the potential to be scaled up across the system?

- Is the intervention you are testing feasible for larger scale up across the NSW health system (i.e. it is cost effective and relevant to the whole system)
- Have you identified existing state-wide initiatives that your intervention can be scaled up through?

If successful, the ATOC model can be feasibly scaled up for implementation in other LHDs and embedded into routine practice.

The policy partners on this project from Ministry of Health (Centre for Aboriginal Health and Office of the Chief Health Officer), Agency for Clinical Innovation and Aboriginal organisations are able to support the state-wide scale up of this model if it is proven effective. The CEs of the participating LHDs namely can support the scale up of this model across their respective hospitals if it is proven effective.

An output of this study will be to provide guidance on essential elements such as appropriate governance structures, right skill mix in a discharge team, optimal timing of engagement with Aboriginal patients, inclusion of families and engagement with primary care providers.

Consultations and collaboration with key stakeholders will ensure study findings (especially barriers and enablers of implementation) can be effectively translated into practice. Key stakeholders assisting with policy formation and widespread implementation of the ATOC model of care will be engaged.

Consideration will also be given to the feasibility of extending this multidisciplinary discharge planning process to include other patient groups, specifically:

- (i) Aboriginal patients with mental health conditions as the primary presenting condition
- (ii) Paediatric Aboriginal patients
- (iii) Pregnant Aboriginal patients

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### D.9 Describe how stakeholders have been involved in the development of the research proposal and how they will continue to be involved in implementing the research outcomes (300 words)

This might include clinicians, consumers, policy makers, community and patient groups, and others

**Right stakeholders and partners** – Have you engaged the relevant partners across the NSW health system?

- Have you engaged partners that have the ability to implement or influence change in the system that may result from this project
- Do you have other LHDs, Specialty Health Networks, pillars, parts of NSW Health and branches within the Ministry of Health involved as partners?  
(e.g. more than one LHD, a pillar, a policy branch within MoH, consumers)

As part of the governance of the study, consumer and patient groups are represented on the hospital Aboriginal Health Committee.

The ATOC model of care was formed through engagement and consultation with the Respiratory Team at Hospital 1, and based on the evidence-based Nurse Expedited Discharge methodology used at Hospital 1.

Suggestions for improvements in the process will be gleaned from continuous feedback from patients, hospital clinical teams and community service providers (e.g. GPs/AMSs), through both informal (throughout the study) and formal (summative evaluation) means.

Investigators will also sit in on meetings held by community service providers during discussions of patients referred through the ATOC discharge planning process to determine if any changes to the ATOC model are required.

The study investigators and partners are also well-versed in policy formation (specifically in relation to Aboriginal health) and implementation.