Geriatric Outreach Assessment Service

Final Project Report

V4. August 2018

INTRODUCTION

The global population is ageing and the underlying reasons are largely predictable, but this trend presents extreme challenges. Ageing will increase demand for health services, require a larger and better-skilled workforce, and produce a growing need for a better coordinated and integrated healthcare system.

For older Australians whose care needs cannot be met at home, residential aged care facilities (RACFs) are essential to ensure they receive appropriate care and support. As at 30 June 2013, there were nearly 169,000 people living permanently in RACFs[1] with high rates of chronic disease and multiple comorbidities. Nationally 25.1 per cent of people living in RACFs are admitted to hospital annually compared with 11 per cent of younger people. Additionally, approximately 15 per cent of presentations to emergency departments (ED) from RACFs are classified as potentially preventable[2].

This is an opportune time to seek out innovations that respond to the challenges of an ageing population. New approaches and a commitment to do things more effectively and efficiently are needed. Learnings over the last 12 months show the Geriatric Outreach Assessment Service (GOAS) is an effective solution to improve quality of care for older persons who reside in RACFs in the North Brisbane region and to reduce their rate of potentially preventable ED presentations

Evidence from various studies show many opportunities to deliver better outcomes and lower costs in areas of care through changes in clinical practice. The GOAS project and the outcomes represented in this report are examples of this. Equally, this project has demonstrated there are significant opportunities to improve value to our patients and the healthcare systems (both primary and secondary) by tackling variations in care, reducing waste, and implementing known best practice.

ACKNOWLEDGEMENTS

On behalf of the Geriatric Outreach Assessment Service (GOAS) Project Steering Committee, we are pleased to present the final report for this 12-month pilot project, jointly funded by Brisbane North PHN and Metro North Hospital and Health Service (MNHHS).

The project could not have been accomplished without the support and help of many stakeholders across the health and aged care sectors.

We would like to thank all members of the Steering Committee for their thoughtful inputs and advice throughout the project duration, particularly the GOAS project team and the GOAS clinical staff members. Our thanks also go out to the RACF residents, their carers and General Practitioners involved in the project, The Prince Charles Hospital (TPCH) and the 24 RACFs in its catchment, Queensland Health, the Queensland Ambulance Service, and the joint Brisbane North PHN and MNHHS Health Alliance.

This evaluation report would not have been possible without the efforts of 1,773 people who participated in six surveys. The report also benefited from the rich input of many individuals who told us about experiences they had with the GOAS, provided in-depth feedback and invaluable recommendations for the future of the GOAS via post project reflection sessions and semi-structured interviews. Thanks also to the Brisbane North PHN communication team for formatting and publication of this document.

The GOAS project team prepared this report with contributions from many other individuals who provided advice for specific sections of this report relevant to their areas of expertise and to the overall development of the report.

Finally, yet importantly, our appreciation also goes to two residents and their families, their general practitioners and nursing staff from PM Village and John Wesley Gardens who participated in two case studies for sharing their journeys and real-life experiences with the GOAS.

Chairs of the GOAS Steering Committee

Michele Smith, Executive Manager, Aged and Community Care, Brisbane North PHN
And
Kevin Clark, Nursing Director, Medicine Stream, MNHHS Clinical Services

ACRONYMS

Acronym	Definition
BPSD	Behavioural and Psychological Symptoms of Dementia
CCF	Congestive cardiac failure
ED	Emergency Department
EOL	End-of-life
GEDI	Geriatric Emergency Department Intervention Service
GOAS	Geriatric Outreach Assessment Service
GP	General Practitioner
GORD	Gastro-oesophageal reflux disease
HITH	Hospital in the Home
IDC	Indwelling urethral catheter
MH	Mental Health
MNHHS	Metro North Hospital and Health Service
OPAAS	Older Persons Acute Assessment Service
PHN	Primary Health Network
PPH	Potentially Prevented Hospitalisations
PEG	Percutaneous endoscopic gastrostomy
QAS	Queensland Ambulance Service
RACF	Residential Aged Care Facility
RADAR	Residential Aged Care District Assessment and Referral Coordination Service
RCLS	Residential Care Liaison Service
TPCH	The Prince Charles Hospital
TIA	Transient Ischemic Attack
UTI	Urinary tract infection

TABLE OF CONTENTS

Table of Figures

Table of Tables

Document control

Doc ID version	Developed/Changed by	Discussed/Approved by	Date of Approved
0.1	The report template was initiated by Mai Eames, Amalia Savini & the GOAS team	Project Steering Committee at the meeting on 23/04/18	30/04/2018
0.2	The 1st draft report was developed by Mai Eames, Veronica Thomsett, Gurudev Kewalram, Debbie Lee & Amalia Savini	Discussed at the GOAS weekly project team meetings from 9 May – 15 June, 2018	
	The final draft report was sent to the Project Steering Committee members	June 22 , 2018	
1.0	The final draft report was reviewed by the Project Steering Committee Members	At the meeting held on Jun 25, 2018	July 9, 2018
2.0	The final draft report was discussed and revised by the GOAS project team and key members to address feedback received	July 4, 2018	Aug 6, 2018
3.0	Report finalised and uploaded to Brisbane North PHN website	Aug 21, 2018	
4.0	The final report was finalised and sent to the Brisbane North PHN CEO and the MNHHS Chief of Executive by the Project Steering Committee Chairs	Aug 22, 2018	

	Name & Position	**Organisation**	**Date**
Developed by	Mai Eames, GOAS Project Manager Aged Care Project Lead Amalia Savini, Evaluation and Reporting Officer	Brisbane North PHN	09/05 – 22 /06/2018
	Gurudev Kewalram, Geriatrician Rhonda Mead, Nursing Director Veronica Thomsett, External Services Facilitator Debbie Lee, GOAS Geriatrician Brooke Chadwick, Business Manager	Internal Medicine Services, the Prince Charles Hospital	
Approved by	GOAS Project Steering Committee members and co-chairs		25/06- 06/08/18
Submitted to	Abbe Anderson, Chief Executive Officer	Brisbane North PHN	13/08/2018
	Shaun Drummond, Chief Executive	Metro North Hospital and Health Service	13/08/2018

Enquiries: Please send to Mai Eames, Aged Care Project Lead, GOAS Project Manager
Mai.Eames@brisbanenorthphn.org.au

Mary's story

Mary's experience with the Geriatric Outreach Assessment Service (GOAS) showed how an effective, collaborative approach across the sectors towards person-centred care can result in better outcomes for older persons residing in residential aged care facilities, as well as improved integrated and coordinated care between the tertiary hospital, primary care and residential aged care facilities.

Importantly, Mary's acute illness was **managed in the community** without requiring an admission to hospital as a result of the GOAS ability to provide **right care, in the right place, at the right time.**

In late 2017 and early 2018, Mary was seen by the GOAS over three episodes of care.

Mary[1] is 93 years old who recently moved to a residential aged care facility (RACF) in The Prince Charles Hospital (TPCH) catchment following many years of living in her home in the Brisbane North region.
Mary has multiple chronic diseases including ischaemic heart disease, a permanent pace maker, hypertension, chronic kidney disease, anaemia, hypercholesterolaemia, asthma, hypothyroidism, and non-tophacious gout.
As a result of her comorbid conditions, Mary visited hospital frequently. Over the past two years she had 13 hospital admissions whilst still living at home.

Episode 1:

In early November 2017, Mary developed fevers. The RACF Clinical Manager, with consent from Mary's GP, referred her to the TPCH GOAS team.

Within a day of referral, the GOAS Registrar and clinical nurse visited Mary at the RACF and completed a comprehensive geriatric assessment, which identified that she had a lower respiratory tract infection.

The team reviewed Mary and as per her cardiologist's recommendations, which she had from her outpatient appointment the day prior, adjusted her medications and administered intravenous antibiotics. **The GOAS team collaborated with Mary's GP and RACF staff** to develop and implement a management plan to monitor her acute and chronic conditions. This meant she **avoided a hospital** admission and recovered from her acute episode a couple of days later.

Mary said "I was treated with respect, couldn't be treated better and nothing could've been done better."

Episode 2:

When Mary became unwell with shortness of breath and racing heart rate, the RACF staff knew they could call the GOAS to assist.

The GOAS team reviewed Mary and in liaison with her GP, discovered that she had rectal bleeding. Her blood tests revealed she had iron deficiency anaemia. The GOAS discussed with Mary the benefits and risks of blood transfusions and iron infusions.

In early December 2017, the GOAS team completed an iron transfusion at the RACF. Mary's daughter was grateful her mum could receive treatment in **her home at the RACF.** The GOAS team spoke with Mary and her GP about options to investigate the cause of her anaemia. Mary was able to make **an informed decision** and decided not to proceed with further tests to identify the cause.

[1] Names have been altered to ensure patient confidentiality

Episode 3:

In early 2018, Mary's haemoglobin levels fell and her GP referred her to the GOAS team.

Within a day, Mary, her GP and the GOAS team discussed the option of having further blood transfusions to control her symptoms. **She was able to avoid going to the Emergency Department** and instead began scheduled blood transfusions at the TPCH Day Unit.

While receiving transfusions, the GOAS team initiated end-of-life care discussions with Mary and her family. Given the symptom relief she was experiencing, she was open to continuing to receive this care, which would **prevent her from ending up in hospital unnecessarily**, however she acknowledged there would be a time when she could only receive comfort support.

> In reflecting on Mary's care under this model, the Nurse Manager at Mary's RACF said:
> *'The GOAS' benefits to the patient are them not being hospitalised.'*

Mary's story over three episodes of care shows how the GOAS model can improve quality of life for the older person by embracing person-centred care, fostering effective collaboration across the sectors and improving continuity of care in an integrated and coordinated manner.

EXECUTIVE SUMMARY

The Geriatric Outreach Assessment Service (GOAS) is an innovative model of care aimed at improving quality of care and reducing potentially preventable Emergency Department (ED) presentations and potentially prevented hospitalisations for acutely unwell older persons residing in residential aged care facilities (RACFs). The GOAS model consists of two components: an outreach geriatrician-led, 5-day service and the provision of training for RACF staff on clinical best practice.

About the GOAS pilot project

Background

In late 2016, Brisbane North PHN conducted broad consultation with RACFs, General Practitioners and Metro North Hospital and Health Service stakeholders to identify issues affecting the delivery of care and services in the region. Stakeholders flagged a range of issues, from the need for medical outreach to prevent unnecessary ED presentations among RACF residents, to the lack of appropriate aged care training for RACF staff. This encouraged and initiated the development of the GOAS pilot project at the Prince Charles Hospital (TPCH), where presentations to ED by residents had increased by 22 percent – compared to the overall growth rate at five percent – since 2012.

The GOAS Pilot

Jointly funded by Brisbane North PHN and Metro North Hospital and Health Service (HHS), the 12-month pilot project commenced on 12 June 2017. The initiative reflected the commitment of Brisbane North PHN and Metro North HHS to provide person-centred care and best practice, efficient, quality support to RACF residents through a collaborative and outcome-based approach.

The GOAS pilot was a result of an effective co-design process, in which Brisbane North PHN and MNHHS worked together and in consultation with the community to identify local health needs and define a solution to achieve optimal outcomes for RACF residents.

The project was managed by Brisbane North PHN and overseen by the Project Steering Committee comprising 24 stakeholders, representing MNHHS, Queensland Ambulance Service, RACFs, Queensland Health, Primary Care professionals and consumer representatives. The Steering Committee identified four objectives:

- Objective 1: To implement a 12-month pilot, a 5-day service outreach geriatric assessment service for residents from 24 selected RACFs in TPCH catchment
- Objective 2: To provide clinical support and training on clinical pathways to build clinical capacity of RACF staff at 24 in-scope RACFs
- Objective 3: To strengthen clinical networks and cross-sector collaboration for better provision of integrated and coordinated care for residents in RACFs.
- Objective 4: To conduct a robust evaluation using an outcome measurement approach

To monitor and evaluate the project process and outcomes, the project conducted internal reviews at three and six-months and a comprehensive evaluation, which included six surveys, two case studies, a cost-analysis, 25 interviews and consultations. The evaluation found more time was needed to assess the long-term effects of the GOAS on acute care and that an electronic database system to record service provision was required.

The evaluation report and findings

The evaluation report documents how the GOAS outcomes were measured and key findings over a period of 11.5 months from 12 June 2017 to 31 May 2018. The evaluation, conducted internally, provides very strong qualitative and quantitative evidence confirming that the GOAS pilot project was successfully implemented and delivered on the desired outcomes.

Consumer satisfaction

The evaluation was designed to capture stakeholder's views and experiences with the GOAS. The resulting analysis of more than 1,700 responses to six surveys reveals overwhelmingly positive qualitative feedback from all stakeholders.

The evidence shows clearly that the GOAS achieved its aim of improving quality of care for older people who reside in RACFs by delivering a responsive, high quality and person-centred service at the right time and in the right place. Survey responses included:

"I was treated with respect, couldn't be treated better and nothing could've been done better."

(Resident)

"I'm glad she didn't go to hospital, we got to be present. We were given the freedom to be with her 24/7"

(Resident's carer)

"The GOAS provides a seamless teamwork between RACF & Acute care, but best of all great outcome for our resident!"

(RACF staff)

"As a GP we appreciate the input of geriatricians as often our patients in residential care have multiple co-morbidities and behavioral issues due to the dementia that can be a challenge to manage"

(GP)

"The GOAS team program is cutting edge and should be implemented throughout Brisbane, Australia, and the program outcomes should be shared with other health systems on a global scale".

(Service Provider)

Quantitative data also demonstrates an extremely high level of satisfaction with the GOAS service:

- 98 per cent of consumer's surveyed were likely to recommend GOAS to others
- 98 per cent of service providers surveyed agreed the GOAS had provided a service of high quality.
- 100 per cent of service providers surveyed and 87 per cent of GPs surveyed would recommended the GOAS.
- 98 per cent of stakeholders surveyed would support the service to be expanded
- 87 per cent of stakeholders agreed the GOAS model would be suitable to be replicated at other hospitals or on a larger scale

Clinical performances

The GOAS improved access to specialist geriatric outreach care for 744 patients and delivered 960 episodes of care (an average of 4 episodes per day), of which 638 episodes (66 per cent) were considered to have been potentially prevented ED presentations. Of the potentially preventable ED presentations, 498 (78 per cent) were considered to have potentially prevented hospitalisations.

The average length of stay for residents of in-scope RACFs was 1.68 days, compared to 2.3 days for out-of-scope RACFs, a reduction of 0.62 days.

The evaluation also observes that the TPCH ED presentations by residents of in-scope RACFs have remained stable, despite the increase in available RACF beds within the catchment area. Whilst both these trends are not statistically significant, they indicate the GOAS may be helping to reduce potentially preventable hospital admissions and ED presentations.

Other evidence demonstrating the high quality of care provided through the GOAS includes:

- 71 per cent of GOAS episodes of care were same-day services
- 91 per cent of episodes were seen by both Registrar and a Clinical Nurse

RACF workforce capacity building

Education and training for RACF staff was key to the provision of a responsive and high quality service. By 31 May 2018, the GOAS had provided 417 training sessions on 22 clinical pathways to 3,019 participants at 24 in-scope RACFs. Among the survey outcomes:

- 98 per cent of 1,562 RACF respondents agreed the training was relevant, met their leaning needs and increased their knowledge, and in turn confidence in managing the acutely unwell resident.
- 84 per cent of all respondents agreed that GOAS provided support to RACF staff through education and training.

Collaboration

The GOAS aimed to foster relationships among stakeholders across sectors, including aged care providers, health and primary care and consumers. Surveys found:

- 60 per cent of GP respondents agreed the GOAS fostered relationships with RACFs
- 84 percent all stakeholder respondents agreed the GOAS enabled them to build partnerships with TPCH.
- 96 per cent of all respondents agreed the GOAS supported and built trust, dependability and integrity between services

Through the GOAS, good working relationships and trust has been cultivated, partnerships and collaboration among all stakeholders across the sectors have been strengthened. More importantly, the GOAS pilot provided real insight into what was important to consumers and their carers, what was happening in community services, and highlighted service delivery gaps.

This has created a foundation for new opportunities for improvement at the individual and the system level. The Health Alliance – a joint initiative between Brisbane North PHN and MNHHS that aims to better connect care across the healthcare continuum – has commenced the Brisbane North Health Information Initiative, with TPCH catchment chosen as the in-scope area of focus. To streamline access to MNHHS residential aged care outreach services, Queensland Health has funded the Metro North Residential Aged Care Assessment and Referral (RADAR) Service, which now refers to the GOAS.

Cost analysis

This cost-analysis indicates that the GOAS delivers a significant cost saving to the state government. The cost-analysis compared the current scenario (with the GOAS) with the status quo (without the GOAS).

The analysis assumed that without the GOAS, residents would continue to present to the ED and/or be admitted to hospital, at an approximate cost of between $3,469,000 to $4,332,000.

In the scenario with the GOAS, the cost for setting up the service in the first year is $745,598 and the cost of the service from the second year onwards would be lesser at $463,898. See table next page.

Cost-analysis Summary				
Year	**First year (2017-18)**		**Second year (2018-19)** (with estimated 4% increase in service demand)	
Position	**Without the GOAS** (20% variation)	**With the GOAS**	**Without the GOAS**	**With the GOAS**
Service Provision	744 residents/960 episodes of care would require acute care services. 638 episodes of care would be considered as potentially preventable ED presentations 498 would be considered as potentially prevented hospitalisations.		774 residents/998 episodes of care would require acute care services. 664 episodes would be considered as potentially preventable ED presentations. 518 episodes would be considered as potentially prevented hospitalisations.	
Cost estimate	**$3,469,000 - $4,332,000**	**$745,598**	**$3,607,000 - $4,505,000**	**$463,898**

Lessons Learned

The lessons learned highlight key success factors for designing, planning and implementing a service like the GOAS - an outreach clinical service at the interface between acute and aged care involving RACFs and residents.

Cross-sector collaboration, especially between Brisbane North PHN and Metro North HHS, was a key factor in the successful design, planning and implementation of the GOAS. The PHN's role in effectively facilitating this collaborative initiative, at the interface between acute and aged care, was critical to project

Recommendations

It is highly recommended that:

- the GOAS be expanded across the region to ensure a regionally consistent approach to the provision of healthcare to unwell RACF residents and to prevent avoidable ED presentations. The service should operate as a hub and spoke model from the four hospitals across the region, with the RADAR 1800 number providing a central intake service.

- the GOAS be expanded statewide, allowing RACF residents across Queensland to benefit from a locally implemented service. The increased use of Telehealth could support viability in more regional and rural areas and improve integration with primary healthcare.

- a population health approach be applied to the funding and provision of care of older people in all community and hospital settings to improve coordination and integration across the whole patient journey. To achieve this, funding incentive arrangements based on volumes must change to focus on the outcomes that matter most to older people and their quality of care. In this way, funding will more directly relate to population needs. This is often referred to as shifting from 'Volumes" to "Value" and will require:

- undertaking a three year intervention in the TPCH catchment focusing on the whole health journey for people aged 75 + and Indigenous people aged 50+

- implementing a comprehensive service for older persons across care settings better coordinate and integrate their care. This service with deliver superior GP, enhance community-based programs and improve communication and relationships between health services and community services. The PHN could potentially facilitate this service because it has already established effective relationships with GPs and community-based organisations.

PART 1: THE GOAS PILOT PROJECT

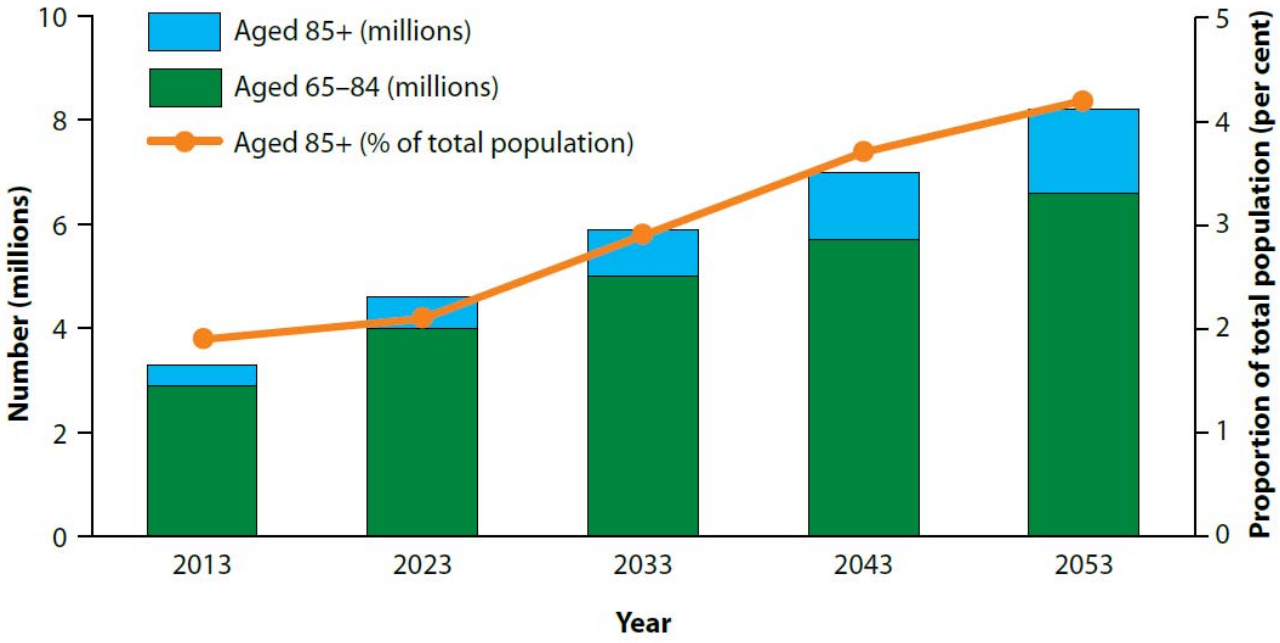
1. Introduction

1.1 Health and ageing

The number of Australians aged 65 and over is projected to more than double by 2055 compared with 2015[3]. In keeping with population growth, the number of Australians aged 85 and above is also expected to rise. In 1975, this population group was less than 1 per cent or around 80,000 people, and in 2055, it is projected that this age group will account for 4.9 per cent of the population or nearly 2 million people.

The diagram below shows medium-level growth projections of the older population. By 2053, 21 per cent of the population will be aged 65 and over (8.3 million people), and 4.2 per cent aged 85 and over (1.6 million people)[4].

