RESEARCH PROPOSAL / PROTOCOL

Spot On

Supporting Patient Outcomes through Organised Networks

In partnership with:

- *Sunshine Coast Hospital and Health Service*
- *Queensland Ambulance Service*
- *Healthcare Improvement Unit*
- *Primary Health Networks*

1. Project title

Trial of the effectiveness of the Supporting Patient Outcomes through Organised Networks (SPOT-ON) intervention in increasing GP service provision and reducing hospital presentation, hospital re-presentation and costs for people with minor injury or illness who request transport to hospital via ambulance

Short title: SPOT-ON Trial

2. Investigators

Dianne Cross, Project Manager

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Mr Stewart Merefield, QAS, Manager Patient Transport Services, Sunshine Coast LASN

Abbreviations

AGPAL/GPA+	GP accreditation
CHS	Caloundra Health Service
DEM	Department of Emergency Medicine
ED	Emergency Department
GGH	Gympie General Hospital
GP	General Practice; General Practitioner
HITH	Hospital in the home
ICT	Information and communication technology
LARU	Low Acuity Response Unit – QAS resource
NGH	Nambour General Hospital
NHSD	National Health Service Directory
Pt.	Patient
QAS	Queensland Ambulance Service
QHealth	Queensland Health
SCHHS	Sunshine Coast Hospital and Health Service
SPOT ON	Supporting Patient Outcomes through Organised Networks
The PHN	Central Queensland, Wide Bay, Sunshine Coast Primary Health Network
USC	University of the Sunshine Coast

3. Background

Emergency Health Services (EHS) are a significant component of the Australian health care system and encompass hospital Emergency Departments (ED), ambulance services and a range of services that provide integrated medical care to people suffering acute illness and injury. Congestion of EHS, evident by physical overcrowding in EDs and prolonged waiting times, is causing considerable concern among communities and professionals [1, 2]. This concern relates to the ability of EHS to respond to major incidents and disasters as well as capacity of health services in general. Congestion at EDs is a result of the combined effects of increased demand for emergency care due to population expansion, complex chronic comorbidities, complexity of acute health care, and the ageing of the population and lack of/delayed access to primary healthcare especially after hours [3-6]. The Emergency Health Services Queensland (EHSQ) research program recently published a review that listed some of the factors that impact ED presentations apart from seriousness of the episode. Some of these were: elderly population, actual and/or perceived presence of an illness/injury, lack of appropriate care for chronic disease, as well as hospital characteristics (e.g. Location, service type) and access to affordable alternative services (e.g. bulk-billing or after hours general practitioners) [7].

The Sunshine Coast Hospital and Health Service (SCHHS) has 2,707 potentially avoidable hospital presentations per 100,000 people, age standardised by Medicare Local catchments during 2011-12. SCHHS services a population of approximately 390,000 across four campuses. A review of literature suggests 10-30% of presentations can be seen and effectively managed in general practice. SCHHS had 113,029 emergency department (excluding Noosa Hospital) presentations in 2014-15, 55,729 of these presentations were triaged at category 4 or 5 (2014-15 Annual ED Report, CARU). The addition of a new tertiary hospital situated in the densely populated coastal corridor commencing in November 2016 presents an emerging opportunity to work collaboratively across existing health care resources available in the Sunshine Coast communities to reduce these seemingly inappropriate or avoidable hospitalisations. We envisage that our proposed program will maximise the opportunity to support the predicted increased demand at this new facility.

Supporting Patient Outcomes through Organised Networks (SPOT-ON) pilot project has been established to trial the adoption of an integrated care pathway for patients who request ambulance transport for minor injury or illness. For patients that the QAS personnel attending deem to have a need for medical care but that that care can be provided by a primary health physician (GP), transport to GP clinic will be attempted. The program involves hospital EDs, primary care staff and ambulance staff, and the aim is to trial this intervention aimed at treating selected patients in primary care rather than at ED. This can possibly help to reduce congestion at ED as well as ensure that patients in the Sunshine Coast Region are receiving the appropriate care: at the right time, and at the right place. Therefore, the target population for this pilot program is the lower acuity presentations via QAS that could be arguably more appropriately managed in primary care. The category 4 and 5 patients (non-life threatening injuries) will be recruited as it is assumed that many of this cohort of patients can be managed safely, effectively and more cost effectively in the primary care setting.

This pilot program is comprised of a partnership between the Healthcare Improvement Unit, the SCHHS, QAS, Central Queensland, Wide Bay, Sunshine Coast Primary Health Network, University of the Sunshine Coast and Silver Chain. These partners are already collaborating on a number of projects:

- Primary Care Fracture Clinic – a collaboration between SCHHS and Ochre Health (general practice)
- Hospital in the Home (External governance model) – a collaboration between SCHHS, Silverchain, private general practitioners

- Collaborative research program focused on providing the right care, in the right time, in the right place to residential aged care residents – the CEDRiC Trial – currently funded for $1.15m by Department of Social Services – collaboration between USC, SCHHS, PHN and Sundale.

To achieve the goals of the project, two key interventions have been developed:

1. Alternative pathways for defined categories of ambulance patients, specifically utilising primary care settings; and
2. Increased community awareness of appropriate medical care based on acuity of condition. This includes education and advertising within the ED waiting room.

The Project aims to conduct research on the first intervention only. The second intervention is designed to increase community understanding of appropriate choices for healthcare and provide an understanding of why an ambulance may transport certain patients to a GP rather than an ED.

4. Research Aims

The aims of this research project are to:

1. Describe the patient cohort that is included in the SPOT-ON intervention, in terms of demographic, geographic and clinical variables.
2. Compare ambulance case cycle times (each time period from the time an ambulance is called to the time the ambulance clears from the case) and ambulance geographic distribution between the intervention and control periods
3. Compare ED presentation rates for category 4 and 5 patients in the diagnostic groups in the intervention period and in the historical control period
4. Determine the effect of the SPOT-ON intervention on patient outcomes and costs compared to historical controls.
5. Determine the acceptability of the SPOT-ON program to patients.
6. Describe the ED and hospital outcomes of patients eligible for the SPOT-ON program who did not get transported to general practice but rather to ED and to describe the reasons they were unable to be transported to general practice.