Figure 1: Number and proportion of older people, 2013- 2053



Note: Data as at 30 June 2018. Data presented for 2023 onwards are based on population projections
Source: AIHW analysis of ABS 2013

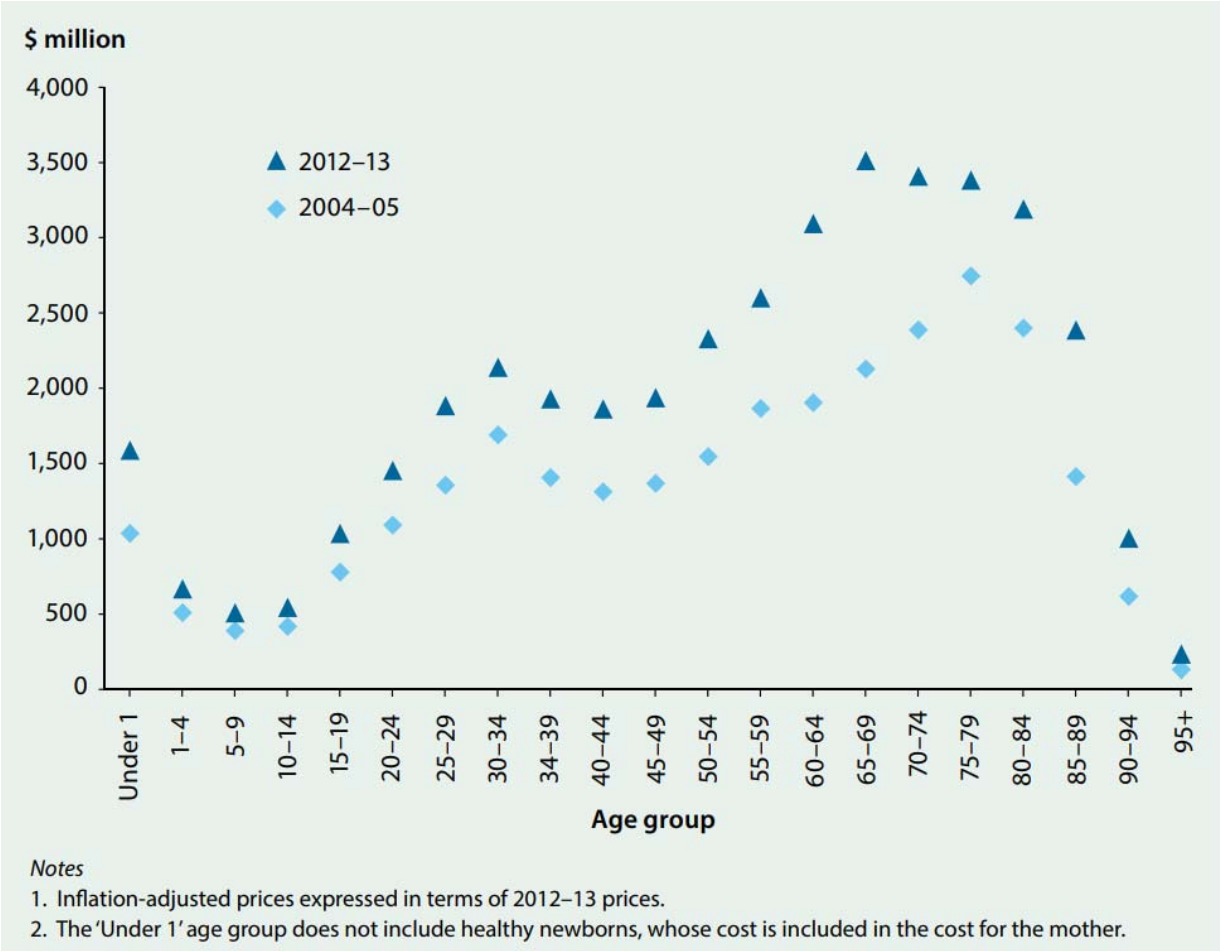
Demand for health services is affected by a number of factors, mainly the burden of disease, an ageing population and rising consumer expectations.

People aged 65 years and over were more likely:

- to have an emergency department (ED) presentation in the last 12 months, than those aged 45 to 64 years (22 per cent compared with 16 per cent)[5].
- to more likely to be admitted to hospital, than those aged 45 to 64 years (27 per cent compared with 18per cent)
- to have a prolonged admission in hospital i.e. more than 21 days (7 per cent compared with 3per cent)[6].

Of the $155 billion spent in 2013-2014 on inpatient expenditure, $59 billion was on hospitals and $55 billion was on primary care. Expenditure on admitted patient services represented around 70 per cent of total hospital expenditure[7] and the admitted patient expenditure by age was higher in older people.

Figure 2: Admitted patient expenditure, by age, 2004-05 and 2012-13, adjusted inflation



Source: AIHW, Australian's Health 2016

1.2 Residential aged care services and resident characteristics

There are three main service streams in Australia's aged care system[8]:

- Residential Aged Care Services
- Commonwealth Home Support Programme
- Home Care Packages

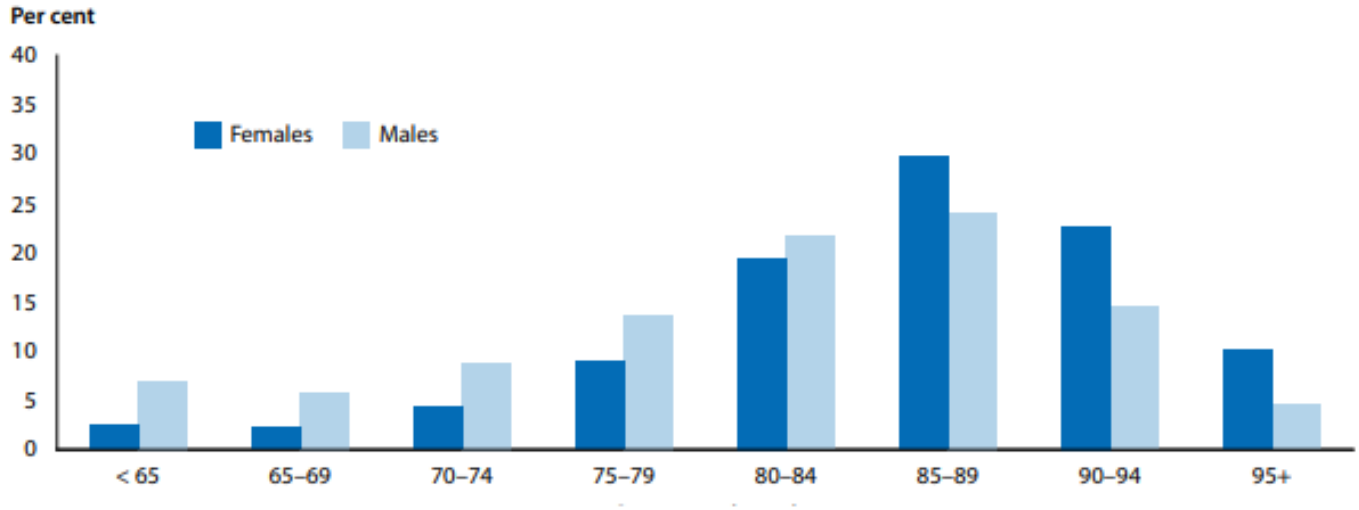
Under the *Aged Care Act 1997*, the Australian Government funds residential aged care facilities (RACFs) to provide care and support for older Australians whose care needs cannot be met at home[9].

Residential aged care services in Australia are delivered by providers across a range of sectors. These include private, government (local and state government) and not-for-profit (comprising religious, community-based and charitable) providers. Not-for-profit and private organisations are the main providers of residential aged care services nationally, with 60 per cent and 30 per cent of facilities, respectively[10].

Growth in the number of residential aged care places reflects the rise of the aging population, which has increased by more than 19,000 over five years[11]. As of 30 June 2011, 70 per cent of permanent residents were

female. Of all female residents, 63 per cent were aged 85 and over, compared with 43 per cent of their male counterparts.

Figure 3: All residents by age and sex, 30 June 2011 (per cent)



Source: AIHW 2012. Residential Aged Care in Australia 2010-11.

As of June 2013, there were nearly 169,000 people living in permanent residential aged care in Australia[12]. People living in RACFs have high rates of chronic diseases and multiple comorbidities. Nationally, 25.1 per cent of people living in RACFs are admitted to hospital annually compared with 11 per cent of younger people[13].

Table 2: Permanent residents at 30 June 2011 with hospital leave between 1 July 2010 and 30 June 2011 by remoteness and state/territory (per cent)

State/Territory	Major cities	Inner regional	Outer regional	Remote	Very remote	Australia
NSW	27.7	22.3	25.0	41.2	0.0	26.2
Vic	24.2	20.6	21.7	19.0	…	23.3
Qld	28.7	24.6	23.0	31.7	32.3	27.1
WA	25.7	23.6	22.5	15.5	18.9	25.0
SA	25.8	17.1	25.6	18.5	0.0	24.7
Tas	…	14.4	13.2	13.3	11.8	14.1
ACT	28.0	0.0	…	…	…	28.2
NT	…	…	29.4	15.2	25.6	24.7
Total proportion taking leave	**26.5**	**21.4**	**23.0**	**22.7**	**24.6**	**25.1**
Total persons (number)	**113,523**	**37,358**	**12,968**	**935**	**248**	**165,032**

Source: AIHW 2012. Residential Aged Care in Australia 2010-11.

Residents of aged care facilities face a high risk of emergency transfer to hospital[14]. However, approximately 15 per cent of presentations to EDs from RACFs were classified as potentially preventable[15]. Hospital transfers for residents of RACFs can have a significant impact on healthcare expenditure, workload of ED staff. This also contributes to discontinuity of care in aged care facilities. In addition, hospital admissions of the frail elderly can result in complications and morbidity[16].

A study in the UK showed that residents at RACFs are among society's most frail and depend on good integration between all service providers for their care[17]. It therefore suggests that a focus on improving quality of care for RACF residents and reducing potentially prevented hospital admissions from RACFs could bring about the most cost-effective outcomes for not only residents, but for everyone involved[18].

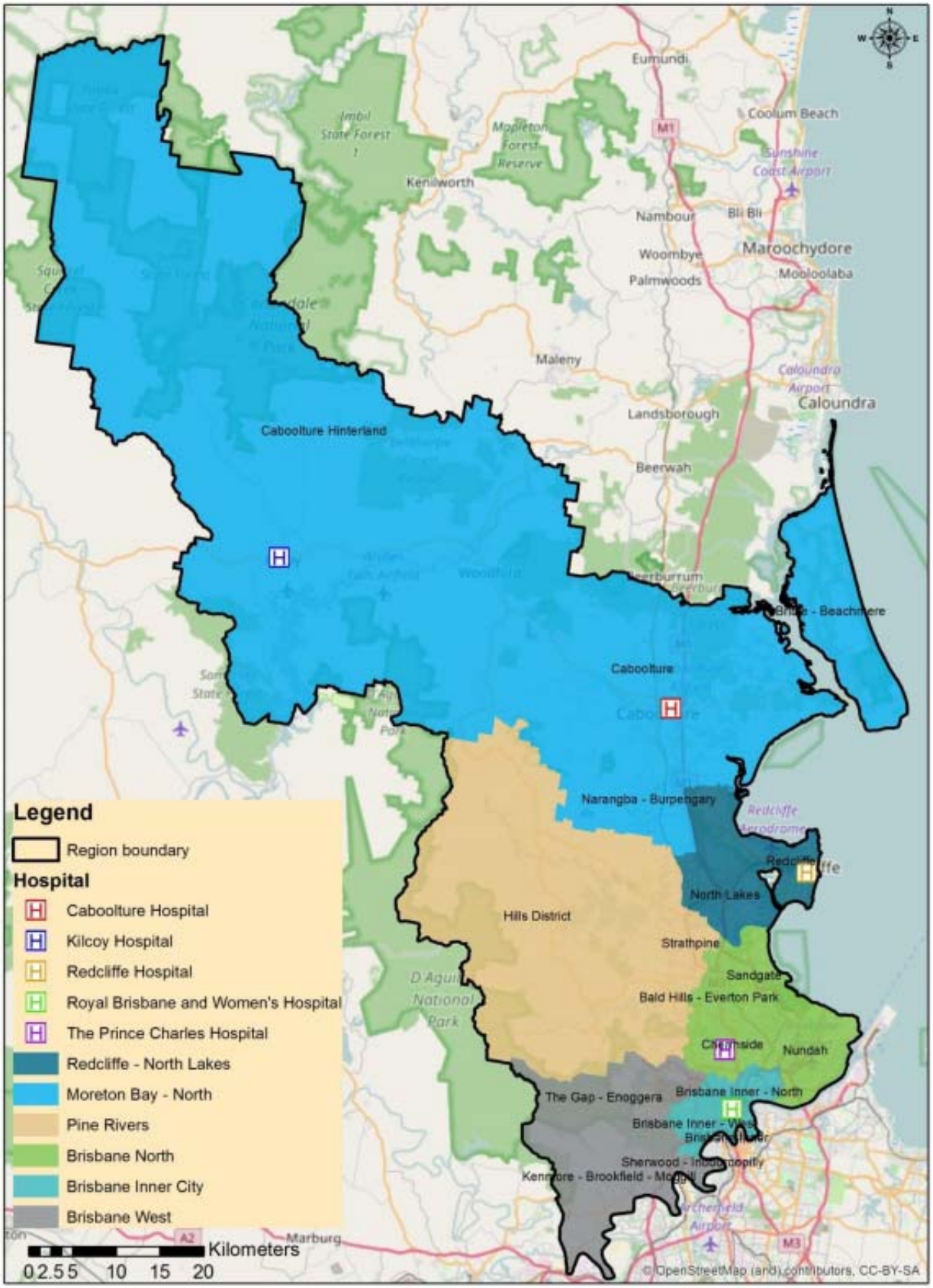
A number of hospital admissions could potentially be avoided by:

- improving access to GPs and other primary care providers (Department of Health and Ageing 2012)
- ensuring that discussions with residents and their representatives regarding the resident's future health and personal care wishes occur and are documented in an advance care plan (NHMRC 2006)

Another study suggests a combined approach to reducing potentially prevented hospital admissions from residents should enhance the knowledge and skills of RACF staff; improve clinical guidance and decision-support tools; engage with carers and families; and provide support to RACFs to implement these changes[19].

1.3 Older people in Brisbane North region Queensland & the use of services

Figure 4: Brisbane North region



Older people in the region

According to the Queensland Chief Health Officer's report *The Health of Queenslanders 2016*, there were 686,237 Queenslanders aged 65 years and older in 2015, accounting for 14 per cent of the total population[20]. The proportion of older person was one in 10 in 2000 and is projected to be one in five by 2036.

The Brisbane North region is home to almost 960,000 people, of whom 13.5 per cent is aged 65 years and over, around 129,000 people, The 65 to 74 years age group is projected to have the fastest growth rate of 23.9 per cent. This number has increased from 107,000 people in 2010 and the trend is set to continue. People are also living longer, with an average life expectancy in the region of 83 years for females and 80 years for males[21].

Hospital service utilisations

Potentially preventable hospitalisations for chronic conditions and acute /vaccine preventable conditions accounted for 5 per cent of all hospital admissions in 2013-2014. Approximately a third of frequent presenters (more than 5 overnight hospitalisations within a financial year) were aged 70 years and over[22].

Residential Aged Care Facilities (RACFs)

In the Brisbane North PHN region, in 2015 there were 6,962 RACF beds, equating to 58 residential aged care places per 1000 people. This is slightly higher than the national rate of 54 residential aged care places per 1000 people[23].

The Brisbane Inner and Sandgate areas are well serviced for residential aged care places, with a rate of 145 and 104 places per 1000 people aged 65 years and over respectively.

GP attendances to RACFs in the region

GP attendances to RACFs tend to be more complex than GP attendances in the general community, due to the more complex health needs of people living in a residential aged care environment[24]. In the years between 2012 and 2015, over 280,000 GP services were delivered in a residential aged care setting in the region. This equates to an average of 96,145 services delivered to an average of 14,651 patients annually (almost seven services per patient)[25].

2. The GOAS Project

2.1 Context:

The TPCH catchment area has the largest population aged 65 years and over within Metro North Hospital and Health Service (MNHHS), estimated at 45,152 (35 per cent) in 2015, compared to other hospital catchments[26].

In 2016, TPCH data demonstrated the number of presentations to the Emergency Department (ED) from RACFs increased by 22 per cent since 2012, compared to overall ED presentation growth at 5 per cent. The average length of stay for an older person from RACF was 450 minutes (7.5 hours). After a case-by-case clinician review, it was estimated that approximately 53 per cent were considered avoidable admissions.

The Department of Health continues to strengthen primary healthcare by focusing on frontline health services and improving delivery of quality and coordinated services. Primary Health Networks are at the forefront of primary health care in Australia and aim to improving effectiveness and efficiency of medical services for patients.

Within Metro South Hospital and Health Service (MSHHS), the Comprehensive Aged Residents Emergency and Partners in Assessment Care and Treatment (CARE- PACT) initiative was developed with the goal of improving the quality of care for people living in RACFs through a multimodal approach of telephone triage, mobile ED

assessment, and building capacity of RACF staff and GPs. This initiative has proven to be beneficial, according to an evaluation conducted in 2017[27]. Specifically, it demonstrated:

- 31.1 per cent reduction in ED presentations of RACF residents, despite increased RACF beds in MSHHS
- 31.15 per cent in reduction in acute admissions of RACF residents aged over 65 years
- 1.7 days reduction in inpatient length of stay of RACF patients.

Brisbane North PHN has conducted broad consultation with stakeholders from RACFs, GPs and MNHHS, identifying issues and barriers to current service delivery. An emerging need for medical outreach service to RACFs across MNHHS was identified in October 2016. In this context, the GOAS pilot was initiated. Jointly funded by Brisbane North PHN and MNHHS, the project commenced on 12 June 2017 for a period of 12 months. The initiative reflected the commitment of Brisbane North PHN and MNHHS to best practice and to provide effective, efficient, quality support to RACF residents through a collaborative approach.

2.2 Aims and Objectives

Aim:

The GOAS Pilot Project aims to improve quality of care for and reduce ED presentations and hospital admissions by RACF residents and to determine if the service would be cost-effective, responsive to the identified needs and feasible to expand across the Brisbane North region.

Objectives:

- Objective 1: To implement a 12-month pilot outreach specialised geriatric assessment service for residents from 24 selected RACFs
- Objective 2: To provide clinical support and education to build the capacity of RACF staff
- Objective 3: To strengthen clinical networks and cross-sector collaboration between RACFs, Brisbane North PHN, QAS and TPCH clinicians leading to a better provision of integrated and coordinated care for residents
- Objective 4: To conduct a robust evaluation using an outcome measurement approach, aimed at evidencing a cost-effective service model that is appropriate for implementation across Metro North.

2.3 Project implementation and management

The project's official launch was held on 29th June 2017 at Parkview, Wesley Mission Queensland Residential Aged Care Facility in Chermside. Click here to watch a video of the launch. When implementing a brand-new clinical service provided by a tertiary hospital to serve the community, the management and coordination protocols set up under the GOAS project were instrumental in ensuring effective coordination of all perspectives of project implementation as well as acceptance and buy-in from service users.

In order to determine the cost effectiveness and feasibility of the service to be expanded across the region, the project also focused on evaluating quantitative and qualitative feedback from a wide range of stakeholders including consumers and families/carers, GPs, RACFs, service providers and project team members.

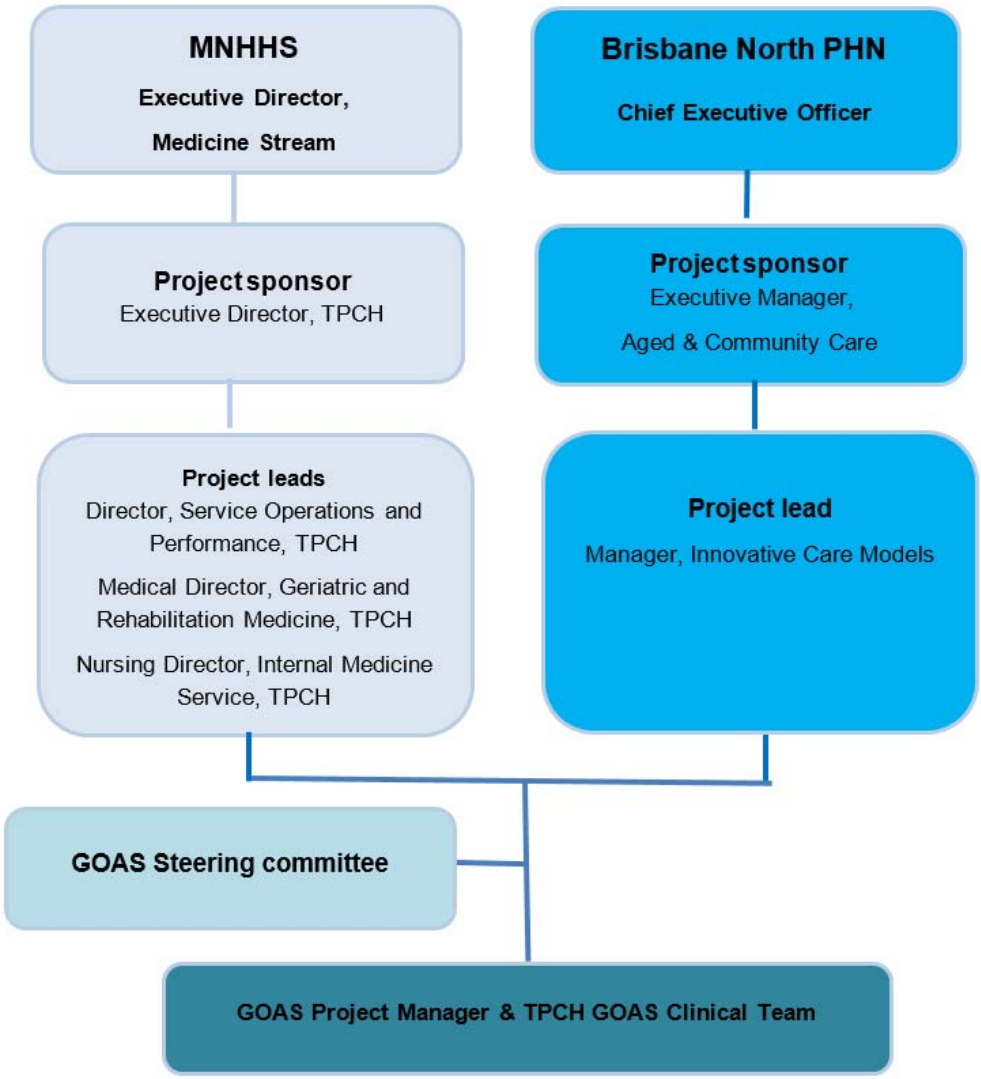
2.3.1 Establishing an effective project governance:

The project was managed by the Aged Care Project Lead, Brisbane North PHN on a daily basis, allowing the project manager to have an independent and objective view of the project's effectiveness. The project received direct support and guidance from the Project Steering Committee comprising of 24 members representing Brisbane North PHN, MNHHS, Queensland Ambulance Service, RACFs, Primary Care, Queensland Health, Metro South HHS, and consumers.

The Nursing Director, Medicine Stream, MNHHS together with the Executive Manager, Aged and Community Care, Brisbane North PHN were co-chairs for the Project Steering Committee ensuring ownership and relevance of the project, leading to better collaboration between the two funding organisations and other stakeholders across the sectors within the Project Steering Committee for the implementation and decision making process.

A clinical governance was established to oversee the GOAS clinical performance. The Terms of Reference is at Appendix 7.

Figure 5: The GOAS Project Governance Structure



2.3.2 Applying relevant project management methodologies and tools

Methodologies:

The GOAS project applied multiple methodologies throughout its project implementation process including:

- explicit, transparent and defined aims and objectives, resulting in the creation of clear action plans, achievable performance indicators. This also helped to set realistic expectations for stakeholders who were involved in the project.

- PRINCE2 Methodology with a process and outcome approach and the 5-phase process tool were applied. Given the short duration of the project, clear objectives, milestones and deliverables were paramount. The 5-phase project process highlighting key milestones and deliverables in each phase was treated as a monitoring tool to monitor the project progress and assisted in:
  - aligning the process with performance measures and goals
  - providing boundaries to ensure purpose-driven actions
  - helping the project team to think strategically and to act effectively throughout the length of the project.