5. Study Design

This study will include two components:

1. Quantitative: A cohort study will be undertaken to compare patient outcomes, costs, GP processes, ambulance case cycle times and geographic distribution in the SPOT-ON group transported to GP, with SPOT-ON group transported to hospital and historical controls.
2. Qualitative: Qualitative descriptive study of patient experience, satisfaction with care and factors influencing decision-making.

6. Intervention

SPOT-ON Intervention

We have developed an integrated model of service delivery that can facilitate a greater role of primary care staff and ambulance services in reducing specific types of presentations at the hospital emergency department. The model will facilitate acute hospital emergency department avoidance for those patients that can be safely managed in the primary care setting.

The specific objectives are:

- Reduce non-urgent presentations to Emergency Departments
- Provide QAS with alternative transport destination options
- Support General Practice to enable additional workload to be managed
- Increase public awareness of how to access alternative care through an appropriate communication strategy.

Potentially eligible individuals for the trial will be patients who have called QAS for a low acuity condition (this is a condition deemed to be non-life threatening, considered by some as appropriate to be managed in the primary care setting) who under usual circumstances would be transported to a hospital ED, but who could be generally considered appropriate to have their episode of care safely managed in a primary healthcare setting.

Any individual with potentially life-threatening or other significant conditions that are best cared for in an ED will be excluded from the pilot. This includes chest pain, arrhythmias, severe dyspnoea, significant trauma, and patients who are systemically unwell. Patients with high care needs and significant mobility issues will also be excluded. There is also the option for any clinician to use their discretion to escalate a patient if they sense there is a potentially critical situation, regardless of the pathway they are following.

The project will recruit patients for 6 months. Once a call to QAS is received the patient will be triaged to an urgency category as per current QAS protocols. The ambulance will be dispatched and on arrival at the scene, the paramedic will assess each patient using approved QAS assessment protocols and will determine whether the patient should be transported to a public hospital emergency department or general practice. If a decision is made to transport to general practice, the first call will be to the practice which the patient identifies as their "medical home" (Tier 1 practice). Should this practice not be able to accommodate the patient the paramedic will make contact with the geographically closest Tier 2 practice to arrange transport of the patient. The protocols for the included conditions have been based on existing best evidence protocols and agreed upon by QAS, SCHHS and primary care clinicians.

Specific Intervention:

Diverting patient to appropriate care: QAS will assess each patient they attend to determine the most appropriate available care pathway to meet the clinical needs for that patient. Each patient will be assessed against the acceptance and exclusion criteria for transport to a GP. If the patient has a low acuity condition that meets the criteria for management of their condition in the primary care setting then the paramedic will discuss this with the patient and obtain verbal consent for transport to a GP (see Figure 1).

Diversion Criteria:

Criteria for participating GP's:

- Be accredited with AGPAL or GPA+;

- Be willing to accept patients without a prior appointment, where reasonably possible;
- Be willing to Bulk Bill pts not known to the practice.

After consultation with GP's through the GP council two levels of participation would be developed:

Tier 1:

- GPs would only accept patients known to the practice using current billing arrangements;

Tier 2:

- GPs would accept current as well as new patients and would bulk bill those new patients.

There will be four to six (4 - 6) Tier 2 practices which will be selected through a Queensland Health approved procurement process. The expression of interest and evaluation of applications to select the Tier 2 practices is being managed entirely by the SCHHS Contracts Department in combination with an evaluation panel derived from the collaborative partners on the SPOT ON steering committee. All steering committee members who are also GPs have been deliberately excluded from the procurement process to avoid potential conflicts of interest. There will be no limit to the Tier 1 practices, and all practices will be encouraged to opt-in as Tier 1 practices to ensure continuity of care to their current patients.

The QAS has also committed to transport patients to the most appropriate medical care based on the patient's needs. To do this QAS will utilise the clinical pathways and GP exclusion criteria to assist them with their clinical decision making. ICT solutions are also being developed to provide all paramedics with up to date information on which GPs have elected to routinely receive ambulances as well as the individual services provided by each general practice (e.g. x-ray, bulk billing, pharmacy etc.).

Clinical pathways:

- SCHHS Emergency Department, Orthopaedic and Infectious Disease Senior Medical Officers and GPs have worked together to develop pathways for the conditions identified as "in scope" for the pilot programme
- These pathways will be imported into existing GP electronic software programs to ensure ease of access for GPs and practice nurses and will also be published in hard copy as a reference point for use within clinic treatment rooms.
- The pathways ensure standardisation of evidence based care, support patient safety and continuity of care and avoid duplication of investigations should a patient require escalation from the primary care setting to the hospital ED.

QAS protocols:

- QAS Paramedics will utilise the SPOT ON clinical pathways to assist with decision making when determining the most appropriate destination for each patient based on the clinical condition.
- ICT solution for transport decisions providing details of all participating Tier 1 and Tier 2 transport options providing details such as clinic operating hours, any access details and availability of co-located services.