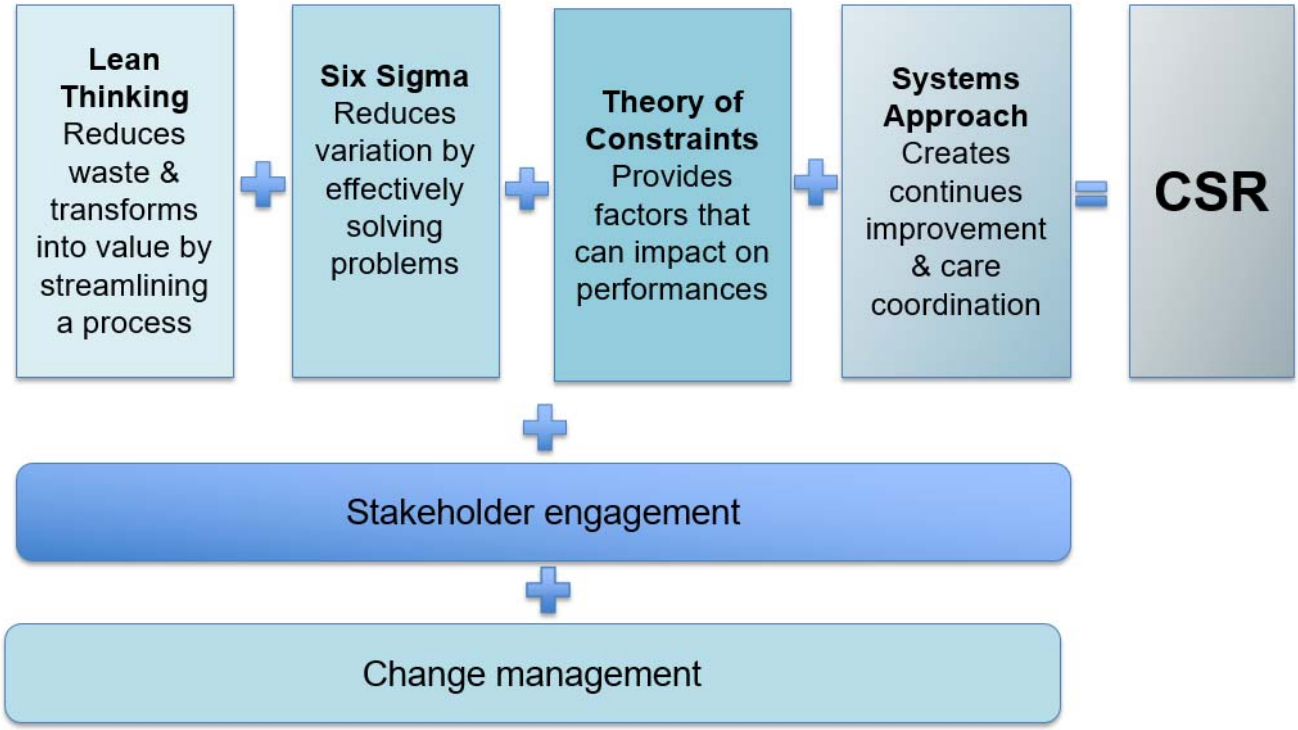
- project logical framework /one-page project plan. The five-phase project process together with key information such as project sponsors, project team, project scope and key evaluation indicators formed the project logical framework. This one-page project plan provided a simplified, holistic plan. It was proven to be beneficial and useful for the GOAS project as it was used for the development of the project evaluation plan and for communicating with stakeholders.

- the three-step stakeholder engagement methodology. This engagement tool comprises of mapping, analysing & planning and Implementing as well as five principles for engagement[28]. The five principles as the following
  - *Purposeful*: providing them with a clear understanding what we want to achieve
  - *Inclusive*: identify relevant stakeholders and make it easy for them to engage
  - *Timely*: engage stakeholders from start and agree on when, how
  - *Transparent*: honest, open and set clear expectation
  - *Respectful* acknowledge and respect the expertise, perspective, and needs of stakeholders

- the Procsci ADKAR (Awareness, Desire, Knowledge, Ability and Reinforcement) change management model. The ADKAR model was incorporated into the 5-phase project management process to maximise the influence on key stakeholder's acceptance and utilisation of the new GOAS service.

- clinical service redesign model (CSR). To design the GOAS model of care, the CSR was used The CSR is a blend of methodologies including Lean thinking, Six Sigma principles, Theory of Constraints and system approach. The CSR model was also incorporated in stakeholder engagement and change management methodologies.

Figure 6: Clinical Service Redesign (CSR) a blend of methodologies



Tools

- the PDEA (Planning, Decision, Execution and Assessment) tool was used to frequently monitor the implementation of project activities.
  - The GOAS project team, led by the Project Manager, met frequently on a weekly basis for 30 to 60 minutes to review and discuss the project progress against the action plans to ensure the project was reaching its milestones and delivering intended deliverables.
  - The Project Steering Committee meetings were held on a monthly basis for the first nine months then bi-monthly thereafter to monitor progress and review implementation of the project.
- other tools were used to facilitate better management and coordination of the project implementation, such as action-based meeting agenda and minutes, an actions register, a project dashboard and a monthly project progress report

Figure 7: Project Process, key milestones and deliverables

Timeline	Oct - Dec 2016	Jan-May, 2017	June - Sep, 2017	Oct 2017 - Apr 2018	May - Jun 2018
	Initial Authorise the work	Planning Plan the work	Execution Work the plan	Monitoring & Evaluation Control the plan	Closure & Sustainability End the work
Main Activities	Identify issue and define a solution/project	Develop an integrated project plan & other project related materials	Execute the project plan	Track & review project progress Manage changes, issues, risks	Finalise all activities Officially close the project Make recommendations
Key Deliverables	Concept Brief	Project Steering Committee Terms of Reference Project Plan Evaluation Plan Work breakdown schedule/action plans Service Profile Clinical Pathways & Training Plan	Project Steering Committee Meeting Minutes Weekly project team meeting minutes Monthly Project Progress Reports Survey Data & information Initial 3-month Review Report	Project Steering Committee Meeting Minutes Weekly project team meeting minutes Project Progress Reports incl issues/risks Data & information for evaluation purposes Change, Issue, Risk Registers Quality control measurements Project Plan updates Draft Evaluation report Apr, 18	Project Closure Report Recommendations Lessons learned
Milestones	Concept submission approved Project budget approved & funded Key stakeholders identified	Project Steering Committee established Project plan developed & approved Scope, aim, objectives, activities, budget defined Action Plans developed & agreed Project management process & methodology developed & approved Evaluation plan developed & discussed Procurements completed Project team recruited	Project official launched Jun 12, 17 Evaluation plan approved Aug, 17 3-month Project Review Report Oct, 17	Six-month Project Review Dec, 17 Surveys Closed Apr, 18	Project closure meeting Jun, 18

GOAS team

TPCH: Tel: 3139 6896

- Senior Medical Officer,
- Registrar
- External Service Facilitator Clinical Nurse Consultant
- Clinical Nurse x2
- Administration Officer

Brisbane North PHN: Aged Care Project Lead **Tel: 3630 7381**

GOAS In-scope RACFs

1. Allambe,
2. Anam Cara
3. Bellevue Care Centre
4. Bethesda
5. Clifford House
6. Emmaus Aged Persons Home
7. Estia Albany Gardens
8. Holy Spirit Home
9. Holy Spirit Boondall
10. John Wesley Gardens
11. Kedron Nursing Home
12. Mary Damian Centre
13. Opal Raynbird Place
14. Pine Woods
15. PM Village
16. Arcare Taigum
17. St Martins Nursing Home
18. Symes Grove
19. Tricare Chermside
20. Wesley Mission Cooper House
21. Wesley Mission Emmaus Village
22. Wesley Mission Parkview
23. Wesley Mission St Mark's House
24. Zion Lutheran Nursing Home

GERIATRIC OUTREACH ASSESSSMENT SERVICE – PROJECT LOGICAL FRAMEWORK (June 17- June 18)						
	Objective Description	**Desired outcomes**	**KPIs**	**Measures**	**Who**	**When & Data source**
Scope	**Residents of 24 selected RACFs within the Prince Charles Hospital's (TPCH) catchment**					
Funding/Staffing	**Brisbane North PHN & MNHHS (0.3 FTE Geriatrician, 1 FTE Registrar, 2x FTE CNs, 0.5 FTE AO, 0.8 FTE Project Manager)**					
Aim:	To improve quality of care and reduce Emergency Department presentations and hospital admissions for Residential Aged Care residents and to determine if the service would be cost-effective, responsive to the identified needs and feasible to expand across the Brisbane North region			A comprehensive evaluation	BNPHN& MNHHS	Sep 15, 17 to Apr, 18
Objective1/Activity	**To implement a 12-month pilot outreach specialist geriatric assessment service (M-F 07:30-16:00) commencing on Jun 12, 2017 by providing:** • Medical & nursing outreach assessment, care, treatment and management service, including. end-of-life & falls • Advice to RACF staff and GPs and triaging of referrals • Clinical support and guidance to develop care plans in consultation with RACF staff/GP/patient/family • Post-discharge review, planning, coordination and support • Liaison services • Telehealth consultations	• Acutely unwell residents of in-scope facilities received a better quality of care that met their needs, at the right time and in their choice of locations • Their health care experience and satisfaction are improved • ED presentations and hospital admissions reduced	25 Process indicators & 28 Outcome indicators covering a range of domains including: **Process (25):** Fidelity (3) Reach (5) Frequency (2), Satisfaction (5), Generalisability & Context (7), Collaboration (2), Governance (2) **Outcome (28)** Effectiveness (20), Efficiency (7) & equity (1) *Details in the Evaluation Plan.*	**Survey** (online & paper-based): • Consumer • Project team base-line & end-of-project • GPs • Key stakeholders • Post training feedback **Interviews/Focus Group discussions** **Cost analysis**: cash & capacity creation	TPCH BNPHN	Throughout the project duration TPCH's databases Riskman EDIS GOAS database ESF CNC database Survey results Interviews /Focus group results Project docs
Objective2/Activity	**To provide clinical support & education package for RACF staff in the early identification and management of the deteriorating residents by:** • Developing & implementing a training & education plan on clinical pathways • Obtaining post training feedback from RACF staff	Increased awareness, clinical skills and knowledge of how to recognise & manage acutely unwell residents				
Objective3/Activity	**To strengthen clinical networks and cross-sector collaboration between RACFs, GPS, QAS, BNPHN & TPCH by:** • Establishing trust and seamless communication • Facilitating skills and knowledge sharing across the care continuum by providing strong clinical leadership & adequate support	• Increase awareness among all stakeholders re the service • Streamlined referral process • Increased involvement of GPs & QAS in referral process				

Objective4/Activity	**To conduct a robust evaluation of the pilot service & project by:** • Developing and implementing the evaluation plan • Analysing survey responses • Conducting a return on investment exercise • Reporting on the evaluation findings	Process, Outcome, Sustainability & Collaboration evaluated and recommendations for sustainability provided	• Relevant & valid Info & data collected • Evaluation designed and supported by all stakeholders	Evaluation framework Evaluation tools Survey results Cost-benefit analysis	TPCH & BNPHN	Sep17 to Jun, 18

Figure 8: GOAS Logical Framewor

Project Monitoring and Evaluation:

Monitoring & risk management:

- The project team held weekly meetings to review project progress, risks and issues. To ensure the meetings were productive, a clear defined meeting agenda and tasks status were distributed prior to the meetings and minutes comprising agreed action plans were sent post meetings.
- Monthly project progress reports were developed by the External Services Facilitator CNC and submitted to the Project Manager
- The Project Steering Committee met on a monthly basis and the members were updated on the project including progress by month, key risks and issues, finance, and other related businesses.

Evaluation:

Conducting a robust evaluation plan was a key part of the project management and implementation. A comprehensive evaluation plan was developed and comprised the following features:

- Mixed quantitative and qualitative methods
- Underpinned by the GOAS logical framework and embraced a number of evidence-based frameworks, tools and lessons learned from similar initiatives.
- To best capture data and information, the GOAS evaluation framework was divided into three levels to reflect its multiple levels of stakeholder's involvement across the sectors including Primary Care, Acute Care, Residential Aged Care and consumers. Three levels were consumers, service providers and care delivery system, with each level having different evaluation tools and indicators.
- The evaluation plan included five surveys, two reviews (three and six-month), two case studies and a number of semi-structured interviews with GPs and health professionals.
- Details of the evaluation plan can be found at Appendix 8

3.2.3 Information sharing and control

Sharing the right information with the right people at the right time within the GOAS project team and with the Project Steering Committee Members and stakeholders was critical to ensuring effective decision-making, problem solving and transparency. All project-related information was securely stored in a cloud drive, which was accessible by all project team members.

The project steering committee members were informed on a monthly basis via meetings about the project progress and identified issues that might have affected the project progress. Key stakeholders were updated about key project milestones, feedback and successful stories via various mediums such as newsletters, articles of interest, and emails from the GOAS project manager.

Two database systems capturing GOAS service delivery and training activity were developed, maintained and reviewed frequently by TPCH GOAS clinical team. These databases played an important role for the project reporting, monitoring and evaluation purposes.

3.2.4 Stakeholder Engagement and Communication plan and Media strategies:

The key purposes of the plan were to:

- establish and strengthen the relationships among key stakeholders in order to facilitate active participation and on-going support for the successful implementation of the project
- distribute information about the project to the general public to promote an innovative initiative and a collaborative approach in improving quality of care for residents and to increase the visibility of the GOAS.

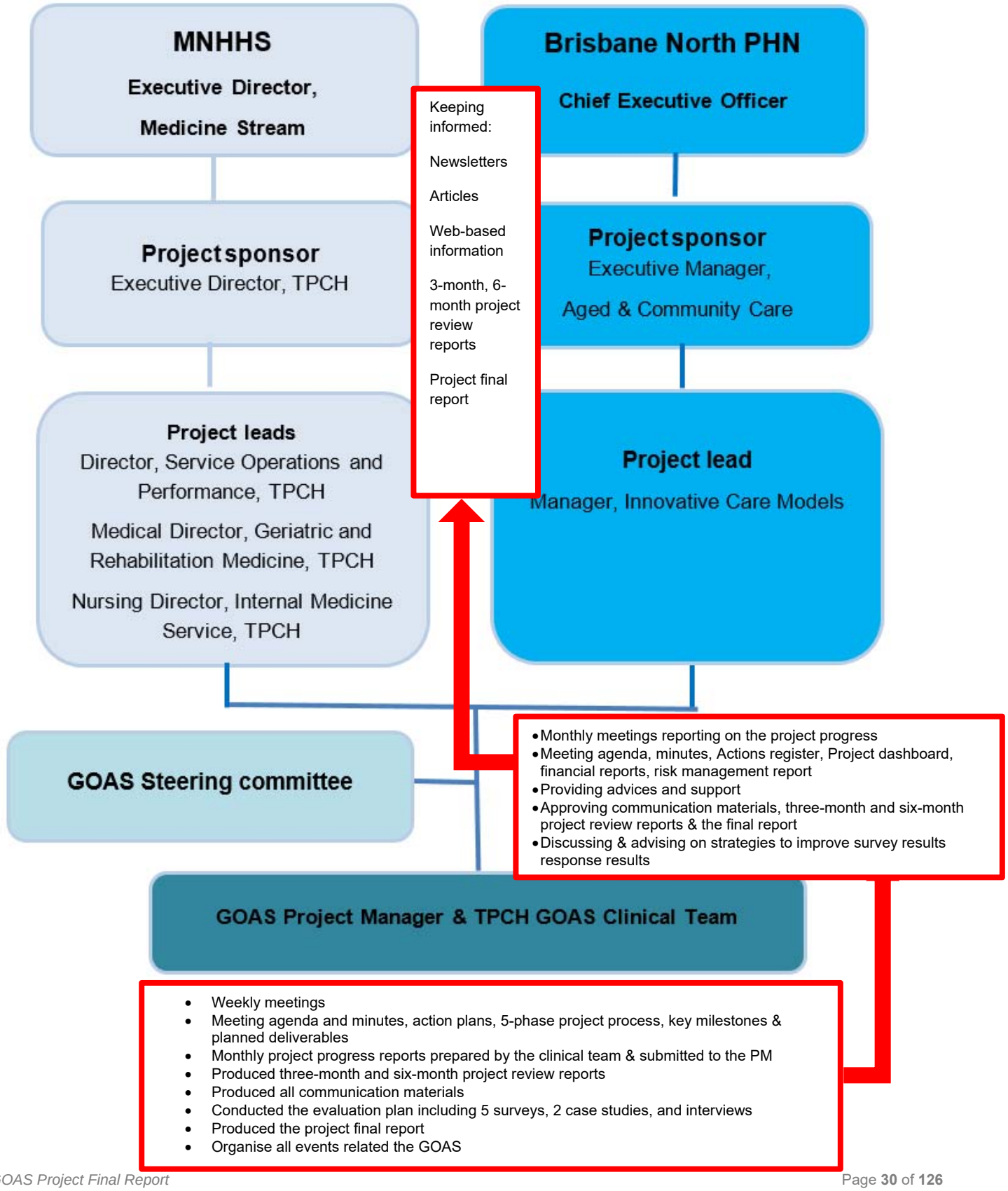
Many communication tools were developed and produced such as:

- fliers and frequently asked questions
- five issues of the monthly Brisbane North PHN Network Link newsletter
- a number of articles in different newspapers

3.2.5 Establishing an effective project implementation system

The project applied an effective system to ensure the intended outcomes being delivered within budget and time-frame. The system was a combination of all the mechanisms listed above that have been put into action.

Figure 9: MN HHS and Brisbane North PHN implementation system



2.4 Project assumptions and constraints

2.4.1 Definition:

Assumptions and constraints form the basis for project planning, filling in the gaps between known proven facts and total estimation.

Each assumption is an "educated guess", a likely condition, circumstance or event, presumed known and true in the absence of absolute certainty.

Each constraint is a limiting condition, circumstance or event, setting boundaries for the project process and expected results. The table below shows the differences between assumptions and constraints

Table 1: Assumptions and constraints

	Assumptions	Constraints
Characteristics	Known condition, circumstance or event	Estimated condition, circumstance or event
Impact	Allow the project to proceed	Restrict and limit project execution or making progress or impact on outcomes
Process	Must be analysed and monitored to ensure validity and relevancy	Must be identified and incorporated into the project plan to ensure that the plan is realistic

2.4.2 Developing and managing project assumptions and constraints

On the commencement of the GOAS project, assumptions were recognised and risks/constraints and strategies to mitigate risks were identified in the GOAS project plan. Specifically, they were:

Table 2: GOAS Assumptions and constraints

Assumptions	Constraints
Relevancy: Identified health need of residents who reside in RACFs in the Brisbane North remains to be factual	**Time:** a 12-month duration was considered to be too short to allow the project being implemented properly. It may face risks of being rushed and insufficient time to build and establish relationships with key stakeholders, especially GPs and RACFs.
Budget & Efficiency: The estimated cost and in-kind support as needed to complete the project Cost of the activities were carried out within the allocated budget.	**Budget**: the allocated budget was limited and there was no scope for engaging an external evaluator
Commitment & Effort: Commitment between BNPHN and MNHHS and other stakeholders remains strong throughout the project Buy-in from GPs and RACFs toward the new service	**Scope:** 24 RACFs were selected to be the GOAS in-scope RACFs. Any changes will impact on the project outcomes e.g. increased numbers of RACFs, increase in bed numbers of existing RACF', the number of older people in the region, changes of health & diseases trends.

Assumptions	Constraints
Timeframe: The estimated tasks and events needed to complete the project will be carried out to meet a specified project end date	**External factors** such as the implementation of other similar services in the region and changes in RACFs policies
Effectiveness: The estimated tasks and activities required to manage the project meeting key milestones and produce deliverables as planned.	**Infrastructure factors** such as facilities, equipment, database etc…

2.4.3 Managing project assumptions and constraints

All identified assumptions and constraints were managed closely, especially the triple constraint including time, budget and scope, as they have the potential to impact on project outcomes if not managed properly.

- Time: As mentioned above, the 5-phase project process provided a clear time-frame for each phase and deliverables to be produced allowing the project team to adhere with the action plans and deliver the outcomes. Overall, the project deliverables were delivered as planned except the development of clinical pathways as it took longer than expected.

- Budget:
  - The project expenditures were monitored well and reported to the project steering committee on a monthly basis and within the budget.
  - The allocated budget did not include a built-in estimation for return on investment task, which required inputs from a health economist.
- Scope:
  - Increased RACF beds: In the period from Sep, 2017 to Mar, 2018, there were 166 RACF beds added as a result of:
    - Opening of a new RACF - Arcare with 93 beds
    - Extension of Tricare adding 73 beds into its existing RACF
  - Removal of Regis Sandgate in October, 2017
  - Increased ED presentations of people aged 75 years and over:
    TPCH's financial year 2016-2017 showed 7,000 ED presentations per month, of which 800-900 per month were presented by people 75+. The data also showed 75 per cent of these ED presentations were admitted into hospital, equivalent with 22 per cent increase compared to 2015-2016.
- Infrastructure factors:
  - The GOAS main contact number was shared with the GRACE (GP Rapid Access Consultant Expertise) at TPCH. This model created limitations as the GRACE is not managed 5 days per week. The phone during these times is managed by the RAMS/EMU/DUIT (RED) CNC and the Rapid access to medicine and surgical (RAMS) Team leader (with the GOAS CN assisting with calls when on campus). As a result, difficulty with the GOAS receiving the referrals in a timely manner when the GRACE staff member was not present was identified as a barrier.
  - GOAS fax number was initially shared with two ambulatory wards. Referrals, as a consequence, were misplaced or not received. To solve this issue, GOAS purchased its own fax machine to mitigate the risk of misplaced referrals. The new GOAS fax number and updated referral template was distributed to frequent GP users and all in-scope RACFs.
  - Lack of office space: Initially the team were split across two offices creating inefficiencies with communication. To solve this issue, the GOAS team (excluding the Consultant) was relocated to the one office. Although the office space is small, it is convenient for the team to access consumables and facilitated better and effective communication.

- Collaborative factors:

  RACF uptake of clinical pathway training program was slow and the utilisation of the clinical pathways was limited due to many reasons but mainly because all RACFs were available on an afternoon time slot for education. This required negotiation with all RACFs to introduce other times to ensure education for all clinical pathways could be delivered.

- External factors:
  - Policy change in RACF in relation to IDC change: One RACF was advised by their national office that all male IDC insertions were to be managed by an external service or hospital due to an incident in another state. GOAS worked with this RACF in assisting with IDC management until the organisation could implement a strategy to provide a competency based education program. This commencement of the competency-based program has allowed the GOAS to step down from attending to routine IDC changes and only attend difficulties arising from IDC management.
  - New initiatives in the region:
    - The establishment of the joint Brisbane North PHN and MNHHS Health Alliance in late 2016 and its works: The Alliance has identified three priority areas as its core of works and frail older people in the Prince Charles Hospital catchment is one of them.
    - The establishment of Residential Aged Care District Assessment and Referrals (RADAR) service by MNHHS, a single point of contact for all four services for RACFs at four hospitals.

PART 2: THE GOAS MODEL OF CARE

1. Overview:

To ensure the GOAS model of care (MoC) is responsive to meet local RACF needs, the GOAS's aim is to improve quality of care for and reduce potentially preventable ED presentations and potentially prevented hospitalisations by residents in RACFs.

Using the Clinical Service Redesign model to design the GOAS MoC, the MoC therefore was tailored to respond to the context it is in and built upon a number of factors, including strategic alignments, target population, leading research and evidence-based guidelines. The project had also studied numerous similar models across Queensland and internationally to develop a model that was evidence based, best-practices and built on lessons learnt from other models.