Consumer awareness:

- Nambour General Hospital (NGH) Emergency Department (ED) waiting room will have an ICT solution installed to provide ED stats that will allow an estimated waiting time for patients. This is an expansion of the current state whereby patients are advised of approximate waiting times at the time of triage, by the triage nurse. The ICT solution will also provide information detailing locally available alternative care

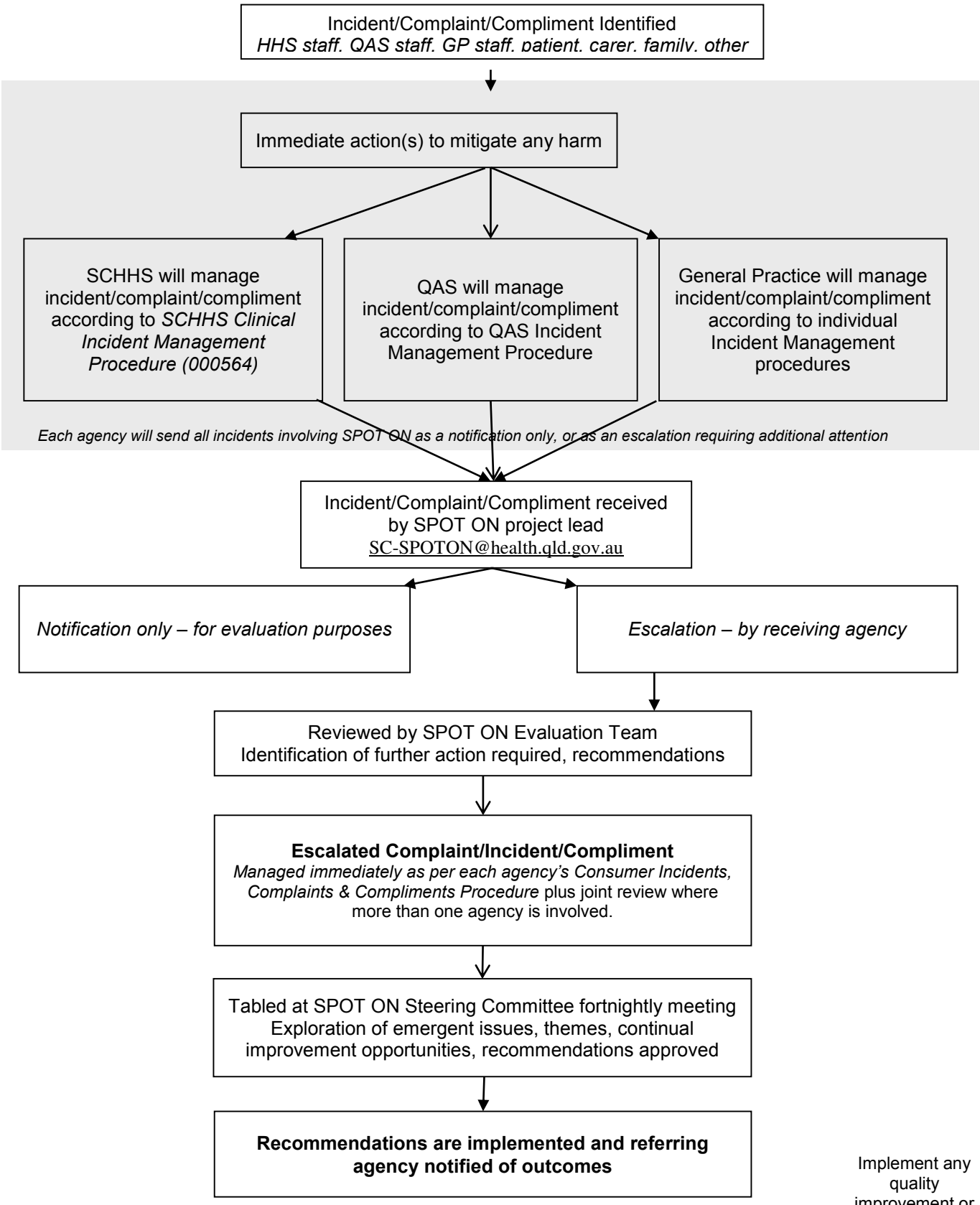
options. It is hoped that providing this service to patients will contribute to educating the community on the services available for them to access in future.

- Public website similar to the NGH waiting room intervention - providing ED stats and estimated waiting times; and awareness of locally available alternative care options.
- Media campaign and community education on use of ED and appropriateness of seeking care from general practice for minor injuries and non-life threatening illness.

Complaints management process:

- Complaints received by SCHHS, GP, QAS to be managed as per each agency's normal incidents, complaints and compliments management process and then sent to an assigned project email: SC-SPOTON@health.qld.gov.au as either a notification or escalation.
- Incident, complaint and compliment procedure is as follows:

SPOT ON Incident, Complaint & Compliment Process



GP engagement:

- SPOT ON package to be delivered to participating GPs prior to commencement. Will include computer software program containing links to:
    - Clinical pathways
    - RTF data capture form – data captured and sent electronically
    - Escalation pathway document
    - Complaint referral process and email link
    - Patient information and consent forms.

7. Research methods

Data collection for historical cohort: Data will be collected from all category 4 and 5 patients treated at SCHHS EDs presenting with the SPOT ON designated conditions, for the same 6 month period in the year prior to SPOT-ON implementation (March to August 2015). This timeframe will present sufficient data to make judgements on average workload per month allowing for seasonal variations in order to make comparisons with the data collected during the pilot.

Data will be accessed from the Sunshine Coast Hospital and Health Service clinical information systems databases: EDIS and HBCIS for patients who meet the inclusion criteria:

Inclusion criteria = all patients who present during the study timeframe, classified as triage category 4 or 5 who have one of the designated presenting conditions.

Exclusion criteria= Patients with potentially life threatening conditions are automatically excluded. Patients of all ages, genders and geographic locations will be included providing they meet the inclusion criteria.

The designated presenting conditions included in eligibility criteria for patients data inclusion, are:

1. Cellulitis
2. Gastroenteritis
3. Minor headinjury
4. Suspected DVT
5. Ankle and foot injuries
6. Urinary Tract Infection
7. Clavicle and AC joint injuries
8. Respiratory tract infection
9. Finger and toe injuries
10. Knee injuries
11. Otitis externa
12. Wrist injuries

Retrospective data collection via the medical records contained in Emergency Department Information System (EDIS) and HBISCS Databases, will include:

- Demographics: Age, sex, postcode, marital status, RACF Y/N, Identifies as Aboriginal and/or Torres Strait Islander
- Medical history – hospitalisations in previous five years, co-morbid conditions, represented in the past 28 days (Y/N)
- Presenting condition
- ED length of stay (LOS), disposition (home , admitted etc.), hospital LOS, representation in 24 hours, 72 hours, 28 days for same condition, representation for different condition in same time periods, cost of ED stay, cost of hospitalisation (if applicable).

Ethical considerations

A waiver of consent will be requested and approval from the Director General of Queensland Health will be sought in line with the *Public Health Act* requirements. The SPOT ON project is trying to develop a systematic

process to enhance the existing practice of QAS transporting patients to GPs which already occurs in an ad hoc manner with no clear governance around it. For this reason patients will not be offered the opportunity to opt out of the project.

- All decisions surrounding the appropriate destination are made on a clinical basis, and so participation in the research carries no more than a low risk.
- The proposed research will allow the research team to better understand the issues associated with managing the health needs of low acuity patients and to build some robust processes around this practice to ensure patient safety is always given the highest priority.
- There is no known or likely reason for thinking that participants would not have consented if they had been asked, as if a patient requests transport to the Emergency Department when the clinical decision has been made that they are suitable for transport to general practice, their wishes will take precedence.
- There is an adequate plan to protect the confidentiality of their data.
- It is important to note however that all participating patients will be asked to consent to the research team **contacting them approximately 72 hours post occasion of care for completion of a patient experience survey**. This consent will be collected by Tier 2 GPs and QAS personnel where a patient is transported to a Tier 1 practice or Emergency Department.

Once data from the EDIS and HBCIS databases are matched by Queensland Health information systems staff all data will be de-identified. Research teams will only have access to de-identified data. Data will be able to be re-identified using a key in order to complete clinical reviews of patients who have re-presented to an Emergency Department within 48 hours of their attendance at a GP.

Data collection for intervention group patients: Data will be collected on all patients included in the SPOT-ON intervention for a 6 month period.

There will be two groups within this study

- Study Group 2A: those patients diverted to GP clinic (Tier 1 or Tier 2)
- Study Group 2B: those who could have gone to GP but that option was either not available or the patient declined that option.

All data will be collected retrospectively from hospital and GP databases for all patients who have one of the designated presenting conditions (see above), present during the study timeframe and are classified as being eligible for transport to GP rather than ED.

Study Group 2A = those attending a Tier 2 GP clinic (via QAS or by self-referral)
Retrospective data collection from the GP record of service and billing database – these data are collected at the GP surgery/clinic and sent by secure web transfer to SCHHS which is overseeing GP payment for the trial.

Data which will be extracted for this research project will be:

1. Data collected from General Practice:

- Patient's full name, DOB, patient sex and patient postcode, the patient identifies as Aboriginal and/or Torres Strait Islander
- Medicare Number
- Mode of arrival:
    - QAS
    - Self-referred as part of community awareness campaign

    - Came from HHS waiting room – did not wait
- Provisional Diagnosis
- Diagnostic Category
- Clinical Care Pathway used
- Consumables used
- Length of consultation with GP
- Length of time with Practice Nurse
- Final outcome:
    - discharged with nil further follow-up
    - discharged with follow-up required
    - referred to alternative primary care
    - referred to ED
- Does the patient consent to a follow-up phone call to review todays care?

Study Group 2B = those eligible for transport to GP who are unable or refusing to be transported to GP and go instead to ED:

Retrospective data collection via the medical records contained in Emergency Department Information System (EDIS) and HBISCS Databases, will include:

- Demographics: Age, sex, postcode, marital status, RACF Y/N, the patient identifies as Aboriginal and/or Torres Strait Islander
- Medical history – hospitalisations in previous five years, co-morbid conditions
- Presenting condition
- ED length of stay (LOS), disposition (home , admitted etc.), hospital LOS, representation in 24 hours, 72 hours, 28 days for same condition, representation for different condition in same time periods, cost of ED stay, cost of hospitalisation (if applicable).

Measuring effectiveness: Comparison of patient outcomes, costs, GP processes, ambulance case cycle times and geographic distribution in the SPOT-ON group transported to GP, with SPOT-ON group transported to hospital and historical controls.

The patient outcomes and hospital and GP costs data will be compared for the two cohorts described in Studies 1 and 2. Outcomes and costs data from all patients included in the SPOT-ON intervention (Study 2) will be compared to the historical controls described in Study 1.

Data from QAS:

- No new data would need to be collected. Data would be extracted from the existing data management systems (VACIS and QACIR) to determine:
    - Case cycle time: Time of call to QAS> time of dispatch>time to on scene> on scene period> transport time> destination time.
    - The average case cycle times for low acuity cases would be compared to the average time for a 6 month period (the same six month period from the previous year) prior to the intervention with particular emphasis on the transport time to determine if this would have an impact on ambulance resource availability.

- Geographic locations: data would be reviewed to investigate the patient suburb and the transport destination suburb to determine impact on resource management. This will be compared with data from the 6 month period (the same six month period from the previous year) prior to the intervention to determine the most common destination suburb for each geographic area identified.
- The QAS identified problem code may be compared with the GP and HHS patient diagnoses in cases where an escalation to hospital has occurred. This data will be used for quality assurance and as a mean to determine if any clinical pathways or QAS acceptance and exclusion criteria needs to be modified. It is anticipated that the linking of data will occur using de-identified patient information utilising established linkage tools that are available in the Department of Health data linkage unit. All escalations from GP to hospital ED will be identified using this method of data linkage. The data can then be re-identified using a key by the data evaluation team in order to review the re-presentations.

Data collection via patient experience survey

All patients who are deemed eligible to participate in the SPOT-ON program will be invited, by the GP or receptionist at the general practice, to participate in a patient experience survey. If they consent they will be asked to provide contact details so that they can be contacted by the Healthcare Improvement Unit experienced patient surveyors, by telephone. The patient or patient's carer will be supplied with a Patient Information and Consent Form and they will be asked to provide informed consent. This consent is for patient participation in the patient experience survey only. Consent is not being sought by the patient for participation in the research project itself due to the new model of care being one that is currently practiced on an ad hoc basis and decisions are made on a clinical basis. For this reason a waiver of consent is being sought for access to the required data as documented above (Ethical considerations).