In response to the need of having a single and consistent outreach service for RACFs across the region, the GOAS MoC can be adapted or replicated to other hospitals.

The GOAS model is an outreach geriatrician-led service that provides a geriatric-focused outreach service to acutely unwell older persons residing in RACFs within TPCH catchment.

In order to reach the aim, the GOAS provides the following services:

1. Mobile assessments, care and treatment and/or management of acute events and recovery of residents based on the typical end-of-life trajectory of an older person[29] in their own environment and in consultation with the resident or carer, GP, and RACF staff.

2. Education and Training: To enhance capacity of RACF staff, the GOAS also delivers an education and training package on clinical pathways of 22 common conditions

3. Liaison service: For better coordinated and integrated service for residents, the GOAS works collaboratively with a range of organisations and services.

4. Telehealth service

The GOAS team includes a Geriatrician, a Registrar, two Clinical Nurses, an administration officer and is supported by an External Service Facilitator, Clinical Nurse Consultant and is available Monday to Friday, from 7.30am to 4pm.

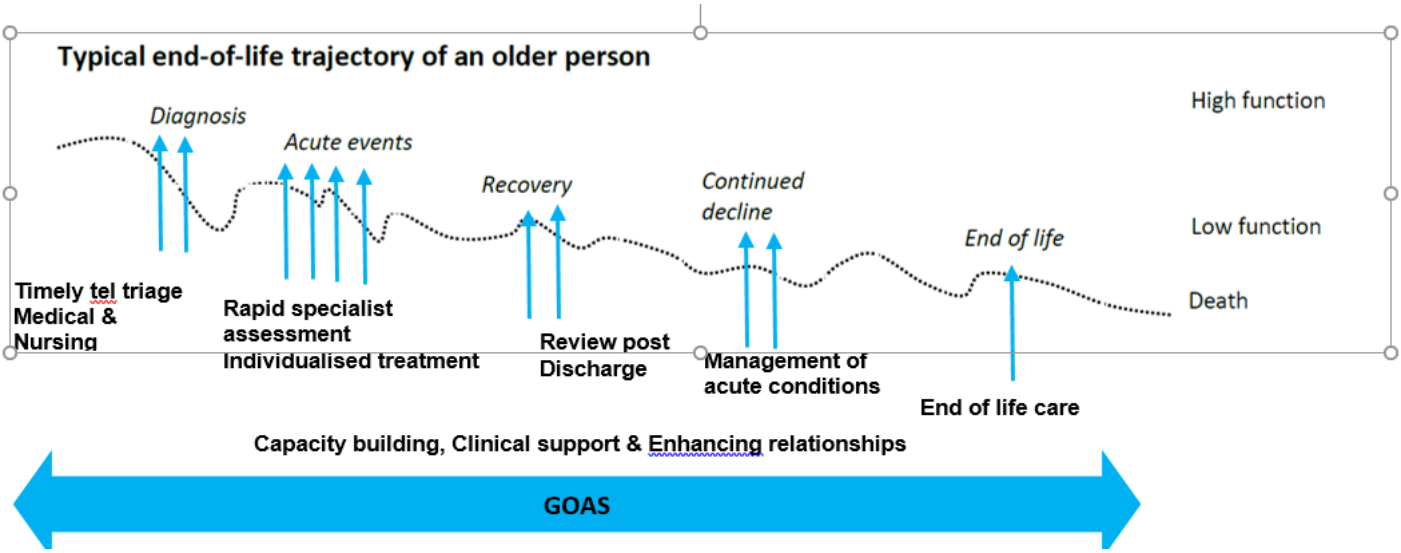
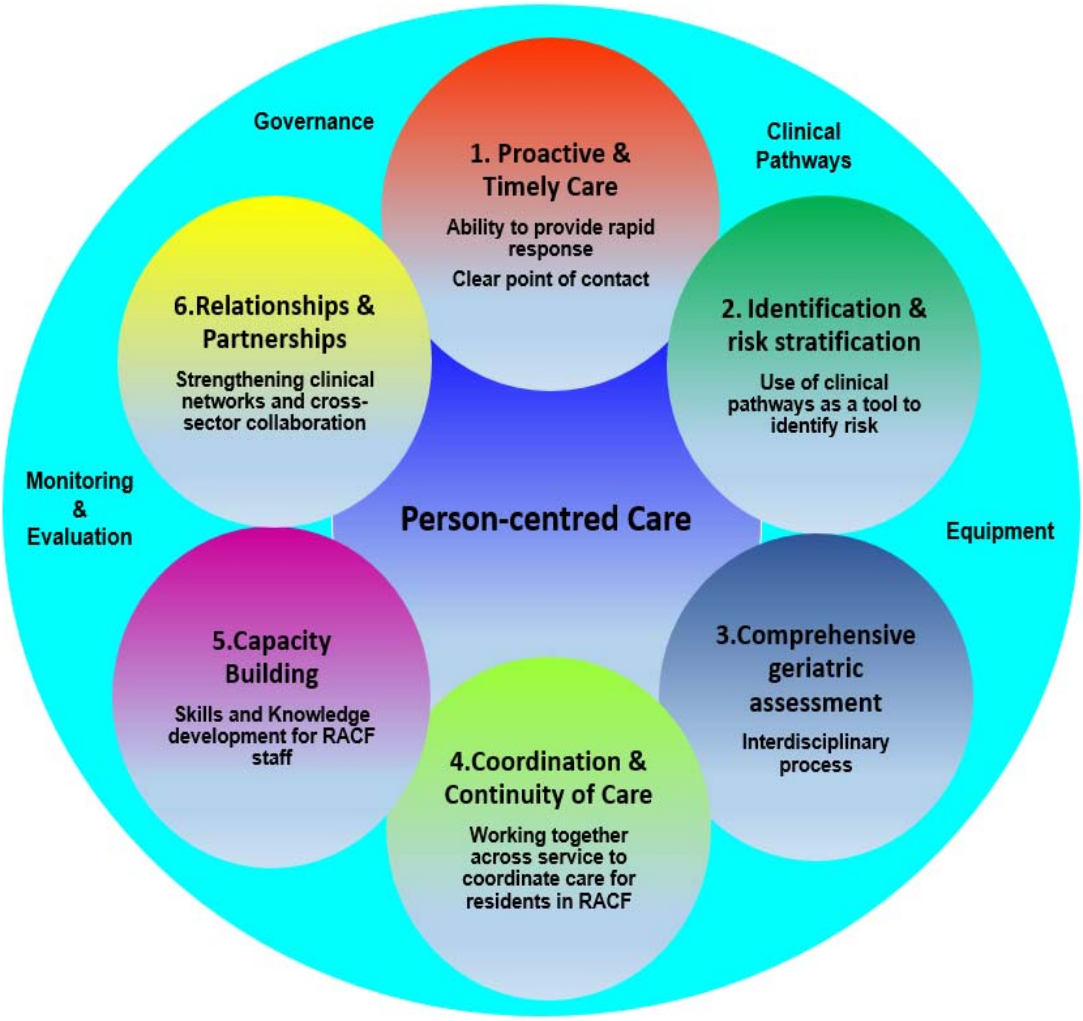


Figure 10: Older person end-of-life trajectory and GOAS design

2. Key elements of the GOAS Model of Care

The GOAS MoC is a unique, person-centred, integrated, evidence-based, best practice care model designed to address the specific needs of the older person. It is based on the successes of other models developed for older persons in RACFs, both internationally and nationally. The diagram outlined below shows the GOAS MoC comprising a person-centred care approach, six elements and key enablers.

Figure 10 GOAS Integrated Model of care with key elements



2.1 Person-centred care principles

The philosophy that underpins the GOAS MoC is that of person-centred care. It describes this as health care that is responsive to the individual differences, cultural diversity and the preferences of people receiving care, and is achieved partly through providing choice in health care[30].

It overarches the GOAS service framework, in which residents, their family members and carers are recognised as important and central to service delivery.

Person-centred care principles include[31]:

- treating patients, carers and families with dignity and respect
- communicate and share information: ensure patient's family and carers remain consulted and informed regularly of their care, treatment and progress
- encourage and support participation in decision-making

2.2.1 Six key elements:

2.2.1 Proactive and Timely care:

Central to this model is the timeliness and responsiveness of the service, in particular in cases where residents would previously have been taken to the ED. The GOAS aims to provide a rapid response service and a clear point of contact for RACF staff to access the service.

With continuity of care as another key element of the GOAS model, it is essential that it is built around the General Practitioner as the primary care provider for the resident. As a result, a GP referral is a prerequisite in the resident's referral criteria, and effective working relationships and communication protocols with GPs need to be prioritised.

The Registered Nurse is also pivotal in the referral process, by proactively assessing the deteriorating resident, and timely communication with the GP and then the GOAS.

The GOAS is available from Monday to Friday 0730 to 1600. This level of service availability was determined based on TPCH ED and admission data, specifically looking at those times when patients are most frequently presenting or admitted from a RACF.

2.2.2 Identification & risk stratification:

Identification of resident needs and appropriate classification according to risk is essential in obtaining the right service at the right time for older people.

The GOAS designed and developed evidence-based clinical pathways, for the recognition of early deterioration and the management of acute medical conditions. The Clinical Pathways tool assisted RACF staff in identifying early deterioration, making relevant observations and gathering clinical information as relevant, in preparation to provide a clinical handover to the GP and GOAS, to determine the appropriate course of action, based on evidence and best practices.

Once a referral is made to the GOAS, the team communicates with the RACF staff and General Practitioner, making clinical decisions based on clinical information obtained and determining an appropriate action.

Use of the clinical pathways and tools is supported by ongoing education and training, local networking opportunities with local service providers, and continued review of the tools by the specialist geriatric outreach team.

2.2.3 Comprehensive Geriatric Assessment

Defined by the Australian Society for Geriatric Medicine as an "interdisciplinary process used to quantify an older individual's medical, psychosocial and functional capabilities"[32], comprehensive geriatric assessment is the core of the specialised geriatric outreach service. This process encapsulates diagnosis, problem identification and goal setting. It also includes the development of a comprehensive management plan, together with other involved care providers[33].

Comprehensive geriatric assessment needs to be undertaken by a team member with specialist clinical knowledge and skills in geriatrics. In this context, team members need to be a dedicated resource to ensure that comprehensive geriatric assessment occurs in a timely manner and rapid assessment is available where appropriate.

The GOAS, apart from having a geriatrician and registrar in the team, uses Telehealth services for consultation to provide timely specialist assessments.

2.2.4 Coordinating and Continuity of Care

Care coordination involves working across services, organisations and sectoral boundaries to maximise health outcomes for older people. Due to the complex relationships involved in the care of an older person living in a RACF, referral protocols and processes and communication across these boundaries are central to development of a strong and smooth model of care.

In the context of the GOAS, General Practitioners remains the primary provider of medical care for the resident, with the RACF staff responsible for the day to day care and support of the resident. Therefore, clinical decision making needs to be collaborative in this environment, involving the resident, carers and providers.

2.2.5 Capacity building

The GOAS capacity building refers to the collaborative approach by sharing knowledge and skills to improve care provided by RACF staff and providing supportive networks and clinical support to GPs. The GOAS is comprised of highly skilled and experienced clinicians and clinical nurses from TPCH who are capable of delivering training programs and transferring skills, with on-going support from nurse educators. The training activity was evaluated to assess its relevancy and effectiveness.

2.2.6 Building Effective Relationships & Partnerships

Residents living in RACFs often have the most complex health needs and as a result, they have high rates of presentation to ED and subsequent hospital admissions.

A report shows that improvement in integration between RACFs, primary care, community services and hospitals can improve health outcomes and costs and lead to better experiences for residents and for staff[34]. However, there is no single way to make integration work; local context and effective relationships, as well as partnerships, are key[35].

In order to work, this approach requires the development of relationships and partnerships between GPs, hospital staff, other health professionals providing services in RACFs, RACF staff, Queensland Ambulance Service and the Primary Healthcare Networks (PHN). Together, they manage residents' care needs prospectively – helping them to keep well, not just reacting to ill-health.

2.3 Enabler factors:

Enabler factors were designed to support as well as to monitor the project progress and performances of the GOAS including:

2.3.1 Clinical Governance

A strong clinical governance structure is essential for the GOAS success, taking into account the complexities of working in complex acute care outside a healthcare environment and involving multiple stakeholders. It is vital that the governance is clear in terms of responsibilities, provision of clinical advice when needed and reporting lines.

2.3.2 Equipment:

The GOAS was equipped with an ECG machine, a bladder scanner, glucometer, oximeter, and syphgnometer. This equipment has proven to be invaluable in delivering high quality care to the resident. The GOAS have access to Iphones and an Ipad for telehealth purpose. The Ipad has access to auslab, the viewer, GOAS generic email account allowing the team to access records and respond effectively to new referrals.

2.3.3 Clinical Pathways:

The GOAS uses Clinical Pathways as the main tool to facilitate decision support for management of residents who are acutely unwell, intervention planning and care coordination as well as for education and training for RACF staff, QAS paramedics and hospital staff. Clinical Pathways play an important role in assisting in the consistency and standardisation of care process, supporting RACF staff in making decisions and identifying appropriate contacts with relevant services.

Details of how the clinical pathways were developed can be found in the GOAS training plan at Appendix 9.

2.3.4 Monitoring and evaluation tools

The GOAS has conducted an evaluation of clinical performances and effectiveness of training activity. A number of surveys were used to achieve this, such as survey of consumer or family/carers, survey of GPs, Survey of Service Providers (RACFs, MNHHS & QAS) and post training feedback. Details are in the GOAS Evaluation Plan at Appendix 8.

2.3.5 Database:

Two database systems using Excel spreadsheets were developed and maintained by the External Services Facilitator CNC, to monitor and report on the GOAS performances including number of episodes of care, referrals, types of interventions and training activities.

A template for diagnosis using the International Statistical Classification of Diseases and Related Health Problems (ICD) codes was developed to enable the GOAS to calculate the number of Potentially Prevented Hospital Admissions and ED presentations. These figures are important in measuring the GOAS efficiency based on a return on investment method.

3. GOAS Services

GOAS provides the following outreach services (Monday to Friday 7:30am-4:00pm) to residents who reside in 24 RACFs in TPCH catchment.

Services the GOAS provide include but not limited to:

3.1 Clinical services:

- Medical and nursing review
- Resident review following hospital discharge
- Management of acute conditions including pneumonia, urinary tract infection, cellulitis, exacerbation of COPD and cardiac failure
- Acute management of behaviour disorder in residents with dementia
- Falls
- End of life care
- Clinical support to GPs and RACF staff in provision of best care for residents with acute care needs

3.2 Education to RACF staff

The GOAS Capacity Building refers to the collaborative approach by sharing knowledge and skills to improve care provided by RACF staff and providing supportive networks and clinical support.

It is well recognised that those with the most direct contact with older people have the least training and support to work with older people[36]. Hence, an improved system of care for older people is reliant on the transfer of knowledge, skills, and systems for supporting carers and RACF staff.

The GOAS has also taken into account lessons learned from earlier models, especially in relation to the lack of provision of education and skills sharing that would avoid ongoing dependency on substitutive services.

A training program was developed aiming at empowering in-scope RACF staff by improving their knowledge and skills in identified acute clinical conditions allowing them have better decision-making skills leading to improved quality of care for residents. See Appendix 9 for details

3.3 Telehealth

Telehealth services have been developed to provide specialist geriatric care to RACF residents who are unable to attend the outpatient department. The service includes:

- Comprehensive Geriatric Assessments
- Review of chronic medical conditions
- Management of Behavioural and Psychological Symptoms of Dementia
- Falls assessment
- Pre-surgical assessments

3.4 Liaison service

For better coordinated and integrated service for residents, the GOAS works collaboratively with a range of organisations and services. The diagram below shows GOAS linkages with key service providers. It also displays a multiple entry points to the GOAS.

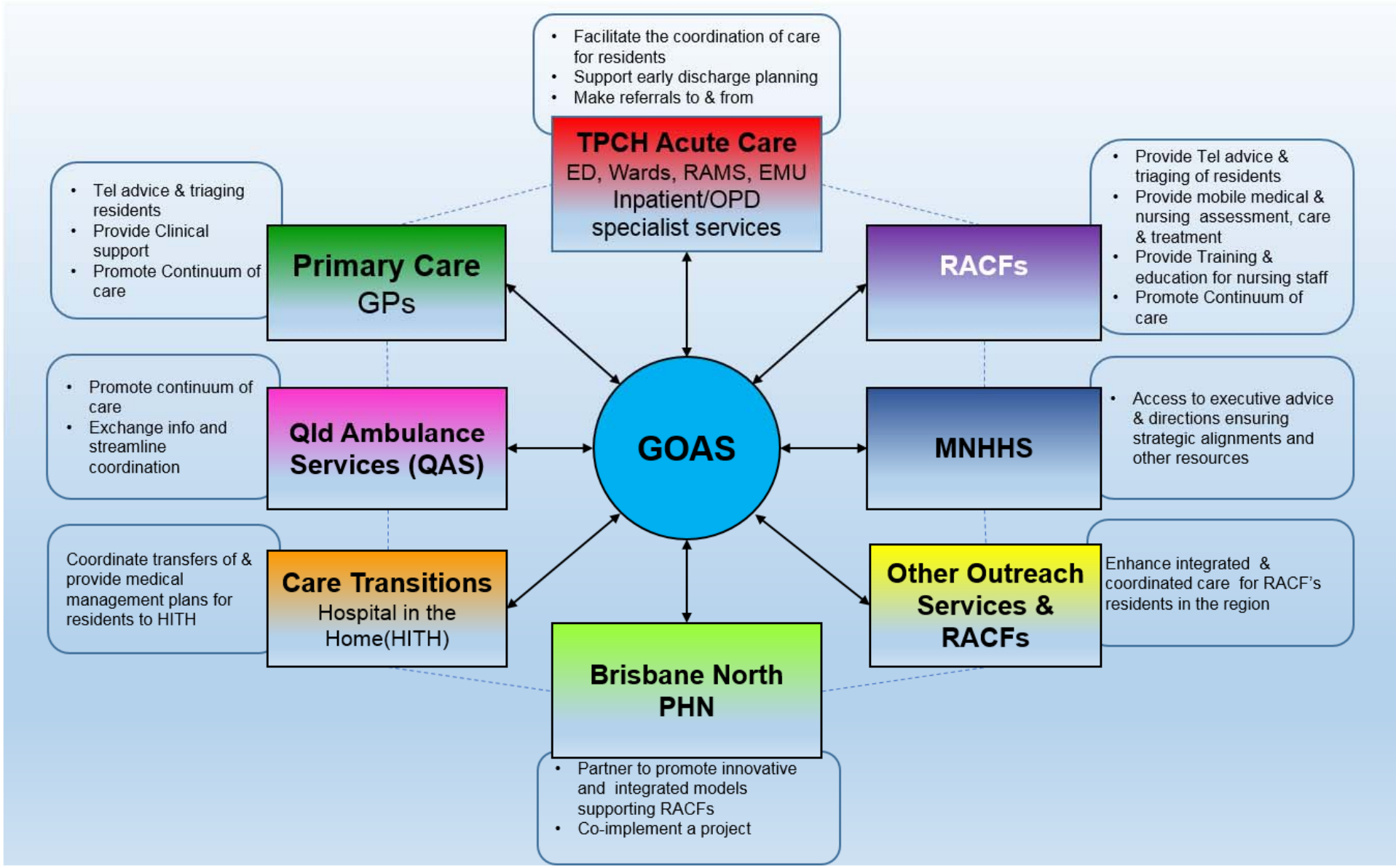


Figure 11: GOAS liaison service

4. GOAS Key Performance Indicators

4.1 GOAS episodes of care definitions:

An episode of care is defined as all services provided to a patient with a medical problem within a specific period across a continuum of care in an integrated system[37]. It includes new and review episodes.

- New episode of care is initiated by a referral to the GOAS and is ended by a discharge or transfer to the acute setting for further intervention that could not be managed safely in the RACF.

- Review episodes: Post the first visit (new episode of care) by the GOAS team, a review may be required to ensure the resident's health conditions remained stable in his/her home. However, depending on specific situations, the review may be initiated at the request of a patient/resident or carer/family. Reviews can also be initiated by the GOAS at the time of their follow up phone call which occurs at day 3 – 5 post discharge from the service. Referrals received from the wards since May 2018 has changed to be classified as a new referral, as it is the first initial involvement of the GOAS.

Potentially Preventable ED Presentations and Potentially Prevented Hospitalisations (PPH) for older persons were based on clinical judgement on a case-by-case basis as to whether or not alternative services could have been provided to an individual client given the system constraints at the time of the event. Only new cases were included (i.e. any GOAS review cases were excluded from the calculation) and included the following diagnoses:

Table 3: GOAS Potentially Preventable ED Presentations Diagnoses

GOAS Diagnosis Categories			
1	Adjustment Disorder	24	Hyponatraemia
2	AKI	25	Laceration / Skin tear
3	Anaemia	26	Infection
4	Aspiration Pneumonia	27	Iron deficiency anaemia with iron infusion
5	Cardiac Arrhythmia	28	Iron Deficient Anaemia
6	CCF	29	Medication effect
7	Cellulitis	30	Mental Health Disorder
8	Chest Pain	31	Pain
9	Constipation	32	PEG
10	Dehydration	33	Pneumonia
11	Delirium	34	Pressure Injury
12	Dementia	35	Progression of disease
13	Dementia with BPSD	36	Renal Failure
14	Depression	37	Routine IDC Change
15	End of Life	38	Stroke
16	Exacerbation COPD	39	Syncopy / Presyncopy /Collapse
17	Falls	40	TIA
18	Fracture	41	Trial of Void
19	Gastroenteritis	42	Urine Retention
20	GI Bleed	43	Urosepsis
21	Haematuria	44	UTI
22	Hyperglycaemia	45	Viral Illness
23	Hypoglycaemia	46	Wound

Prior to the GOAS (from January 2016 to May 2017) 78 per cent of ED presentations from RACFs converted to an admission. Post GOAS (from June 2017 to May 2018) 79 per cent of RACF patients who presented to ED converted to an inpatient admission. These data were used to then extrapolate the number of the potentially preventable ED presentations were likely to have converted to an inpatient admission.

4.2 Key Performance Indicators

Key Performance Indicators (KPIs) were developed for both clinical and non-clinical and set for the GOAS from 12 months onwards. The KPIs were reviewed during the 12-month project to ensure they were realistic and achievable and will be reviewed yearly.