QAS will also invite patients who meet the SPOT ON criteria but who are NOT transported to a GP to participate in the same patient experience survey. The patient or patient carer/guardian will receive a printed copy of the Patient Information and Consent Form for their reference. The patient consent however will be collected on the QAS issued iPad and will utilise an electronic patient signature. This consent will contain NO patient clinical information and will be emailed to the SPOT ON evaluation team.

- Consent collected by GP or QAS.

Patient Details: First name: Last name: Date of birth: Sex: M/F
Phone Number:
The Queensland Ambulance Service, Queensland Health and GP networks are working together to try and meet the health needs of the Sunshine Coast community. By better integrating the care that is provided in this community might help us to reduce waiting periods at the emergency department. Our goal is to get some feedback from you after we provide you with care that is required and we would appreciate your participation. Participation involves answering six short questions about your experience regarding your care. It will give you an opportunity to tell us how we can deliver services better in the future Do you provide consent to be contacted via telephone regarding the care you have received today? Note also that consent may be withdrawn at any time.
Does the patient consent to follow up? YES/NO
Patient signature:

_____

- Client Satisfaction Survey – Information sheet. Post Care Service. (To be provided to each patient by GP or QAS)

Participant Information Sheet:

Supporting Patient Outcomes Through Organised Networks (SPOT ON) Research Project.

(HREC/15/QRBW/606)

The Queensland Ambulance Service, Queensland Health, and GP networks are working together to try and meet the health needs of the Sunshine Coast community. The aim of the SPOT ON project is to ensure patients like you receive the care they need from the most appropriate clinician in the right place at the right time, every time.

This project is operating for 6 months and will then be evaluated for effectiveness in improving access to the right care for patients and patient satisfaction with the care pathways offered.
Our goal is to get some feedback from you about your satisfaction with the pathway of health care which you accessed on this occasion. We would appreciate your participation in this research project, which gives you the opportunity to provide information to help us deliver health services better in the future.

What does participation in this research involve?

- Your participation involves answering 6 short questions about your experience regarding your health care today. You will only be contacted on this one occasion
- If you consent to participate in this study by signing the consent form; within 72 hours of receiving today's health care you may receive a telephone call from a member of the project evaluation team. The phone number will show up as a private number. The caller will identify themselves as a member of the Queensland Health project team and will briefly explain the purpose of the call. The caller will then ask you 6 questions about your experience today. The phone call will be very short, lasting 5 minutes or less.
- The evaluation team will record your answers for collation and evaluation. Your privacy is very important to us and no identifiable information will be associated with your response.
- Please note that you are free to withdraw consent to participate in this survey at any time.
- Should you require the services of an interpreter to further explain this document or to allow participation in the survey please advise your health care professional.
- There are no costs associated with participating in the patient experience survey, nor will you be paid.

What will happen to information about me?

- The data which is collected will be de-identified, and you will not be able to be identified in the report or subsequent publications.
- The de-identified data will be stored by SCHHS in a secure password protected data base for 15 years before being disposed of in accordance with Queensland Health policy.
- The data collected will be used for the SPOT ON project only and will only be accessed by the project team.

Who is organising and funding the research?

- This research is being conducted by Queensland Ambulance Service (QAS), Sunshine Coast Hospital and Health Service (SCHHS), Central Queensland Wide Bay Sunshine Coast Primary Health Network and local general practitioners.
- Queensland Health Healthcare Improvement Unit is providing the research funding.

Complaints:

Complaints may be made by contacting the project officer Dianne Cross (Dianne.cross@health.qld.gov.au Phone: (07)5456 8100) or the Patient Safety Officers (PSO) at SCHHS Patient Safety and Quality Unit by email (SCHHS-Patient-Safety-Officers@health.qld.gov.au)

Who has reviewed the research project?

The ethical aspects of this research project have been approved by the Human Research Ethics Committee (HREC) of RBWH Queensland.

If you have any complaints about any aspect of the project, the way it is being conducted or any questions about being a research participant in general, then you may contact:

Ann-Maree Gordon
A/Coordinator
Human Research Ethics Committee
Metro North Hospital and Health Service
Level 7, Block 7, Butterfield Street,
Herston, Qld 4029

P: (07) 3646 5490 Email: RBWH-Ethics@health.qld.gov.au

Patient consent forms:

Consent Form - Adult providing own consent.

Supporting Patient Outcomes Through Organised Networks (SPOT ON) Research Project.
(HREC/15/QRBW/606)

Declaration by Participant

I have read the Participant Information Sheet or someone has read it to me in a language that I understand.

I understand the purpose of the research described in the project.

I have had an opportunity to ask questions and I am satisfied with the answers I have received.

I freely agree to participate in this research project as described and understand that I am free to withdraw at any time during the project without affecting my future care.

Name of Participant (please print)……

Signature of Participant…….Date ……

Declaration by Researcher†

I have given a verbal explanation of the research project, and I believe that the participant has understood that explanation.

Name of Researcher (please print)……

Signature of Researcher …….Date ……

Note: All parties signing the consent section must date their own signature.

Consent Form – Parent/Guardian consenting on behalf of participant.

Supporting Patient Outcomes Through Organised Networks (SPOT ON) Research Project.
(HREC/15/QRBW/606)

Declaration by Parent/Guardian

I have read the Participant Information Sheet or someone has read it to me in a language that I understand.

I understand the purpose of the research described in the project.

I have had an opportunity to ask questions and I am satisfied with the answers I have received.

I freely agree to participate in this research project as described and understand that I am free to withdraw at any time during the project without affecting my future care.

Name of Parent/Guardian (please print)……

Signature of Parent/Guardian……Date ……

Declaration by Researcher†

I have given a verbal explanation of the research project, and I believe that the participant has understood that explanation.

Name of Researcher (please print)……

Signature of Researcher ……Date ……

Note: All parties signing the consent section must date their own signature.

- Client Satisfaction Survey – Evaluation. Post Care Service. (48-72hours post care)

The proposed survey is a short 6 question survey aimed to receive information about the patient's experience. The first 5 questions were taken from the Queensland Health 'productive series' of validated survey questions. The final question is a non-validated question that has been chosen to provide specific information about whether in the patient's opinion any ongoing care was required. This question was chosen to assist in identifying potential re-presentations that may require further review.

The following script is the proposed script to be followed by those conducting the survey.

Queensland Health welcomes feedback from patients to help identify areas where health services can be improved. We are evaluating the care you received recently by our health care teams including the Queensland Ambulance, the General Practitioner and or Sunshine Coast Hospital and Health care teams in the Emergency Department.
The information you provide will help Queensland Health to improve and identify when we have got it right. Your privacy is very important to us and no identifiable information will be associated with your response. Are you still willing to answer a few short questions?
Date survey completed: Time of call: Caller:
Please answer questions based on your experience with this service. Ratings are 1 – 10 with 1 meaning 'not at all' and 10 meaning 'always'.
Q1. Were you involved in decisions about your care?
Q2. Did the team or teams treating you know about your health conditions and progress?
Q3. Did you feel confident that staff could provide the care you needed?
Q4. Did the team discuss your ongoing needs?
Q5. How likely would you be to recommend this service to your friends and family?
Question 6 is simply a 'yes' or 'no' answer.
Q6. Have you needed to seek further treatment at a hospital emergency department for the same condition?
Do you have any suggestions or comments about the care you received on this occasion?

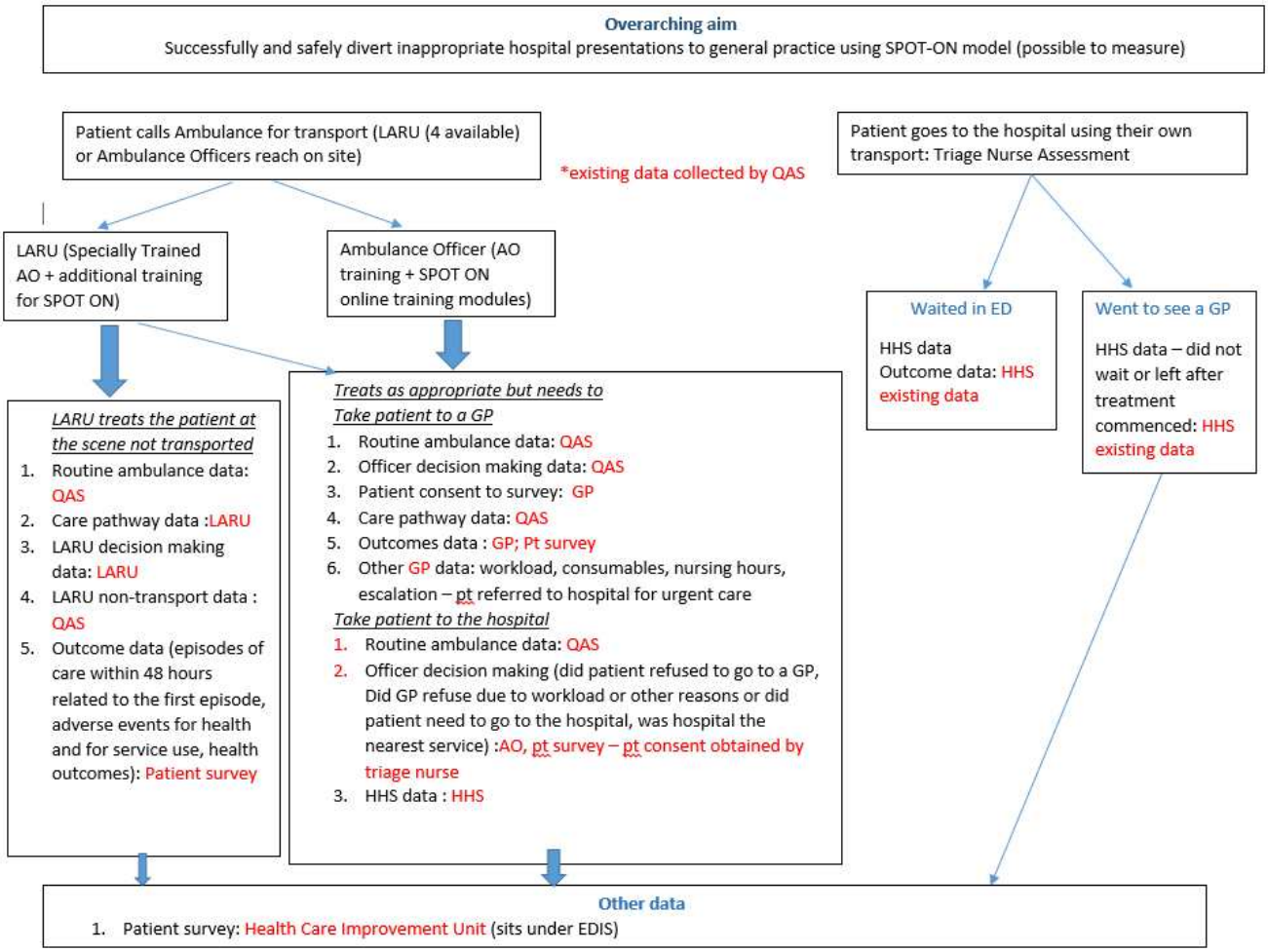


Figure 1: model of service delivery and data collection for the SPOT-ON intervention study

8. Ethical Considerations

The intervention is planned as part of on-going service delivery improvement. The intervention would be implemented whether the research was being undertaken or not due to the fact that this practice currently occurs in an ad hoc basis. Prior to development of this study protocol our review of the existing literature uncovered a gap in current knowledge. Hence we proposed this pilot to collect data for thorough evaluation to inform and provide evidence to either support or refute this alternative model of care for patients with low acuity conditions. SPOT ON aims to provide sound governance around this model of care and provide guidance to QAS and GPs to determine the best clinical pathway for each patient. The purpose of the research is to be able to determine the degree of benefit of the intervention and allow more in-depth evaluation of patient and service delivery outcomes to be described and reported.