Table 4: GOAS KPIs

KPIs	Number	Descriptions	Indicators
Effectiveness **Equity & Process**	1	Visits per day	3 per day
	2	Numbers of New episodes of care per month	>70% of the total monthly episodes of care
	3	Numbers of Review episodes of care per month	<30% of the total monthly episodes of care
	4	Numbers of Referrals met GOAS criteria	90%
	5	Numbers of GPs refer to GOAS	>60%
Responsiveness	6	Numbers of visits on the same day of referrals received	>60%
	7	Numbers of visits being scheduled for next day	<40%
Quality	8	Clinical inputs by Registrar & CN in all episodes of care	90%
	9	Numbers of discharge back to the resident's GP	>70%
	10	Percentage of Potentially Prevented Hospitalisations	50-75%
	11	Numbers of Telehealth occasions conducted per month	8
Non-clinical indicators	12	Consumer feedback: per cent of satisfied with the service	>90%
	13	GP Feedback: per cent of extremely or likely to recommend the GOAS to colleagues and patients	>90%
	14	Staff of RACF, MNHHS, QAS feedback: per cent of extremely or likely to recommend the GOAS to residents	>90%
Training Indicators	15	Number of topics delivered at a RACF	22
	16	per cent of participants participated	50% staff of each RACF
	17	Number of RACFs participated in the program	24

5. The GOAS team

5.1 Staffing

Table 5: GOAS Staffing Profile

GOAS team members	Key responsibilities
Geriatrician 0.3 FTE **4 hours x 3 days pw** **(Mon, Weds & Thurs)**	This role is an integral role responsible for the delivery of consultant medical and geriatric advice across the GOAS, Hospital in the Home (HITH) and ED. Provides • Clinical supervision to the GOAS team • Conducts Telehealth consultations • Clinical advice and support to GPs
Registrar 1.0 FTE	Dedicated position and works in conjunction with Consultant Geriatricians, CNC and CN to deliver general medical consultation services in the RACFs in TPCH catchment. Provides: • High quality assessment and management of the RACF resident in consultation with the GOAS Geriatrician, residents, GP, RACF and family. • Referral services to the most appropriate specialist services when required
Clinical Nurse x 2 FTE	Responsible for the delivery and monitoring of the GOAS services on a daily basis andprovides: • Clinical assessment and is responsible to support the delivery of specialist assessment and management of residents that supports the delivery of quality clinical care in the RACF. • High-level clinical advice and use a problem solving approach in the management of the older person in the RACF. • Teaching to both patients and their families in order to facilitate learning by participating in the development and delivery of patient education programs/information to facilitate learning and enable residents to remain in their RACF • Teaching to RACF staff on using clinical pathways
Admin Support 0.5 FTE	• Data entry • General admin support

External Services Facilitator (ESF) Clinical Nurse Consultant (Existing position)

The ESF service consists of one Full-time Clinical Nurse Consultant Monday – Friday from 0700 to 1600. This position is an existing position, employed by TPCH, Internal Medicine Services. The ESF works with the GOAS team to:

- support early identification of an RACF resident presenting to the ED and assist in assessment and early discharge/referral for the GOAS team to review the patient in the RACF.
- liaise with RACF staff upon presentation of an RACF resident to the ED to gain a qualitative history to assist in the assessment of the patient.
- provide an advisory role to staff at the RACF to prevent unnecessary presentations, including services available for direct referral to avoid the ED.
- be a supportive role to family/carers and proactively encouraging communication and support and providing resource information.
- be a consultancy role within TPCH to assist with the early discharge of RACF patients to their familiar environment where appropriate levels of care can be delivered safely utilising Hospital in the Home Services.
- Utilise specialty services to implement management plans including heart failure and COPD to ensure early intervention within their RACF environment to avoid presentations.

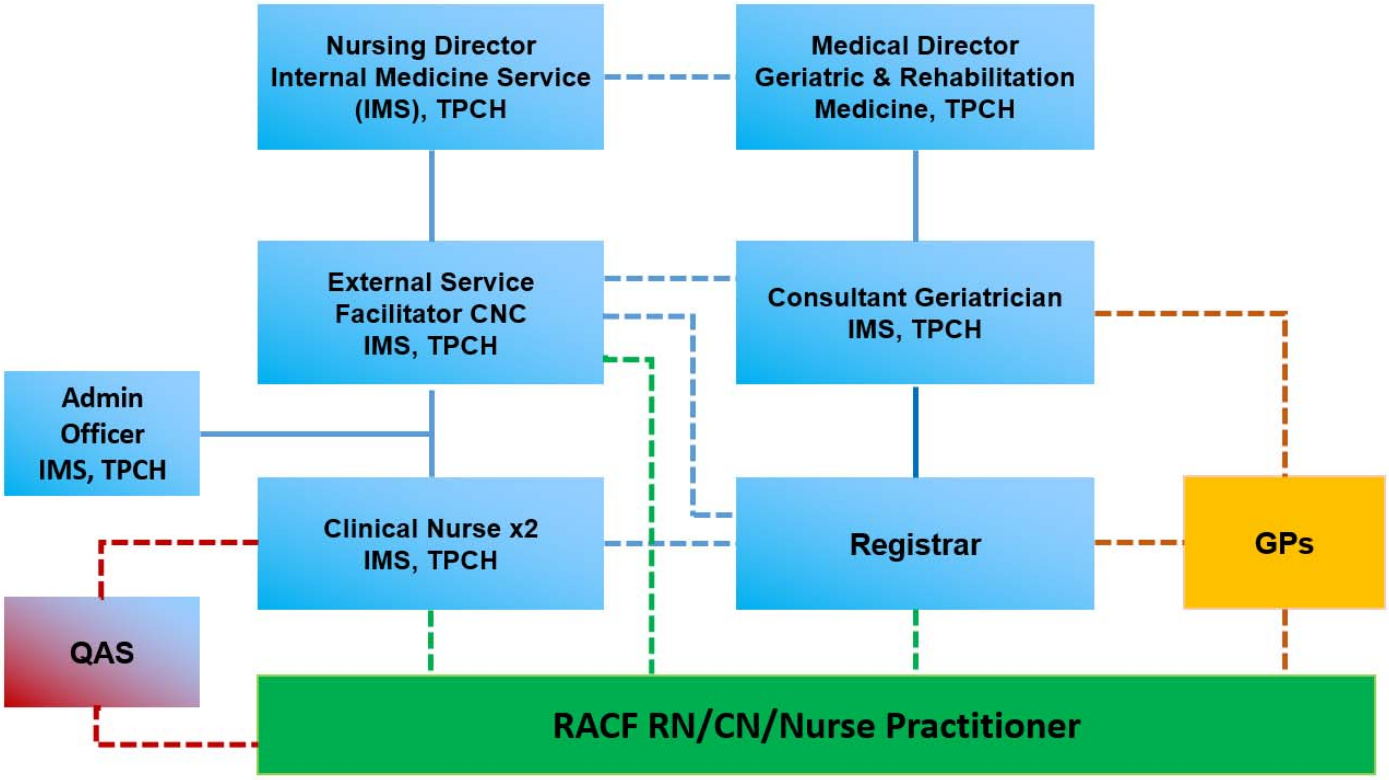
5.2 GOAS Clinical Governance & Reporting lines

The GOAS is led by the Geriatrician and supported by the External Services Facilitator- Clinical Nurse Consultant. The GOAS will have a dual reporting system, with the Geriatrician reporting to the Medical Director, Geriatric & Rehabilitation, Internal Medicine Services (IMS), TPCH and the Clinical Nurses report to the External Services Facilitator who reports to the Nursing Director, IMS TPCH.

The External Services Facilitator and the GOAS Clinical Nurses work as part of the Internal Medicine Program. The Medical Director, Nursing Director and business manager form the structure that holds overall governance and accountability. Financial reports are accessed monthly from a shared drive and reported to Nursing Director of Internal Medicine.

The External Services Facilitator Clinical Nurse Consultant is accountable for the service and reports to the Nursing Director of Internal Medicine Services. The ESF also participates as a member of the Clinical Nurse leadership group and contributes to the development of business plans, quality improvements and cost centre management.

Figure 12: GOAS Clinical Governance and key communication lines



6. Communications

Effective communication among the GOAS team members and with the patient and key stakeholders who are involved in the continuum of care is a critical factor for the GOAS success.

The GOAS implements the following communication tools

- Nursing Debrief occurring twice per week
- Clinical handover and daily planning occurs daily at 8.15am
- Discharge letter is faxed to the GP when the resident's episode of care ceases with GOAS.
- The GOAS Registrar verbally hands over (two way conversation) to the GP post assessment of the resident.
- The GOAS Clinical Nurse provides a follow up phone call from day 3 – 5 post discharge

7. GOAS Referral Criteria, Process & Procedures

7.1 Criteria

External Referrals

Inclusion Criteria of conditions are guided by the Clinical pathways, but not limited to

1. Acute deterioration
2. Cellulitis
3. Urinary symptoms
4. Pneumonia
5. Behavioural and psychological symptoms of dementia (BPSD)
6. Delirium
7. Falls – with or without head injury
8. Febrile illnesses
9. Shortness of breath
10. Chest pain
11. End of Life Care

Internal Referrals

Received from the Emergency Department and inpatient wards electronically via "Refer".
Inclusion Criteria include but, not limited to

1. Review and titration of medication, including those commenced in the Emergency Department.
2. Management of BPSD
3. Heart failure
4. COPD
5. Infections
6. End of life care.

7.2 Referrals Processes

There is a dual referral process, to and from the GOAS. Referrals can be made from multiples services internally and externally. Therefore, the GOAS developed a number of referral pathways to ensure timely and appropriate referrals were being made.

To the GOAS from

- GP/RACF
- TPCH ED or wards
- HITH

- Specialists

From the GOAS to:

- HITH (Hospital In The Home)
- RAMS (Rapid Access Medical and Surgical Unit)
- Specialty services within TPCH and other campuses
- Similar services, including Residential and community liaison service at Redcliffe (RCLS) and Older persons access (OPASS) at RBWH

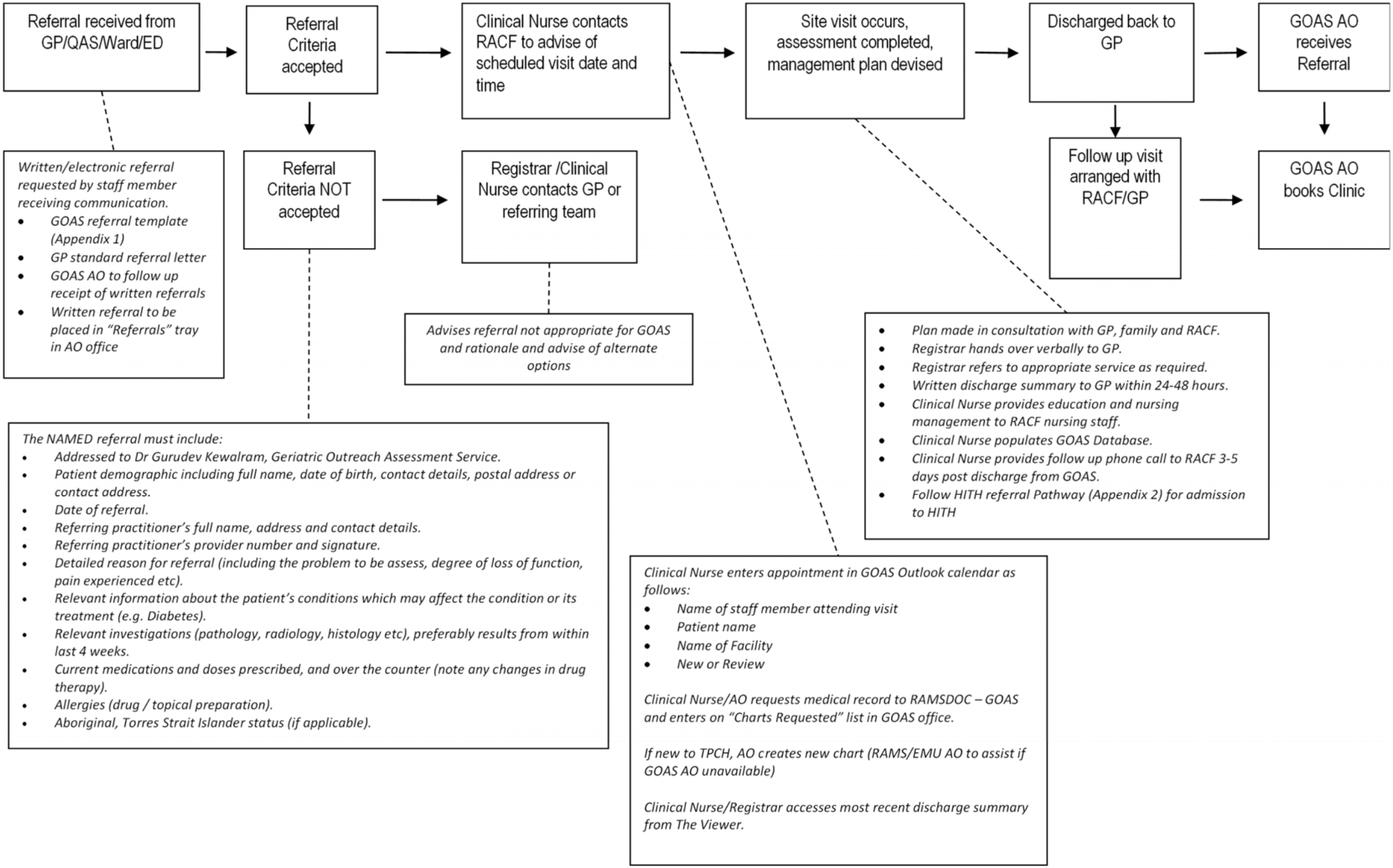


Figure 13 GOAS Referral Processes

7.3.1 Referral Procedures

It is mandatory that the referral is for a resident who requires acute medical attention and resides in one of the 24 in scope RACF sites. Referrals are received either from the General Practitioner, Nurse Practitioner, RACF Registered Nurse (with GP consent), Queensland Ambulance Service (QAS), The Emergency Department at TPCH or inpatient wards and other similar services such as the Residential Care Liaison Service (RCLS) at Redcliffe Hospital.

Referrals to the GOAS can be made by:

- phoning to (07) 3139 6896. GPs can call the registrar directly for advice and referrals
- written referrals are to be provided by the GP and can be faxed to (07) 3139 4395. GPs can use either their own letterhead referral addressed to the GOAS or the template referral provided by the GOAS. (See Appendix 10 GOAS service profile for further detail).

For timely responses, a completed referral form comprising all requested information is required. It is recommended that a telephone call to the service as first point of contact then followed by a written referral be provided. In doing so, miscommunication between RACF and GP can be minimised. In addition, referrals without a phone call may result in missed referrals.

For RACF residents who require urgent medical imaging, a direct admission to the Rapid Access Medical and Surgical (RAMS) unit is facilitated under the GOAS Consultant unless known to a previous Medical Consultant in the last 12 months.

If the resident requires hospital admission, they will be admitted under the General Medicine Consultant on call via direct transfer to RAMS, avoiding prolonged stays in emergency department.

7.4 Discharge Procedures & Transition of care to other service providers

Upon completion of treatment, the patient will be discharged back to the care of their GP. A discharge letter is faxed to GPs within 72 hours, In most circumstances general practitioners will also be contacted via phone for handover purposes

If a review is required, another appointment will be arranged by the GOAS, which will confirm the date for review with the RACF and resident/carer and ensure it is entered in to the calendar. This may include follow up of pathology or medical imaging.

If the resident requires transfer to another hospital, a verbal handover is provided to the accepting Consultant and clinical documentation is sent with the resident.

For handover to similar services – a discharge letter and supporting documentation is sent via email to the services email account and a date of review requested for the service to follow up the resident in their RACF.

8. Patient Safety and quality care

The GOAS abides by RACF legislative requirements. TPCH currently utilises Riskman for reporting incidents as well as capturing consumer feedback. Evaluation tools such as survey of consumer, GPs and RACF staff are being conducted for continuous improvement purposes

Members of the team participate in quality activities across the hospital to ensure best practice for patients. Implementation of referral pathways, delivery of education/clinical pathways to RACF in order to improve RACF staff capacity resulting in better care for the residents.

9. Information technology and management

Each position has access to a desktop computer in the office with access to HBCIS, NOVELL, Riskman, TRENDCARE, EDIS, Viewer, Microsoft outlook, AUSLAB, QHEPS and a shared drive folder. In addition, the CNC has access to work brain. Each computer is linked to the GOAS office printer and other communal printers within close proximity to the GOAS office. Access to these computers is available during core business hours. There is a plan for developing online referral for GPs to GOAS in the near future.

GOAS has an Ipad which is used for telehealth purposes and access to the generic email account, auslab, viewer, qheps, eunity and community pathology. ESF CNC has a portable DECT phone. The GOAS Registrar and CN have a mobile phone. There is a computer allocated for the GOAS CNs to share, one for the ESF CNC and a computer for the Administration Officer, which is shared with the GOAS Registrar.

Each staff member has access to Metro North QHEPS.

Each position collects and records activity data manually on an excel spread sheet.

Each database is reviewed by the CNC and this information is delivered to the Nursing Director, Internal Medicine Services and Brisbane North PHN and the Steering Committee.

Rosters and Reports are accessed from Trend care

All staff have access to G drive and the GOAS calendar, inclusive of relieving staff, to ensure data is maintained.

CNC completes monthly financial report for cost centres for review by the Internal Medicine Nursing Director.

Daily automated Consultations Request Listing report received from EDIS for the External Services Facilitator. Information used to address after hours referrals and activity and identify appropriate patients.

PART 3: THE GOAS PILOT EVALUATION & FINDINGS

1. The GOAS Evaluation Overview

1.1 The GOAS Evaluation Plan

The main aim of the GOAS evaluation was to determine the extent to which the GOAS improved quality of care and reduced potentially prevented emergency presentations and hospital admissions of residents who reside in 24 selected residential aged care facilities in TPCH catchment. In addition, the evaluation aimed to understand whether the GOAS was cost-effective and feasible to expand across the Brisbane North region.

To achieve this aim, the evaluation plan objectives were:

- to assess the achievement of the stated project outcomes (Outcome evaluation)
- to identify factors that supported and barriers that impeded successful implementation of the GOAS (Process evaluation)
- to identify an optimal process for the implementation, adoption and sustainability; and scale up of such a project or service, should it be replicated in other jurisdictions as recommended

The GOAS evaluation plan was tailored to fit the context of the project being implemented and built on existing evaluation experiences of similar initiatives, knowledge, validated tools and evidence-based best practices. As a result, the GOAS Evaluation framework was underpinned by the GOAS project logic framework and embraced a number of evidence-based frameworks, tools and lessons learned. In particular, the GOAS evaluation framework has taken into account the three-year experience of CARE-PACT, a similar model that has been implemented in Metro South Hospital and Health Service in its design process.

To best capture the desired data and information, the GOAS evaluation framework was divided into three levels to reflect its multiple levels of stakeholders across sectors including Primary Care, Acute Care, Residential Aged Care and consumers and each level has different evaluation tools and indicators. A mixed methodology of quantitative and qualitative was used for evaluating the GOAS. For details of the GOAS Evaluation Plan including data collection tools and limitations can be found at Appendix 8.

Due to a funding constraint, the evaluation plan was conducted internally by the GOAS Project team with support from the PHN's Evaluation and Reporting Officer. This arrangement provided both advantages and disadvantages. The key benefit of this arrangement was the internal evaluation team's knowledge of the project, stakeholders and the context. It also had already established relationships with participants. This created a time and sensitivity advantage and in a short timeframe project, was essential for success. This enabled the project to conduct six (6) surveys in eight months and receive more than 1,700 responses. Furthermore and of particular relevance when introducing a brand-new service, feedback received from stakeholders throughout the project duration was extremely useful enabling the GOAS to alter the service accordingly in a timely manner to meet community needs.

Table 6: The GOAS Evaluation's key elements

<table>
<tr><th>Key Elements</th><th>Description</th></tr>
<tr><td>Framework</td><td>The GOAS combined framework embraces evidence-based best practices frameworks as follows:
The Report on Government Services (RoGS) Performance Indicator Framework (CARE-PACT),
Multilevel framework for health program evaluation
PHN Performance Framework
National Health Performance Framework
The Performance and Accountability Framework</td></tr>
<tr><td>Methodology</td><td>Mixed approach using both Quantitative & Qualitative methods</td></tr>
<tr><td>Validated tools</td><td>Victoria Health Partnerships tool
Sustainability factor tool
Generalisability checklist – University of Wollongong
MNHHS Patient Experience Survey - Connection and Respectful Experience (CaRE)</td></tr>
<tr><td>Levels</td><td>Consumer
Service Provider
The care delivery system</td></tr>
<tr><td>Indicators & Domains</td><td>Indicator Number
Domain
Outcome 28
Satisfaction
Effectiveness
Equity
Reach
Sustainability
Efficiency
Process 25
Generalisability
Collaboration
Capacity building
Fidelity
Frequency
Context
Governance</td></tr>
<tr><td>Survey tools & timelines</td><td>
<table>
<tr><th></th><th>Survey & Administration methods</th><th>Timelines</th><th>Frequency</th></tr>
<tr><td>1</td><td>Paper-based consumer survey (p33)</td><td>15/09/17 to 15/04/18</td><td>After episode</td></tr>
<tr><td>2</td><td>Paper-based or on-line in-scope GP survey: https://www.surveymonkey.com/r/KW8CHFH</td><td>15/09/17 to 15/04/18</td><td>Twice per GP</td></tr>
<tr><td>3</td><td>Online or paper-based stakeholder survey: https://www.surveymonkey.com/r/KM6VQGT</td><td>15/02 – 15/04/18</td><td>Once</td></tr>
<tr><td>4</td><td>Online pre/baseline Project Team & Steering Committee Survey https://www.surveymonkey.com/r/ZB8ZCW2</td><td>15/09-20/10/17</td><td>Once</td></tr>
<tr><td>5</td><td>End-project Project Team & Steering Committee Survey https://www.surveymonkey.com/r/75QBSN3</td><td>23/04/18 – 30/04/18</td><td>Once</td></tr>
<tr><td>6</td><td>Paper-based Post Training Feedback for RACF nursing staff</td><td>15/09/17 to 15/04/18</td><td>After training session</td></tr>
<tr><td>7</td><td>GP Semi-structure Interviews</td><td>01/03 -30/04/18</td><td>5 GPs</td></tr>
<tr><td>8.</td><td>Case-study</td><td>01/03 -30/04/18</td><td>2 cases</td></tr>
</table>
</td></tr>
<tr><td>Data sources</td><td>Results from surveys & Interviews
Project documents
External Services Facilitator database
The GOAS database
TECHY ED records/EDIS
Riskman
Case studies</td></tr>
<tr><td>Cost analysis:</td><td>An analysis of doing nothing or implementing the GOAS and the costs borne by various stakeholders</td></tr>
</table>

1.2 Key findings

Key findings in this report are divided into three domains: Effectiveness, Process and Efficiency and drawn from various sources.

Table 7: Summary of evaluation response results

	Evaluation Tools	Method	N# of Qs	Estimated Sample size	N# of responses	Estimated Response Rate
1	Baseline & End-Project Survey	Online	23	24 30	12 24	50 % 80%
2	GP Survey	Paper & online	8	35	39	100% *some GPs may have completed the survey more than once however surveys were de-identified so this is not known
3	Consumer Survey	Paper-based	12	744	51	6.85%
4	RACF Staff Training Feedback	Paper-based	10	3,019	1,562	51.83%
5	Service Provider Survey	Paper & online	11	400	57	14.25%
6	Case study	Interview			3	
7	Interview and Consultations	Interview			25	
	TOTAL				**1,773**	

Key Findings Summary

	Domain	Key Findings 12 June 20 17 – 31 May 2018
1	**Process Evaluation**	
1.1	**Fidelity**	• Overall delivery of the project deliverables was in line with the planned timeframes despite there being some delays in the "initial" and "planning" phases. • The momentum and strategic focus within both the MNHHS and PHN facilitated and supported the GOAS implementation. • The policy of some RACFs/GPs to directly refer patients to ED was still a barrier. • The GOAS has referred residents directly to other services such as Hospital In The Home, Mental Health and Medical imaging bypassing ED.
1.2	**Reach**	• 34% of GPs who provide services to residents in RACFs in the catchment referred to the GOAS. • 30% of aged care beds from referring RACFs in the region were in scope. • Cumulatively the number of GPs referring (35) and RACFs participating (24 in total) increased over the period. • Word of mouth was reported as a crucial way that GPs had found out about the GOAS. • A range of articles were published in Network Link and Partners In Health as well as on the PHN website to increase awareness.
1.3	**Satisfaction**	• 98% of consumer and carers, 87% of GPs and 100% of stakeholders surveyed would recommend the GOAS. • 96% of stakeholders surveyed agreed the GOAS supported and built trust, dependability and integrity between service providers. • 84% of stakeholders surveyed agreed the GOAS provided support to RACF staff through education and training on clinical pathway.
1.4	**Collaboration**	• The partnership demonstrated many of the attributes of a genuine collaboration partnership. • Initially, roles and responsibilities were reported to be unclear however improved over the course of the project. • **GPs**: Of the 39 GPs who responded 24% of GPs surveyed reported that the GOAS fostered relationships with other HHSs and 60% of GPs reported it fostered relationships with residential aged care providers and 12% with the PHN. • **Stakeholders**: 33% of stakeholders surveyed indicated the GOAS enabled them to build partnerships with MNHHS, 29% with the Brisbane North PHN, 20% with RACFs and 84% with TPCH. • **Steering Committee**: 50% of members indicated the GOAS enabled them to build partnerships with MNHHS, 19% with Metro South HHS, 56% with the Brisbane North PHN, 81% per cent with RACFs, 81% t with GPs, 25% with Queensland Health, 50% with QAS and 88% with TPCH • Semi structured interviews revealed there was a greater understanding of the role of the PHN fostered through the project.