Whilst being a low risk study this project will require access to sensitive health service patient information. Consequently this proposal will be reviewed by RBWH Human Research Ethics Committee (HREC). In addition, a request will be made to the data custodians, under the Public Health Act, for access to SCHHS (HBCIS, Medical Records) data, QAS (VACIS and QACIR) data, and Healthcare Improvement Unit (EDIS) data.

The patient experience data will be collected by telephone interview. All patients who participate will be asked to provide informed consent.

- Patient Privacy:
    - All patients will be asked to provide consent to participate in a post-care survey. This may occur at one of two points:
        - By QAS – if patient is not transported to a Tier 2 GP. (Transport not required , patient referred to a GP, patient transported to a Tier 1 GP, or patient meets criteria but transported to a SCHHS ED)
        - By GP – at point of care in Tier 2 practice
- Patient confidentiality:
    - All patient details will be de-identified prior to analysing any information.
    - All information sharing will be through a secure network. 'Medical Objects' (Secure Web Transfer solution currently utilised by GPs to send secure patient details) and Kiteworks (a Queensland Health utilised secure document sharing solution)will be used to transfer information
- Patient Rights:
    - There will be no change to a patient's current charter of rights. Patients will retain the right to consent or refuse treatment or transport as per each organisations current legislative requirements.
    - Each patient has the right not to consent to a survey. The number of patients who do not consent to a survey will be recorded.

- Protection of Health Information:
    - Pt confidentiality will be maintained at all times as above.
    - Pt health information will be used solely for the purpose of evaluating the project using the measurements contained within this protocol.

- No demographic group will be specifically targeted as part of this project.

- Data collection, transfer and storage :

Much of the required data is already collected by QAS and the SCHHS. Site Specific Assessments and Public Health Act waiver of consent will be sought prior to publishing any data. New data is also required from the four participating general practices. It is envisaged that this will be achieved using a data collection form in an RTF format which will be transmitted using a secure web transfer solution e.g. Medical Objects.

Data management process:
Tier 2 GP data:

- Data collection will be requested for all new patients who present to Tier 2 GPs during the period of the pilot. These may include patients who self-present as well as those who are transported by QAS.
- GP completes RTF form which is integrated into their existing software.
- The data being sought includes patient details and demographics (name, date of birth, sex, ethnicity, postcode, Medicare number (for validation purposes only), address and phone number; GP details (GP name, provider number, practice name); Arrival time; mode of arrival; clinical details; diagnostic category; clinical pathway used; consumables used; length of consultation; practice nurse time; final outcome; consent obtained.
- GP recruits all eligible patients using an informed consent process. See Patient Information Consent Form (PICF) earlier in this document
- Consent is scanned and sent with the RTF form via 'Medical Objects'.
- Medical Objects is a secure messaging process that is currently used in both General Practice and SCHHS to secure send encrypted information such as referrals and other clinical data between health services.
- These forms will be received on a Sunshine Coast Hospital and Health Services password protected computer in a secure location. This is the computer used by the Principal Project Officer.
- The data received on the RTF form will be manually entered into an excel spreadsheet for data analysis. This document will have security settings adjusted to ensure access is limited to the data analysis (evaluation) team only.
- The patient consent forms will have no clinical information contained within the consent form. The patient's name and phone number will be supplied to the Healthcare Improvement Unit staff to conduct patient experience surveys.
- Although the information sent between the interview team and the project team will not contain clinical information, the completed surveys could contain some confidential details. For this reason this information will be sent using 'Kiteworks' – a secure information transfer system currently utilised by the SCHHS. This enables the file to be placed in a secure 'drop box' and sent to the recipient. The recipient then receives a link to enable secure access of the documents within.

- The interview team are experienced in the conduction of patient experience interviews and will be using a survey form for this purpose. No clinical information will be sought during this process, and additional verbal consent will be obtained at the beginning of the phone interview.
- In order to determine the number of re-presentations data linkage will done. The patient identifiers (surname, given name, date of birth) as well as post code and Medicare number for the purposes of validation only if required, will be provided to the Data Linkages Unit in the Health Statistics Department of Queensland Health. There will be no clinical information contained with the patient identifiers. This data will be sent between the departments via the usual internal email system.
- Any identified representations will be analysed by the project team. The patient identifiers will be re-linked with the clinical information and additional patient records will be requested from the SCHHS (EDIS, Medical Records) and QAS (QACIR) in order to analyse the data. Site Specific Assessments and Public Health Act waivers will be requested.
- All data received by the project team in conjunction with the SPOT ON project will be de-identified prior to sharing with other agencies or publishing in any format.
- All data will be retained in a secure locked file on the Principal Project Officer's SCHHS computer at the Nambour Hospital for a period of 15 years. After that time the files will be destroyed. No data will be permitted to be removed from the computer on any portable storage device to ensure security of information.

QAS data:

- Permission for use of existing QAS data will be sought from the Queensland Ambulance Service databases (known as VACIS and QACIR). The data being sought will include QAS cases cycle times, patient pick-up and drop off locations, patient off stretcher times, and some clinical information for all identified re-presentations and escalations.
- A Site Specific Assessment request will be completed following ethics approval to enable use of this data.
- QAS paramedics will also be recruiting eligible patients for the patient experience survey. Patients who are transported to a Tier 2 GP will have informed consent obtained by that GP. Any patient who meets this same eligibility requirement but is NOT transported to a Tier 2 GP will be recruited by QAS. These patients may be transported to a Tier 1 GP, may be left at home with no transport by QAS, or transported to a hospital emergency department.
- Informed consent will be obtained using a QAS issued iPad. The consent process for this will be brief and only contain patient details for follow-up but no clinical information. A printed PICF will also be provided to the patient for their information. A further verbal consent will be obtained at commencement of the telephone interview.

- As there is no clinical information contained within the consent we will be requesting the QAS Paramedics send the consent to the SPOT ON Principal Project Officer Queensland Health email.
- The same process as for the GP collected consents will be employed for managing this information and the same interview process will occur.

SCHHS data:

- Only data that is currently collected by the SCHHS will be sought. This data includes Category 4 and 5 presentation numbers (and costings) to Public ED, as well as patient clinical information for all identified re-presentations and escalations.
- A Site Specific Assessment request will be submitted following ethics approval to enable analysis of this data.
- Public Health Act waiver will be sought to enable analysis of all patient data related to this project.

Data analysis and evaluation:

Any requirement to move data (other than already stated) from the receiving computer for the purpose of analysis and evaluation will occur utilising Kiteworks to ensure that all information is securely protected at all times. Any identified data will only be shared between those parties directly involved in its analysis and will have the same rules around security as stated for the Principal Project Officer (stored only on Queensland Health password protected computers). Any additional data analysis requirement will occur using de-identified data. Kiteworks and Medical Objects will be the two main platforms for all confidential data transmission to and from the evaluation team.

The study will collect information on participants recruited to Spot on who a) are redirected to primary care to their normal GP (Tier 1); or b) are redirected to primary care to a Tier 2 GP because either they do not have a medical home or their usual GP was not available; c) they were considered appropriate for redirection but either refused or no GP was available. The study will also obtain data on a group of patients presenting to ED prior to the commencement of spot on as a comparison group, these will be referred to as group D.

The following information will be collected:

WHAT	WHEN	WHO TO COLLECT	PARTICIPANT GROUP/S
Consent with contact details for follow-up telephone interview	On recruitment	Paramedics	a,b,c
Data from QAS re: *** case cycle times :time from call out to a patient to when they are available for the next patient** *** ambulance geographical distribution suburb to suburb** ***Demographic: sex, age, postcode**	Routinely collected	QAS re-identifiable	a,b,c,d

WHAT	WHEN	WHO TO COLLECT	PARTICIPANT GROUP/S
***LARU: related data**			
Data Linkage	Routinely: linked using first name, last name, DOB and if needed Medicare number for confirmation	QLD data linkage team will link data from QAS, ED and GP (GP data provided by the researchers)	b
ED data: *** diagnosis** *** relevant co-morbidities** *** care provided** *** cost associated** *** health outcome**	Routinely collected	Sandra Peters and Dianne Cross	a,b,c,d
GP data: *** diagnosis** *** relevant co-morbidities** *** care provided** *** cost associated** *** health outcome**	Routinely collected	Sandra Peters and Dianne Cross	b
Patient satisfaction with care (including qualitatively from patient whether they had to represent anywhere for follow-up care)	Within 48-72 hours	Interviewers (Health Care Improvement Unit (these will have only related questions and contact name and number; no other data will be available to interviewers)	a,b,c
GP satisfaction with new model of care (including their perception of how it impacts on their other patients & their costs)	At completion of the project , using tailored questions	Sandra Peters and Dianne Cross	Tier 2 GPs
Ambulance Officers' satisfaction with new model of care	At completion of the project, using tailored questions	Sandra Peters and Dianne Cross	Ambulance Officers

The evaluation of this model of care aims to prove the hypothesis that:

1. Patient Experience: The health needs and expectations of the patient are being met by this model of care.

2. Clinical Outcomes: This is a safe model of care. Re-presentations will be captured and analysed to ensure that patient safety is continuously monitored. This may result in adjustments or additions to the clinical pathways or exclusion criteria for QAS.

3. Economic Value: This model of care is cost effective to the QAS, General Practice, SCHHS and Queensland Department of Health. This will be evaluated by comparing 6 months retrospective data (from the same six months of the previous year) with data collected during the 6 month pilot. 6 months retrospective analysis has been chosen to avoid potential bias due to seasonal variations. The data being compared is:

    a. QAS: Case cycle times (time of call to ambulance becoming available), patient off-stretcher times and geographical location of pick-up and patient destination. This data will allow an analysis of resource availability. QAS will also collect consent for patient experience surveys. QAS data will also be used to link data to determine re-presentations and clinical information of such representations will be reviewed to ensure patient safety and any requirement to adjust the exclusion criteria.

    b. SCHHS: Count of Cat 4 and 5 patients 6 months retrospectively (from the same six month period of the previous year) will be compared with count of Cat 4 and 5 patients attending during the 6 month pilot. Count of QAS patients transporting to Public EDs will also be analysed during the same time frames. This data can be analysed and costs associated with the care can be calculated. By using data linkages of QAS, GP and SCHHS data all re-presentations within 48 hours will be identified. This will allow the clinical information to then be viewed to determine the reason for representations and if any adjustments to the relevant clinical protocol is needed. This data will provide information on clinical outcomes.

    c. GP: Data collection from GPs will allow a review of the economic value of this model, to determine sustainability. This data will also allow for data linkages to determine any re-presentations for reviewing clinical outcomes. Patient consent obtained by GP will be used for patient experience surveys.

13. Resource Requirements.

Provision of experienced patient surveyors by Health Care Improvement Unit Support from SCHHS executive for the project

Provision of accommodation and consumables for the Project Officer at Central Queensland Wide Bay Sunshine Coast PHN Cotton Tree office

Payments to support administrative process and data capture and transmission from participating Tier 2 general practices to SCHHS

14. Supervision

1. Dianne Cross – Principal Project Officer
2. Kerrie Hayes – Executive Sponsor
3. Sandra Peters – SCHHS GPLO, Lead investigator
4. Piotr Swierkowski - SCHHS Executive Director Medical Services
5. MR Stewart Merefield – QAS Manager Patient Transport Services, Sunshine Coast LASN

15. Dissemination and Outcome

A written report will be disseminated to all collaborating organisations and practices. Publication(s) or poster/conference presentations may be entertained, in order to propagate the acquired knowledge to a wide audience.

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