	Domain	Key Findings 12 June 20 17 – 31 May 2018
2	**Effectiveness / Outcome Evaluation**	
2.2	**Consumers experiences**	• Consumer and carer feedback was overwhelmingly positive with 98% of consumers and carers surveyed likely to recommend the GOAS to family and friends. • Consumers and carers interviewed did not recognise "the GOAS" but remembered the doctors and nurses that came out and talked to them and were highly impressed with the services they received. • Consumers most valued “being listened to”.
2.2	**Potentially prevented ED presentations/ hospitalisations**	• There is a declining trend for admissions from in-scope RACFs but an increase from out of scope RACFs. Whilst this change is not statistically significant, it may indicate early signs of the GOAS progress towards reducing inpatient admissions. • Post GOAS implementation (June 2017) ED presentations for in-scope RACFs remain stable, whilst out of scope RACFs see an increase. Whilst this change is not statistically significant, it may indicate early signs of the GOAS progress towards reducing ED presentations. • Overall 638 episodes (92%) were estimated to be potentially prevented presentations/admissions from June 12th 2017 to May 31st 2018.
2.3	**Timeliness of care**	• 71% of GOAS services were provided on the same day of referrals compared to 60% target. • The average length of stay for in-scope RACF residents was 0.63 days less than out of scope RACFs (includes total patient journey from ED to admission). • 68% of consumers and carers surveyed felt they were responded to in a timely manner.
2.4	**Safety and quality of care**	• For in-scope RACFs, the ED representation rate within 28 days decreased by 2.7per cent post GOAS implementation. • 99% of referrals met the GOAS criteria for referral. • 91% of episodes were seen by both a registrar and a clinical nurse. • 73% of patients required no further follow up or were discharged back to their GP. • 88% of consumers were satisfied with the quality of care they received overall. • 98% of stakeholders surveyed agreed the GOAS provided a high quality service.
2.5	**Continuity of care**	• GOAS facilitated 16 direct admissions over the period (12 June 2017 to 31 May 2018). • The average length of stay for in-scope RACF residents was 0.63 days less than out of scope RACFs. • 98% of stakeholders surveyed agreed the GOAS streamlined the referral process for residents. • 98% of stakeholders surveyed agreed the GOAS worked with others to improve access to and provide better coordination and integrated care for residents.
2.6	**Improved access – including equity of access**	• The GOAS improved access to specialist geriatric outreach care for 744 patients equating to 960 episodes of care over the period. This equated to an average of 3.9 episodes a day over the period. • There were no barriers reported in terms of access for disadvantaged groups.

	Domain	Key Findings 12 June 20 17 – 31 May 2018
3	**Efficiency /Sustainability/Replicability**	
3.1	**Replicability and transferability**	• 98% of stakeholders surveyed would support the service to be expanded across Metro North. • 87% agreed the GOAS would be suitable to be replicated at other hospital or on a larger scale. • If it was to be implemented elsewhere, the geographical distances travelling between RACFs may also need to be considered. Telehealth could be used in more regional areas where distances are too far to travel. • GPs reported for the service to be replicated the following would need to be considered: education amongst GPs and private practice about the availability, collaboration with health informatics and increased funding and staff.
3.2	**Capacity building**	• 417 training sessions were delivered to 3,019 participants at RACFs. • 98% of RACF staff who responded to the training feedback agreed the training had increased their knowledge / improved their confidence in managing RACF patients/ met their learning needs and was relevant. • 90% of RACF staff surveyed agreed they would make changes to their nursing practice based on the training they had received • Training was seen to improve the quality of referrals to GOAS.
3.3	**Cost analysis**	• Under option one patients continue to use the emergency department and/or hospital care and the cost of treatment is borne by the state at a cost of approximately $3,469,000 - $4,332,000. • Under option two the GOAS service is provided and it is assumed all those who would have gone to the emergency department for treatment receive a GOAS visit. The cost is shared by the state and federal government at approximately $745,598, which is the cost of the service. • Based on this analysis option two represents a cost saving to the state.
3.4	**Sustainability**	• The GOAS demonstrated many of the factors of sustainability including infrastructure for sustainability, a fit with the strategic aims of the organisation, clinical and senior leadership engagement, staff involvement and training to sustain the process and benefits beyond helping patients. • There was an improvement in five of the ten sustainability factors at follow up. Six of the ten elements scored at 100% (Factor 1) supporting sustainability. • Stakeholders reported a seven-day service / after-hours service would be utilised. • Challenges were evident in securing long term funding for the project within the context of an activity based funding environment

2. Results

3.1 Process Evaluation

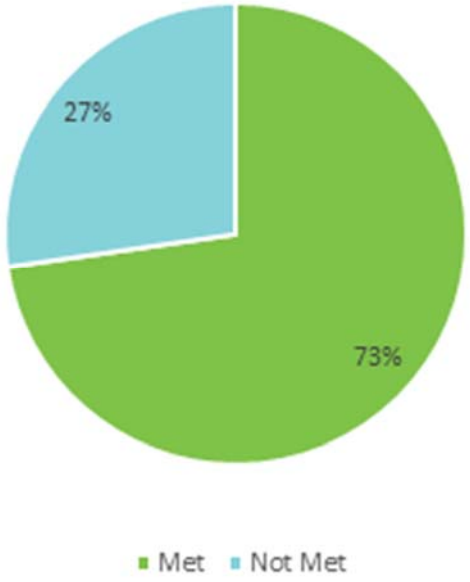
How well was the project implemented?

Domain	Criteria	Data Source	Findings
1. Fidelity	Delivery in line with planned timeframes/budget Unintended impacts of the project	Project documentation Semi structured interviews Stakeholder survey	• Overall delivery of the project was in line with planned timeframes despite there being some delays in the initial period • The momentum and strategic focus within both the MNHHS and PHN facilitated the GOAS implementation • The policy of some RACFs/GPs to directly refer patients to ED was still a barrier • The project has increased referrals to other services such as HITH, MH and medical imaging
2. Reach	Exposure amongst stakeholders GPs and RACFs referring	Stakeholder survey GOAS database Semi structured interviews Project documentation	• 34% of GPs who attend RACFs in the catchment referred to the GOAS • 30% of aged care beds from referring RACFs in the region were in scope • Cumulatively the number of GPs referring (35) and RACFs participating (24) increased over the period • Word of mouth was reported as a crucial way that GPs had found out about the GOAS • A range of articles were published in Network Link and Partners in Health newsletters as well as on the PHN website to increase awareness
3. Satisfaction	Majority of consumers, GPs, stakeholders likelihood of recommending GOAS	Consumer and carer surveys GP survey Stakeholder survey Semi structured interviews	• 98% of consumer and carers, 87% of GPs and 100% of stakeholders surveyed would recommend the GOAS • 96% of stakeholders agreed the GOAS supported and built trust, dependability and integrity between service providers • 84% of stakeholders agreed the GOAS provided support to RACF staff through education and training on clinical pathway
4. Collaboration	Reported levels of trust, integrity and dependability, reported effectiveness of working together, effective governance structures and understanding of roles and responsibilities	Steering committee survey Semi structured interviews Stakeholder survey	• The partnership demonstrated many of the attributes of a genuine collaboration partnership • Initially roles and responsibilities were reported to be unclear however improved over the course of the project • **GPs**: 24% of GPs reported that the GOAS fostered relationships with other HHSs and 60% of GPs reported it fostered relationships with residential aged care providers and 12% with the PHN. • **Stakeholders**: 33% of stakeholders indicated the GOAS enabled them to build partnerships with MNHHS, 29% with the Brisbane North PHN, 20% with RACFs and 84% with TPCH. • **Steering Committee**: 50% of members indicated the GOAS enabled them to build partnerships with MNHHS, 19% with Metro South HHS, 56% with the Brisbane North PHN, 81% with RACFs, 81% with GPs, 25% with Queensland Health, 50% with QAS and 88% with TPCH. • Semi structured interviews revealed there was a greater understanding of the role of the PHN fostered through the project.

3.2.1 Fidelity

Overall delivery of the project was in line with planned timeframes despite there being some delays in the initial period.

Figure 14: Proportion of key deliverables delivered in line with plan excluding project closure phase*



*As at May 2018

There were some delays initially in:

- the development of the clinical pathways booklet which then delayed training with RACF staff (planned for July and commenced in September)
- the documentation of the clinical services guide /service profile/stakeholder mapping and
- accessibility of transportation and resources in the beginning

Feedback from semi-structured interviews revealed it may have been useful for staff to commence prior to the go-live to allow adequate time for planning and preparation for the service commencement, e.g. to undertake advertising and obtain equipment. It was recognised that the initial timeframes planned may have been an underestimation of the time and level of effort required in the early stages of the project.

The GOAS service commenced the 12 June 2017 and reached its targeted number of referrals in a short time. Monthly steering committee meetings, weekly project team meetings, progress reports and review reports were delivered on time.

Strategies reported to have increased acceptability of the GOAS were:

- Promoting the key aim of the GOAS, which was focusing on improving quality of care of the residents.
- Education to the families, GPs and RNs in the residential aged care facilities
- Provision of pathways with educational events for RACF staff
- Promotion of the service broadly to increase up take through fliers to GPs, RACF, QAS & family, meet and greets with RACF facility managers, attendance at family meetings, information in RACF newsletter and face-to-face presentation to QAS.

Facilitators and Barriers

The GOAS experience revealed a number of facilitators and barriers to implementation:

Factors that helped achieve successful outcomes included:

- The existing momentum and strategic focus on the elderly both within the MNHHS and Brisbane North PHN was seen to facilitate getting the project off the ground initially
- Funding support from MNHHS and the Brisbane North PHN as well as backbone support from the PHN
- The collaborative relationship between the PHN and HHS
- Having access to the lessons learnt and experiences of other similar programs such as the RCLS and CARE-PACT models of care
- Having the right model of care
- The existing relationships between RACFs and TPCH and empowering nursing homes so they had the motivation and knowledge to promote GOAS to GPs
- Flexibility to tailor training in the RACFs such as adapting content to the audience who attended and being flexible with times and availability to attend RACFs
- Having an inclusive steering committee which included broad cross sector representation
- The capability of clinicians to engage well with consumers and families within RACFs and clinical experience implementing similar models of care
- The separation of project management from clinical management
- Relationships with GPs as the referral base: this also fostered the uptake of the GOAS as many found out about the GOAS through word of mouth
- Communication; clear direct communication with frontline staff and the practitioner sending the referral
- Building trust between stakeholders and investing in developing relationships
- Time invested in going to RACFs and engaging staff/ training and in-service education with RACFs
- Having the right team, clinical staff championing the project and going above and beyond what was required to offer hospital level care out of hospital
- Families advocating to gain access

*Barriers*Multiple barriers to implementation of the GOAS project were identified. Some of these barriers also represent opportunities to improve systems and to further contribute to a sustainable positive change. Barriers to implementation of the GOAS project include:

- The policy of some RACFs/GPs to directly refer patients to ED or family circumstances may cause patients to be referred to ED
- Manual data collection and entry of GOAS service event data, RACF patient ED presentations and admissions. There was a reported need for real time clinical data to be available.
- Slow uptake and engagement from some stakeholders e.g. QAS, RACFs, TPCH ED
- Difficultly to engage staff at some RACFs to attend education sessions especially where senior staff are not engaged with the education component. Low uptake of education in the first few months.
- Time spent locating RNs when doing clinical visits when the team first arrive
- Workload, financial and budget pressures
- GOAS phone number not having full coverage during the week, dedicated fax/printer only part way through the project and changing of fax numbers caused some confusion.
- Turnover of staff in RACFs and among stakeholders
- The overall short time frames of the project
- Limitations of the service not being available at certain times i.e. weekends, after hours
- Availability of GPs to respond to calls regarding patients
- Documentation is often stored in scanned electronic files at facilities but not always kept in the most recent notes so may not be seen by staff and therefore recommended treatment may not be seen/followed
- Telehealth being dependent on the internet at facilities which was limited or not available in all instances

- Sometimes there was confusion from RACFs knowing to who to contact GOAS or HITH.

Budget

The project was implemented within the allocated budget .The total cost compared to the budgeted expenditure is outlined in the table below.

A number of resources were contributed in kind including:

- RACF participation in the Steering committee
- GP participation in the Steering committee
- External service facilitator role within the TPCH
- PHN meeting rooms, on cos , communications/media and evaluation support
- GP time/phone calls

Table 8: Budget vs. Expenses

ITEMS		TIME-FRAME	BUDGET Costs	EXPENSES AS OF 30.06.17	EXPENSES 01.07.17-31.05.18	BNPHN EXPENSES AS OF 31.05.2018	TOTAL EXPENSES 31.05.2018	BALANCE AS OF 31.05.2018
Labour Costs	0.20 FTE Geriatrician L24	Apr, 17-Jan, 18	$33,028	$ 14,671	$ 21,409			
	0.30 FTE Geriatrician L24	Feb -Jun, 2018	$24,771		$ 19,817			
	1.0 FTE Registrar L13	Jun, 17 - Jun, 18	$147,235		$134,965.42			
	2.00 FTE Clinical Nurses NGR6	Apr, 17- Jun, 18	$243,200	15,541	$ 200,958			
	0.50 FTE Admin Support AO3	Jun, 17 - Jun, 18	$43,238	1,323	$ 33,210			
	0.80 FTE Project Lead	Jun, 17 - Jun, 19	$77,600			$ 71,133		
	Total 1		**$569,072**					
Others								
	ECG	Jun, 17 - Jun, 18	$ 8,500		$ 2,643			
	Bladder scan		$ 13,575					
	Ipad		$ -		$ 589			
	Motor Vehicle leasing + Fuel & Oil		$ 11,083					
	Clinical Pathways handbook		$ 5,000			$ 5,000		
	Communications – Fliers, Catering		$ 2,000			$ 2,000		
	Total 2		**$ 40,158**					
	GRAND TOTAL		**$609,230**	**$ 31,535**	**$ 413,591**	**$ 78,133**	**$ 523,260**	**$ 85,970**

Unintended Impacts

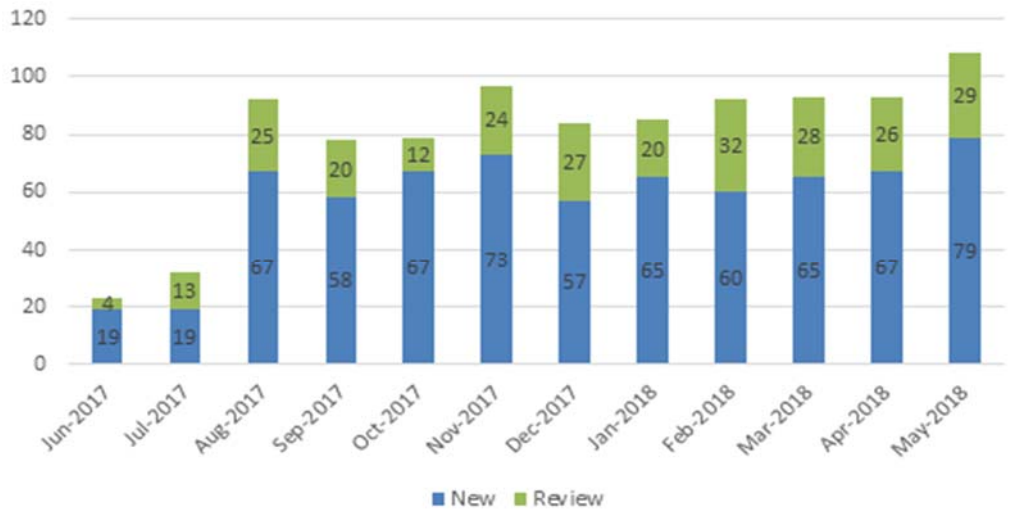
A number of unintended impacts were reported by stakeholders:

- The volume of calls about urology was unexpected indicating a need for subspecialty nurses in nursing homes and the community. Training was required to ensure the GOAS could support if required.
- The volume of referrals upon the service commencing was unexpected with the targeted number of referrals achieved and uptake from GPs occurring within a short time
- The GOAS project also fostered a greater understanding and appreciation of the roles and responsibilities of GPs
- As GOAS volumes increased so too have referrals to other services such as HITH, Mental Health, imaging
- The GOAS fostered collaborative relationships with other stakeholders for example the Metro South HHS
- The GOAS strengthened relationships and understanding of roles between the PHN, Queensland Health and the HHS which led to the older persons plan, collaborative work to develop a frailty score and processes, progress on the development of state-wide pathways and the RADAR initiative
- Some residents/families now expect they will have the option of a medical review from a hospital/geriatric practitioner in order to avoid potential hospital transfer.
- GOAS relationships have helped inform Health Alliance initiatives for frail elderly
- GOAS queries of facility nursing staff had the potential to make staff second guess the decision to send a patient to hospital however sometimes family involvement influenced the decision to send a patient to hospital regardless of the clinical situation

3.2.2 Reach

Approximately 30 per cent of RACF aged care beds in the region were in-scope for the GOAS. Overall, the GOAS delivered 960 episodes of care to these RACFs from June 2017 to May 2018. On average, there were 4 episodes per day above the target of 3 per day. 73 per cent of services were for new patients. In addition, 18 Telehealth services were delivered below the target of 80. Some barriers to the use of Telehealth included availability of internet with RACFs, and the Telehealth device being too small and difficult to hear.

Figure 15: GOAS services by month, Jun 17 – May-18



Source: GOAS Database Jun 17 – May 18 extracted 4/6/18

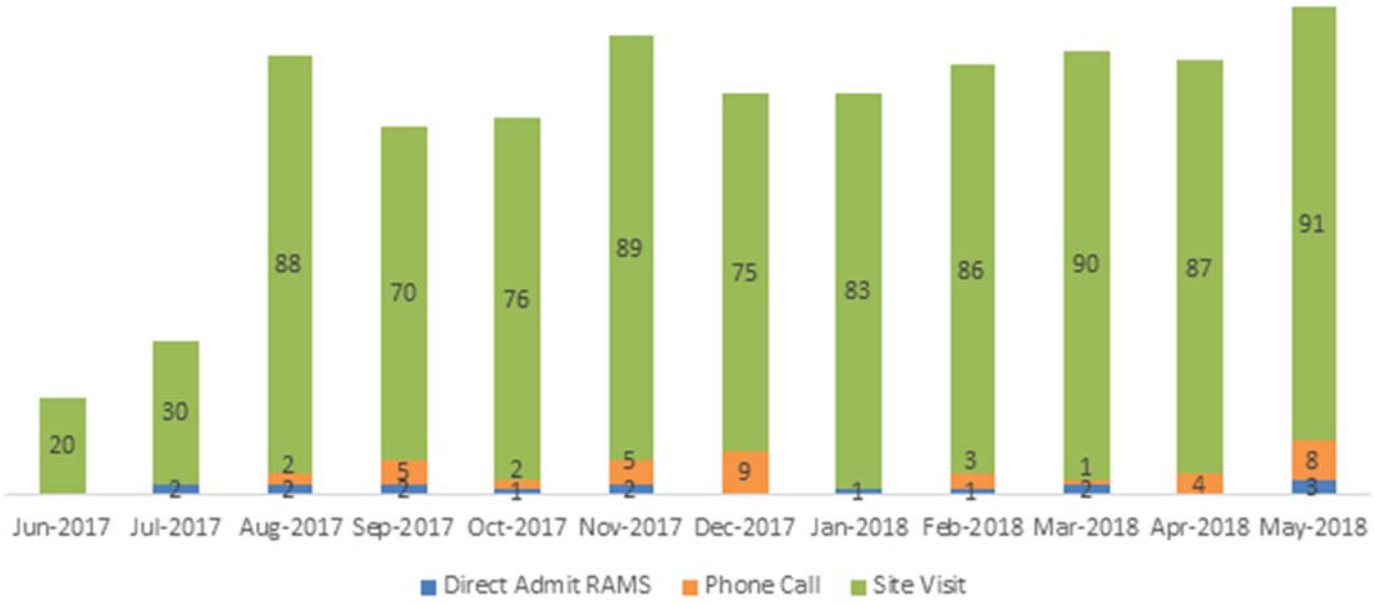
Table 9: GOAS throughput Jun-17 to May-18

Type of Indicators	Month													Target
	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Total	
Visits per day^	1.6	1.5	4.2	3.8	3.9	4.4	4.4	4.0	4.6	4.4	4.9	4.9	4	**3**
New patients	19	19	67	58	67	73	57	65	60	65	67	79	696	
New patients (per cent)	79%	59%	73%	73%	83%	75%	68%	76%	65%	70%	72%	73%	73%	
Review patients	4	13	25	20	12	24	27	20	32	28	26	29	260	
Total patients*	24	32	92	79	81	97	84	85	92	93	93	108	960	
Telehealth occasions per month	0	0	4	5	2	1	1	0	1	3	0	1	18	**80**

Notes: *New and review may not add to total due to some un-coded episodes
^based on working days in a month
Source: GOAS Database Jun 17 – May 18 extracted 4/6/18

92 per cent of services were site visits, 4 per cent phone calls, and 2 per cent direct admissions (16 direct admissions).

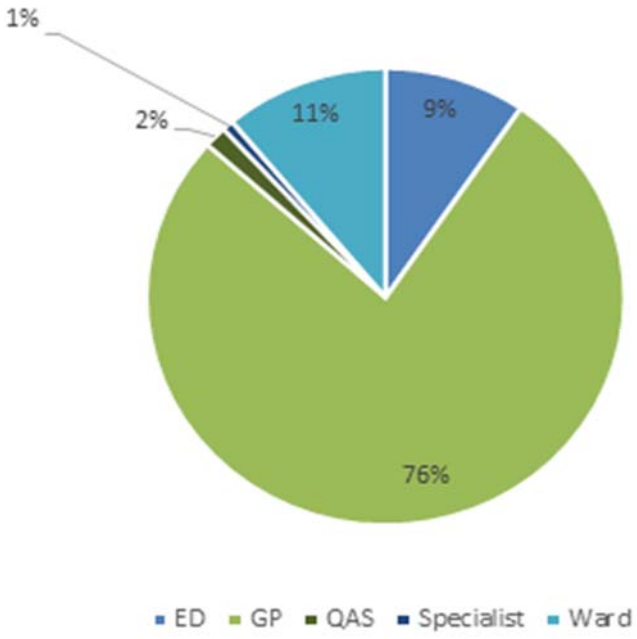
Figure 16: GOAS Service provided



Source: GOAS Database Jun 17 – May 18 extracted 4/6/18

76 per cent of episodes were referred by GPs followed by 11 per cent from wards.

Figure 17: Source of Referral*

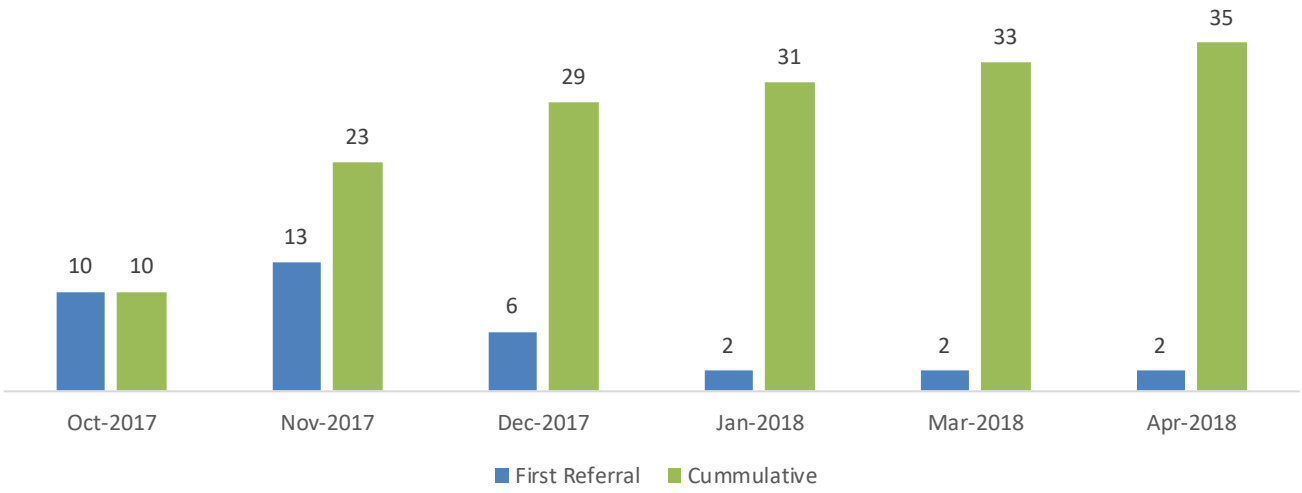


Note: only sources greater than 0per cent are included
Source: GOAS Database Jun 17 – May 18 extracted 4/6/18

The cumulative number of GPs referring and RACFs participating in the GOAS increased over time as shown in Figure 18 and

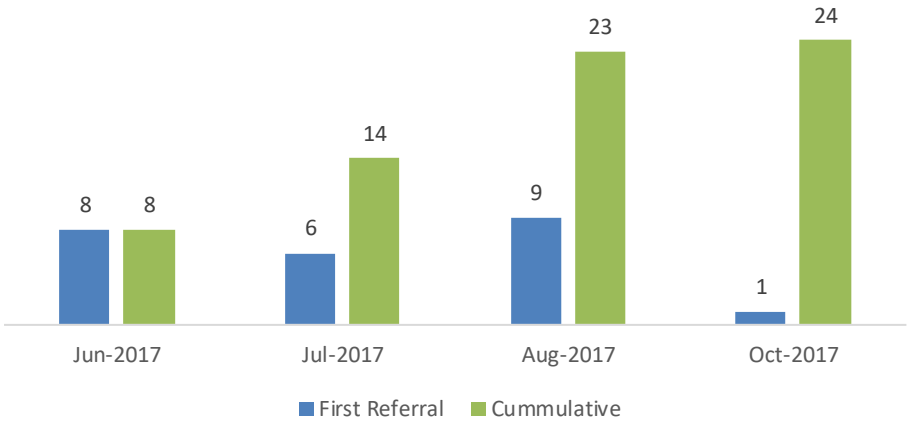
Figure 19. Word of mouth was reported as a crucial way that GPs had found out about the GOAS.

Figure 18 GP By month of first referral, Oct 17 – Apr 18



Source: GOAS Database Jun 17 – May 18 extracted 4/6/18
Note: No new GPs from May 2018

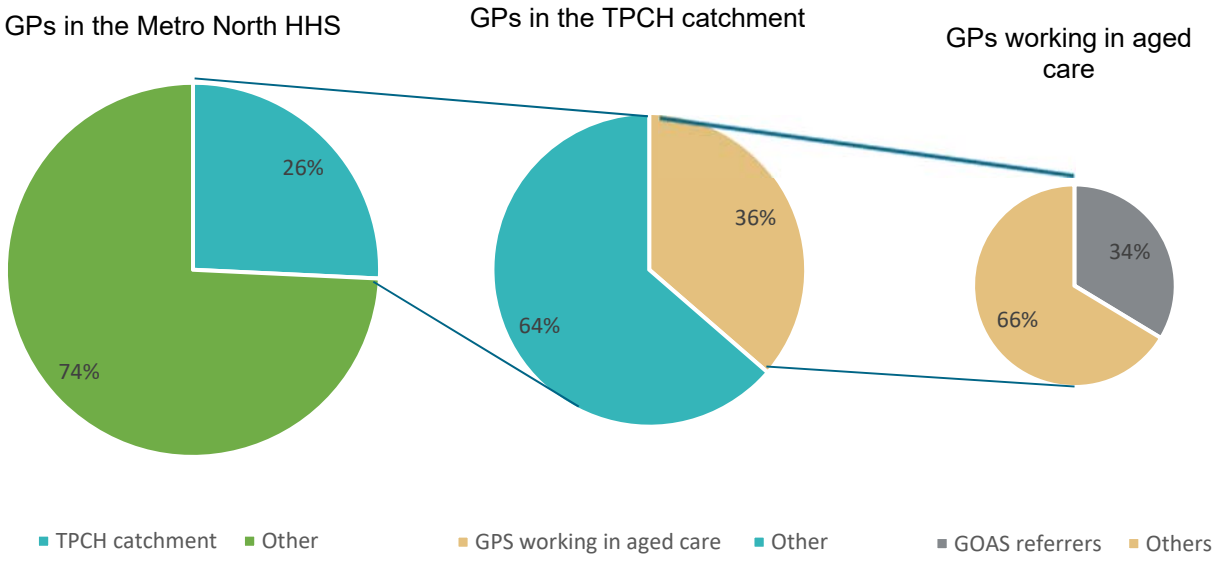
Figure 19: RACF by month when first referral was received, Jun-17 – Oct 17



Source: GOAS Database Jun 17 – May 18 extracted 4/6/18
Note: No new RACFs from Oct 17

In TPCH catchment, there are 286 GPs (2016), representing 26 per cent of the GP workforce in the Brisbane North PHN/ MNHHS region. Approximately 104 or 36 per cent of GPs in the TPCH catchment work in aged care compared to approximately 50 per cent nationally[2] and of those 34 per cent (35 GPs) regularly referred to the GOAS.

Figure 20 GPs in MNHHS, TPCH catchment and referring to GOAS



100 per cent of stakeholders were aware of the GOAS (n=57) and 97 per cent of GPs who responded to the GP survey were aware of GOAS, however, it is recognised that this response may be biased with those aware of the GOAS more likely to complete the surveys.

24 RACFs were in scope for the GOAS with the largest proportion of episode coming from Holy Spirit Carseldine (9.4 per cent) followed by John Wesley Gardens (8.6 per cent) and Opal Raynbird Place (8.0 per cent).

Table 10: Top 10 In-scope RACFs by number of episodes, Jun 2017 to May 2018

Top 10 proportion of episodes by in scope RACFs	No. of episodes	per cent	No. of beds
Holy Spirit Carseldine	90	9.4%	179
John Wesley Gardens	83	8.6%	144
Opal Raynbird Place	77	8.0%	120
St Martins Nursing Home	65	6.8%	102
Wesley Mission Parkview	62	6.5%	145
Emmaus Aged Persons Home	61	6.4%	84
Anam Cara	42	4.4%	105
Estia Albany Gardens	42	4.4%	71
Arcare Taigum	38	4.0%	93
Pine Woods	35	3.6%	93
Other	365	38%	871

Note: See appendix for in scope RACFs
Source: GOAS Database Jun 17 – May 18 extracted 4/6/18

[2] Pearson et al. 2018.

Reach through communications

A number of articles were published in Network Link, Partners in Health and on the PHN website to increase awareness. Network Link is the PHN's publication for primary health care providers (those who work in general practice and allied health professionals) as well as aged care providers and staff and other community-based health services. Open rates for articles in Network link are shown in Table 11.

Table 11: Network Link*

Edition	Article title	Sent to (#)	Open rate
March 2018	Surveys reveal high praise for GOAS project	407 (GP edition) 1,996 (general edition)	39.80% 43.41%
November 2017	GOAS hits target three months early	404 (GP edition) 1,760 (general edition)	39.11% 42.61%
August 2017	Local aged care initiatives launched	407 (GP edition) 1,504 (general edition)	38.82% 41.62%

*excludes hardcopy distribution

Partners in Health is a monthly eNews update for health related community groups, peak bodies and associations, government representatives, community members and other interested individuals. Open rates for articles in Partners in Health are shown in Table 12.

Table 12: Partners in Health

Edition	Article title	Sent to (#)	Open rate
October 2017	GOAS hits target three months early	823	42.65%
July 2017	Local aged care initiatives launched	776	42.01%

3.2.3 Satisfaction

Stakeholder satisfaction rated highly amongst consumers, GPs and service providers.

Table 13: Likelihood of recommending GOAS

	Consumers	GPs	Stakeholders/ Service providers
Extremely/highly likely or likely to recommend	98%	97%	100%

Of 52 stakeholder respondents, 98 per cent agreed:

- the GOAS provided a **high quality and timely service**,
- fostered **person-centred care** resulting in open and respectful communication and empowering residents to make decisions about their care
- **Streamlined the referral process** for residents
- the GOAS worked with others to **improve access to and provide better coordination and integrated care** for residents

Similarly, 96 per cent of stakeholders agreed the GOAS Supported and built trust, dependability and integrity between service providers and 84 per cent agreed the GOAS provided support to RACF staff through education and training on clinical pathways

See further information on consumer satisfaction in 3.1.2 Consumer experiences p.38 and case study p. 10.

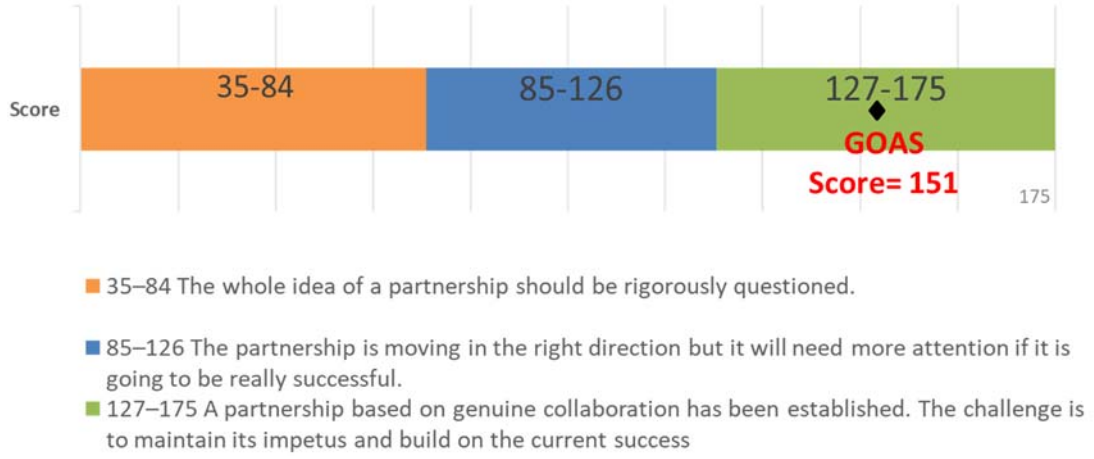
The residents and their families are very grateful to have doctors and nurses come to them and provided specialised aged care services rather than go to hospital Emergency Department. This is because most of them have impaired mobility. Moreover, they are seen in a very timely manner. As a GP we appreciate the input of geriatricians as often our patients in residential care have multiple co-morbidities and behavioural issues due to the dementia that can be a challenge to manage. As a clinic we are often looking for ways to improve aged care and GOAS has been such a valuable service and should be expanded across the state. (GP)

GOAS has been very helpful and effective . The staff and registrars have been very professional, easy to communicate and available. well done . It certainly decreased a lot of unnecessary hospital presentations. (GP)

3.2.4 Collaboration

The partnership demonstrated many of the attributes of a genuine collaboration.

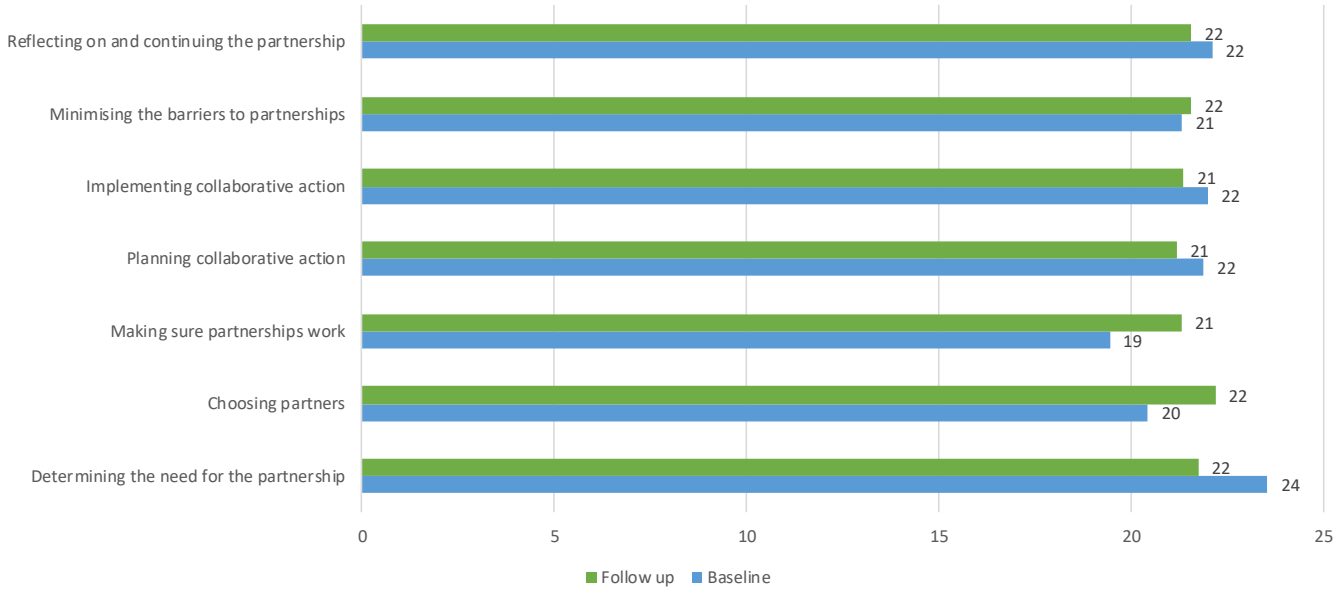
Figure 21: Victorian Partnerships tool – Baseline and follow up



Source: Steering committee survey baseline n=12, follow up n=24

The GOAS scored a value of 151 on the Victorian Partnerships scale for both the baseline and follow up surveys. Average score for minimising the barriers to partnership, making partnerships work and choosing partners all increased from the baseline.

Figure 22: Victorian Partnerships tool – Baseline and follow up average scores by category

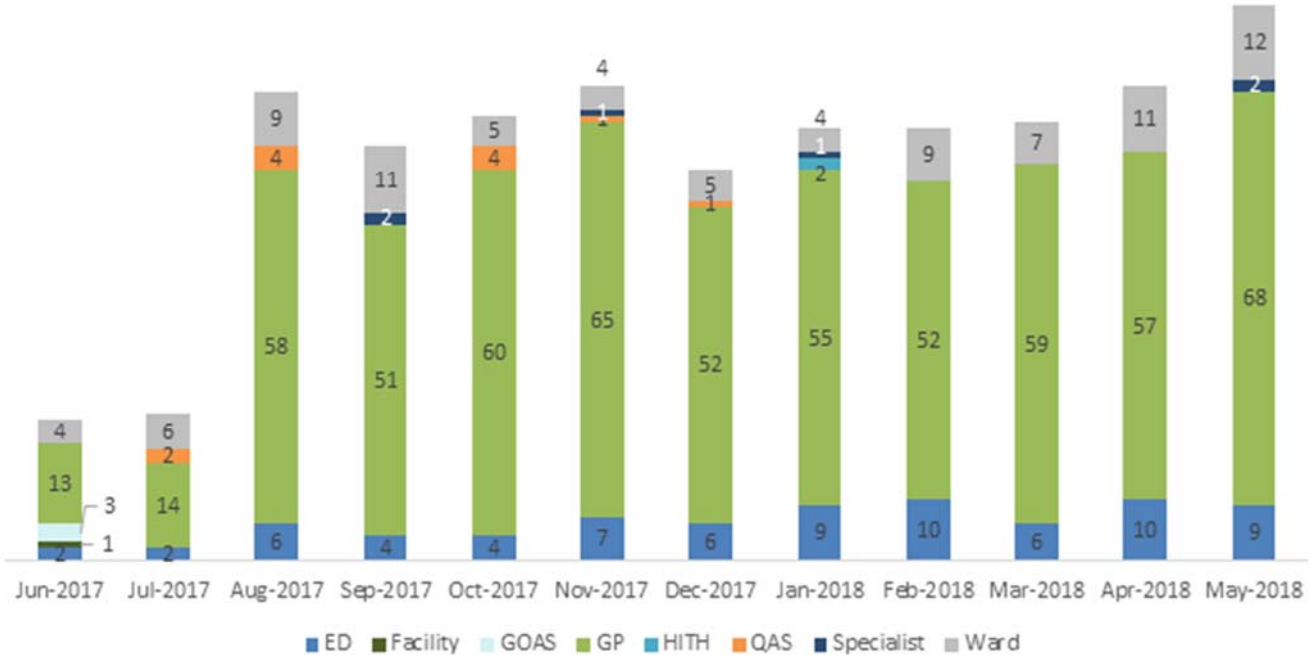


Source: Steering committee survey baseline n=12, follow up n=24

Semi structured interviews revealed high participation at Steering Committee meetings with a diversity of stakeholders including a consumer representative. GPs and RACFs attended in kind. Initially roles and responsibilities were reported to be unclear, however these became clearer over time. The best abilities of each stakeholder were reported to have been able to be utilised. The separation of project management from clinical functions was reported to have worked well.

Referrals from GPs, ED and the ward increased over the period as shown in Figure 23.

Figure 23: Source of referral by month, Jun 17 – May-18



Source: GOAS Database Jun 17 – May 18 extracted 4/6/18

GPs: 24 per cent of GPs reported that the GOAS fostered relationships with other HHSs and 60 per cent of GPs reported it fostered relationships with residential aged care providers and 12 per cent with the PHN.

Stakeholders: 33 per cent of stakeholders indicated the GOAS enabled them to build partnerships with MNHHS, 29 per cent with the Brisbane North PHN, 20 per cent with RACFs and 84 per cent with the Prince Charles Hospital. Semi-structured interviews revealed there was a greater understanding of the role of the PHN fostered through the project.

Steering Committee: 50 per cent of members indicated the GOAS enabled them to build partnerships with MNHHS, 19 per cent with Metro South HHS, 56 per cent with the Brisbane North PHN, 81 per cent with RACFs, 81 per cent with GPs, 25 per cent with Queensland Health, 50 per cent with QAS and 88 per cent with TPCH. 100 per cent of members indicated they would be likely or extremely like to recommend a collaborative approach including the Brisbane North PHN to other organisations in designing and implementing innovative and integrated care models.

3.2 Effectiveness / Outcome Evaluation

How effective was the GOAS?

The GOAS effectiveness has been evaluated against the following criteria

Domain	Criteria	Data Source	Findings
1. Consumers experiences	Majority of consumers would recommend the service and qualitative feedback indicated a positive experience against a range of measures	Consumer and carer surveys Semi structured interviews with consumers/carers	• 98% of consumer and carer's surveyed were likely to recommend the GOAS • Consumers and carers interviewed did not recognise "the GOAS" but remembered the doctors that came out and talked to them and the services they received • Consumers most valued "being listened to"
2. Potentially prevented ED presentations/ hospitalisations	***Target***: 75% of patients avoid admission Reduction in ED presentation/admission trends over time	GOAS database External Service Facilitator Database Consumer survey and carer survey	• There is a trend for in-scope RACFs to see a decline in admissions and out of scope RACFs to see an increase. Whilst this change is not statistically significant, it may indicate early signs of GOAS's progress towards reducing inpatient admissions. • Post GOAS implementation (June 2017) ED presentations for in-scope RACFs remain stable, whilst out of scope RACFs have increased. Whilst this change is not statistically significant, it may indicate early signs of the GOAS progress towards reducing ED presentations. • Overall 638 episodes were estimated to be potentially prevented presentations/ admissions from June 2017 to May 2018 due to the GOAS. • 92% of GOAS episodes from June 17 to May 2018 were estimated to be potentially prevented presentations/admissions, exceeding the target of 75%.
3. Timeliness of care	***Target***: 60% of patients to be seen within the same day The majority of consumers report timeliness of care Reduction in ALOS for in scope admitted patients	GOAS database External Service Facilitator Database Consumer and Carer surveys	• 71% of GOAS services were provided on the same day • The average length of stay for in-scope RACF residents was 0.63 days less than out of scope RACFs (includes total patient journey from ED to admission) • 68% of consumers and carers surveyed felt they were responded to in a timely manner

Domain	Criteria	Data Source	Findings
4. Safety and quality of care	***Target***: 90% Clinical inputs by registrar and Clinical Nurse Reported clinical incidents Majority of patients report positively against safety and quality of the service	GOAS database Consumer and carer surveys Stakeholder Survey Semi structured interviews with GPs, clinicians, RACF staff and consumers and carers	• For in-scope facilities, the representation rate within 28 days decreased by 2.7% post GOAS implementation. • 99% of referrals met the GOAS criteria for referral • 91% of episodes were seen by both a registrar and a clinical nurse • 73% of patients required no further follow up or were discharged back to their GP • 88% of consumers were satisfied with the quality of care they received overall 98% stakeholders agreed the GOAS provided a high quality service
5. Continuity of care	***Target***: 90% referrals meet GOAS criteria Majority of stakeholders reported improvement in access and coordination Majority of GPs/RACFs reported continuity of care Majority of consumers agreed GOAS improved access to other specialist services	External Service Facilitator Database GOAS database Consumer and care surveys Stakeholder surveys GP surveys Semi structured interviews with GPs, clinicians, RACF staff, consumers and carers	• GOAS facilitated 16 direct admissions over the period (June 17- May 18) • The average length of stay for in-scope RACF residents was 0.63 days less than out of scope RACFs (includes total patient journey from ED to admission). • 98% of stakeholders agreed the GOAS streamlined the referral process for residents. • 98% stakeholders agreed the GOAS worked with others to improve access to and provide better coordination and integrated care for residents.
6. Improved access – including equity of access	***Target***: 3 visits per day Increase in direct patient admissions No barriers reported by stakeholders to access	GOAS database Stakeholder survey SC/ project team survey Semi structured interviews	• The GOAS improved access to specialist geriatric outreach care for 744 patients equating to 960 episodes of care over the period. This equated to an average of 4 episodes a day over the period. • There were no barriers reported in terms of access for disadvantaged groups

Betty's story

Betty's experience with the GOAS demonstrates **how person-centred care results in a better quality of life** for older persons residing in residential aged care facilities.

Importantly, Betty was able to be managed in the community, where family were able to be involved in her care and this facilitated recovery which would not have been possible in the acute/hospital setting.

Betty was seen by the GOAS following an emergency department presentation in late 2017.

Betty[3] * is an 89 year old RACF resident with a history of hypertension, AF (pacemaker), multiple aortic aneurysms, angina, anxiety and right sided cardiac failure. She was healthy up to a few months prior to the event, which led to the GOAS service.

Background

In late December Betty was found by RACF staff unable to move her left side and the Queensland Ambulance Service was called who transferred her to the ED at TPCH.

The ED consultant noticed left sided facial droop and left sided paralysis and diagnosed Betty with right middle cerebral artery stroke/left hemiparesis· Discussions were held with the family and they declined invasive investigations and blood tests and emphasised a focus on quality of care and living.

She was seen by a speech pathologist in view of aspiration risk, who suggested a pureed diet, mildly thickened fluids and to monitor alertness prior to feeding. She was assessed in ED/short stay and was subsequently discharged back to the RACF.

Upon discharge she was **referred to the GOAS** and planned for review the following day.

Episode 1:

Within a day of referral, the GOAS Registrar and clinical nurse visited Betty at the RACF. She was also reviewed by speech pathologist, a dietitian and an occupational therapist.

The GOAS provided clinical support for advanced care planning decisions that had already been made**, involved the family in discussions,** about short and long-term outcomes and was able to provide advice on swallowing issue due to stroke.

At this time the family was told that Betty did not have long to live. The family felt Betty was on the precipice of life and death and were heavily involved in her care at that time.

A repeat GOAS visit was scheduled for the next day.

The family reported the following related to the GOAS service:

'*I'm glad she didn't go to hospital- we got to be present. We were given the freedom to be with her 24/7. You just can't put in those hours at the hospital.'*

'The best thing [GOAS] service does is that it give options. You can say no, and you don't have to go down that route. You have choices and possibilities. You aren't limited.'

'I assume [the GOAS] is there to offer you support in your preferred setting'

[3] All names have been altered to ensure patient confidentiality

Episode 2:

The following day the GOAS reviewed Betty to continue discussions and reinforce palliative intent. Her GP also visited on the same day to follow up.

The family felt they had time to make decisions relating to her care and Betty's decision to not be put on a feeding tube was respected. The family refused morphine and was very proactive to help Betty with her nutrition.

The family reported the following related to the GOAS service:

'*We felt so comfortable with them we wanted more input- their professionalism. I had a sense that they were people I could trust… You need to feel you are with people that understand what is going on.'*

'It should definitely continue. They were an objective body, we were so emotional. As hard as it was to hear, they were sensitive and caring. I could communicate with them.'

Episode 3:

A couple of days later, a post visit follow up phone call was conducted by the GOAS Clinical Nurse. Betty remained on a palliative approach with minimal diet intake but pain free.

Betty's family visited daily and her quality of life was maintained by staying in the home and having her family around her to assist with feeding. The most important thing reported by Betty was to be listened to. Betty said she made a decision to live based on wanting to see her family grow up.

Episode 4:

Betty was subsequently followed up by the GOAS Clinical Nurse whilst onsite. Her speech had improved and she was tolerating a quarter of her meals. She was subsequently discharged from GOAS.

Betty's family felt they were informed about the seriousness of the condition, but would have appreciated more information to take away and read about what it means to have a stroke to understand the longer-term consequences.

Betty's GP reported the GOAS was quick to respond and provided a high quality service but would have liked more information back in the way of a letter from GOAS.

Betty's story over four episodes of care shows how the GOAS model can help maintain the quality of life for the older person by embracing **person-centred care** and providing care **in the right place, at the right time**.

GOAS contributed in some part to the discharge back to the RACF since follow-up care was able to be provided. This was seen to be a less stressful environment, which allowed greater family involvement and an easier place to initiate palliative care if needed.

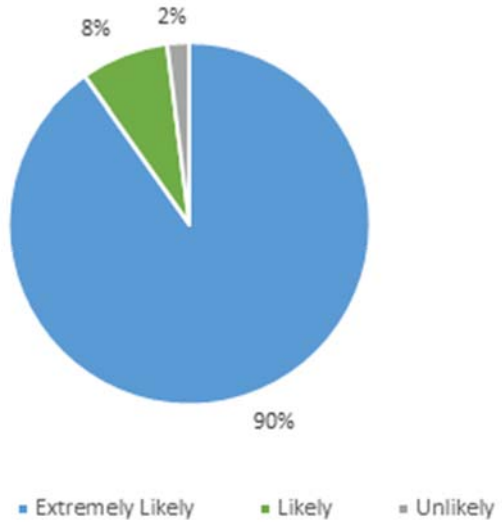
3.1.1 Consumers experiences

Overall, the feedback from 51 consumers and carers surveyed regarding the services received from the GOAS was overwhelmingly positive.

- 98 per cent were **extremely likely or likely to recommend the GOAS** to family and friends
- 96 per cent agreed staff **considered their needs**
- 88 per cent felt they were **treated in the location of their choice**
- 88 per cent felt they were **involved in decision making** and
- 96 per cent agreed if their **family or support person wanted to talk to the doctor they had opportunity to** do so

Similarly, 98 per cent of stakeholder's respondents agreed the GOAS fostered person-centred care resulting in open and respectful communication and empowering residents to make decisions about their care.

Figure 24: Consumer and carer likelihood of recommending to family and friends



Source: Consumer and carer survey n=51

Other feedback from consumers and carers included:

'I was very impressed by the professionalism, compassion, knowledge and approach of the team. This is a valuable and essential service which should continue.' (Consumer)

'The service was responsive with a visit within 24-48hrs of referral. The staff were sensitive to the patients' needs and situation - a very positive and useful service.' (Carer)

'We found the service fantastic. We were very concerned about our mother in residential care as her behaviour and mental state had changed dramatically. The team were very prompt, caring and informative. We feel much better knowing mum has this support and follow up if needed.' (Carer)

'Yes it is a fantastic service and should be kept up it is most necessary - the care of the patient's (medication) shouldn't be just left to the Doctor who makes regular visits to the home that Doctor should have a geriatric team accessing what he's prescribing the patient - my husband had been too drugged up before.' (Carer)

'The best thing [GOAS] service does is that it give options. You can say no, and you don't have to go down that route. You have choices and possibilities. You aren't limited.' (Carer)

'We felt so comfortable with them we wanted more input- their professionalism. I had a sense that they were people I could trust… You need to feel you are with people that understand what is going on.' (Carer)

'It should definitely continue. They were an objective body, we were so emotional. As hard as it was to hear, they were sensitive & caring. I could communicate with them.' (Carer)

'[The GOAS staff] were competent and understanding people' (Carer)

GOAS team members also discussed how they would notify RACFs if they were going to visit facilities to provide an **opportunity for family to be present** if they wanted to be. This was found to assist with care, as carers were often able to advocate and communicate on behalf of the patients during the GOAS visit. This was also raised during the consumer and carer interviews as something that was important to carers. In one instance, having the family able to be involved in care at the residential aged care facility was cited as facilitating recovery which would not have been possible in the acute/hospital setting.

'I'm glad she didn't go to hospital- we got to be present. We were given the freedom to be with her 24/7. You just can't put in those hours at the hospital.'(Carer)

Consumers interviewed cited they most valued being listened to as part of their care:

'*Feeling that you have a voice is important… it is frustrating when you ask for something & it doesn't get done.' (Consumer)*

Carers reported that they would have liked more information on their family members medical condition, needed more guidance to navigate the system and about what services were available.

"*Understanding the health system- I don't know how elderly would do it if they don't have help. There is all the red tape [to navigate]. It's a full-time job, just about. We divide the tasks amongst the family…. I'm sure a lot of people are missing out on what they are entitled to.'- Carer*

Consumers and carers interviewed did not know or specifically recognise "the GOAS" but remembered the doctors that came out and talked to them and the services they received.

3.1.2 Potentially prevented ED presentations/ hospitalisations

Overall RACF patients make up a small proportion of overall throughput. On an average month at TPCH, there are

- approximately 7,500 Emergency Department presentations (based on Apr-18)
- approximately 3,000 emergency admissions (average Jan-Mar 18)

For RACF patients there are on average a month:

- 70 ED presentations
- 56 emergency admissions and
- 80 GOAS services provided

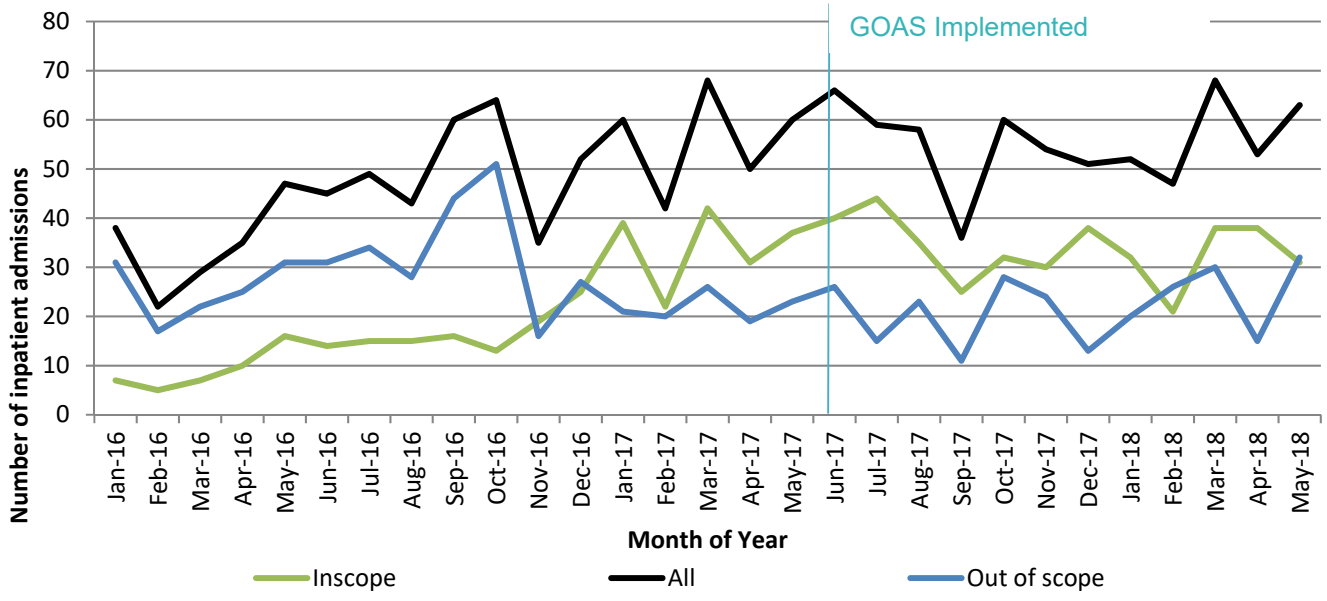
Figure 25: Average TPCH throughput per month, Jun 17- May 18

	ED Presentations	Inpatients - emergency admissions	GOAS
All patients	7,500*	3,000**	80
RACF patients	70	56	80

Source: GOAS Database Jun 17 – May 18 extracted 4/6/18
External Service Facilitator Database Jun 17 - May 18 (RACF ED presentations/ inpatients) extracted 4/6/18
Queensland Health ED Information System, sourced online 6/6/18
Monthly Activity Collection, Queensland Health, sourced online 6/6/18
* approximation based on ED Presentations for April 18 activity
** approximation based on inpatient – emergency admissions based on average for Jan- Mar 2018

The GOAS was implemented from June 2017 within 24 in scope RACF (for a full list see appendix). Trends in terms of inpatient admissions for in scope RACFs as well as out of scope RACFs are shown in Figure 26 Figure 27 from January 2016 prior to implementation to May 2018.

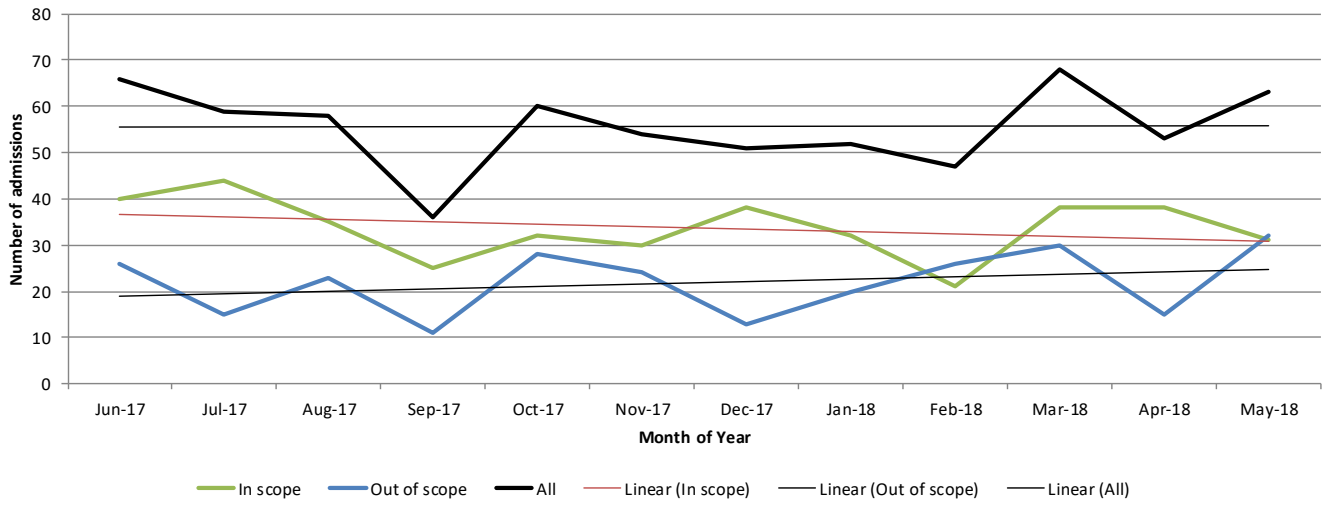
Figure 26: Inpatient admissions at TPCH from RACFs, Jan-16 to May-18



Source: External Service Facilitator Database, extracted 4/6/18

Post GOAS implementation (June 2017) there is a trend for decline in admissions from in-scope RACFs whilst an increase from out of scope RACFs. Whilst this change is not statistically significant, it may indicate early signs of the GOAS progress towards reducing inpatient admissions. Further time is needed to determine the ongoing long-term effects of the GOAS.

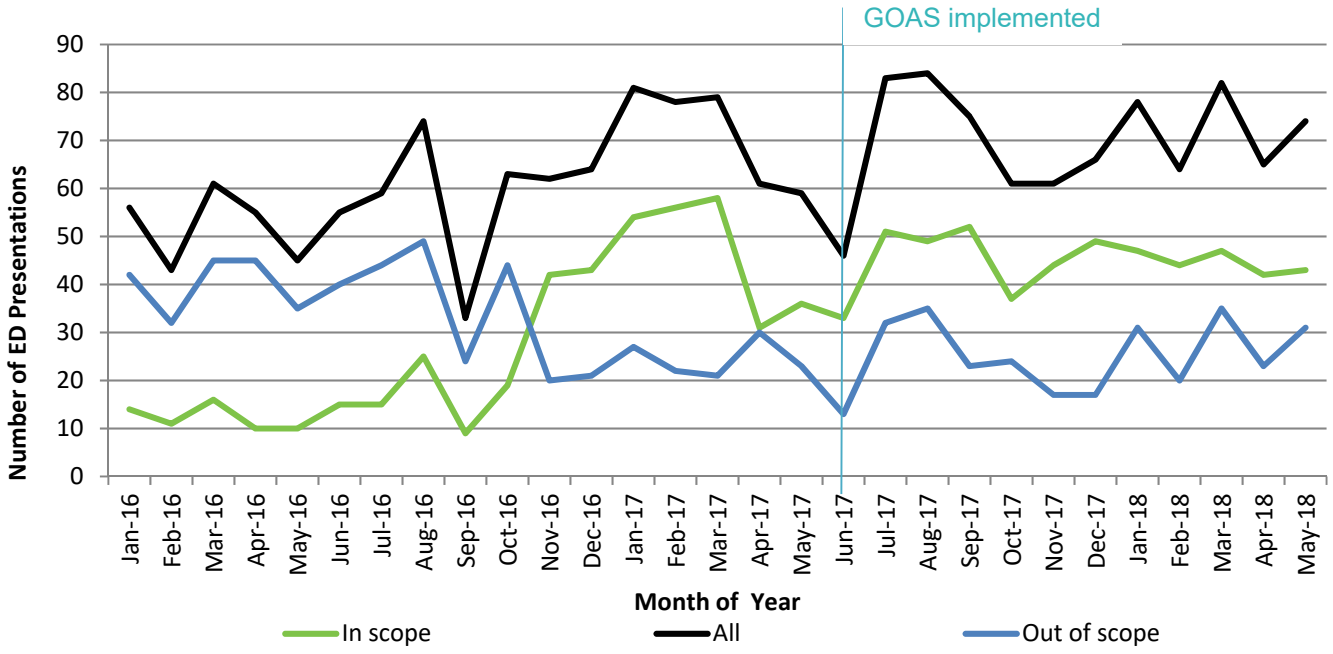
Figure 27: Inpatient admissions at TPCH from RACFs, Jun-17 to May-18



Source: External Service Facilitator Database, extracted 4/6/18

Similarly, trends in terms of ED presentations for in scope RACFs as well as out of scope RACFs are shown in Figure 28 from January 2016 prior to implementation to May 2018.

Figure 28: Emergency Department Presentations from RACFs, Jan-16 to May-18

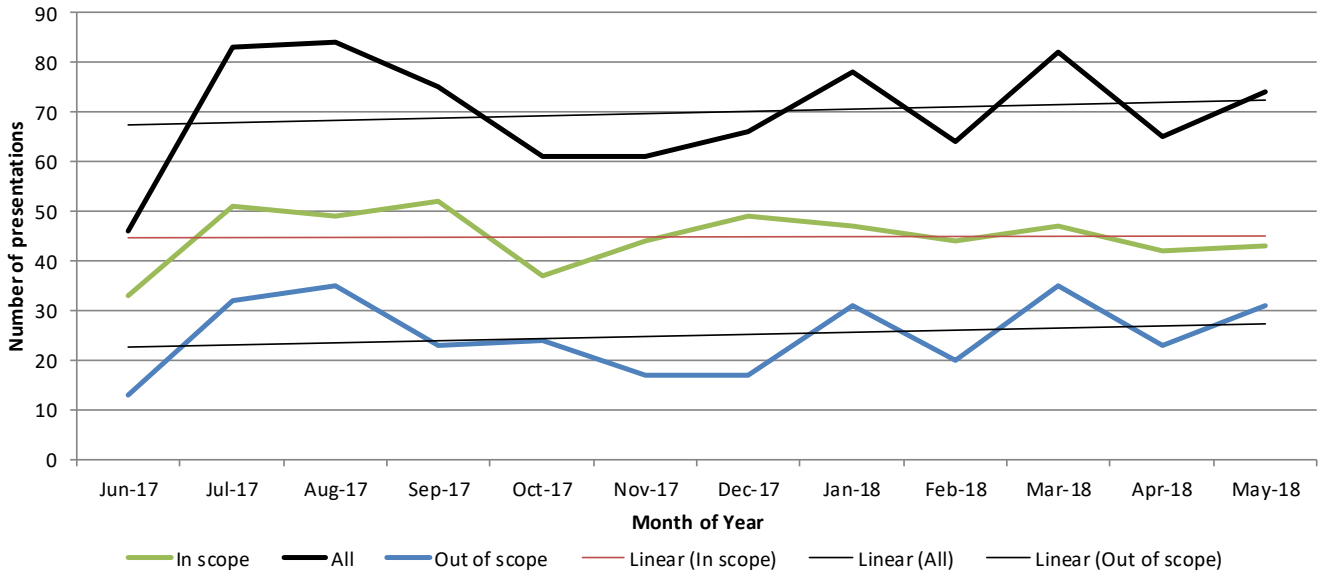


Source: External Service Facilitator Database, extracted 4/6/18

Post GOAS implementation (June 2017) ED presentations for in-scope RACFs remain stable, whilst out of scope RACFs see an increase. Whilst this change is not statistically significant, it may indicate early signs of the GOAS progress. Further time is needed to determine the ongoing long-term effects of the GOAS. These results should be

interpreted in light of a number of aged care facilities being opened within the region during the GOAS implementation period. Arcare Taigum opened 93 beds in September and Tricare increased their capacity by an additional 73 beds in February. As at June Tricare had 80 occupied beds and are expected to increase occupancy over time, which is expected to further increase demand for services at TPCH.

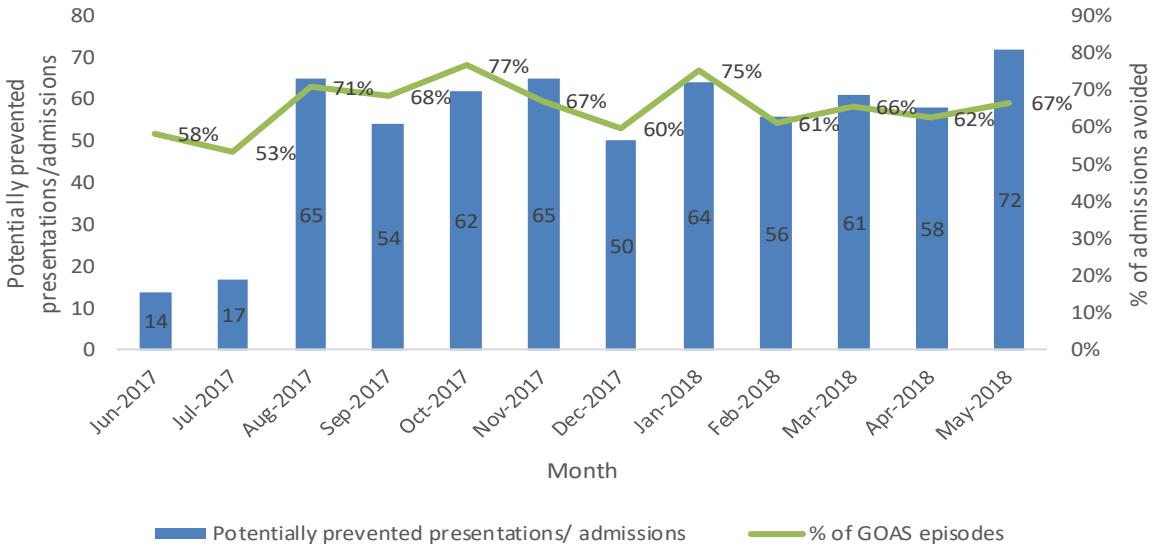
Figure 29: Emergency Department Presentations from RACFs, Jun-17 to May-18



Source: External Service Facilitator Database, extracted 4/6/18

Overall 638 episodes were estimated to be potentially prevented presentations/admissions from June 2017 to May 2018 due to the GOAS. This data was based on clinical judgement for each referral made to the GOAS and excluded patients who subsequently presented to hospital or were a review. 66 per cent of GOAS episodes from June 17 to May 2018 were estimated to be potentially prevented presentations/admissions.

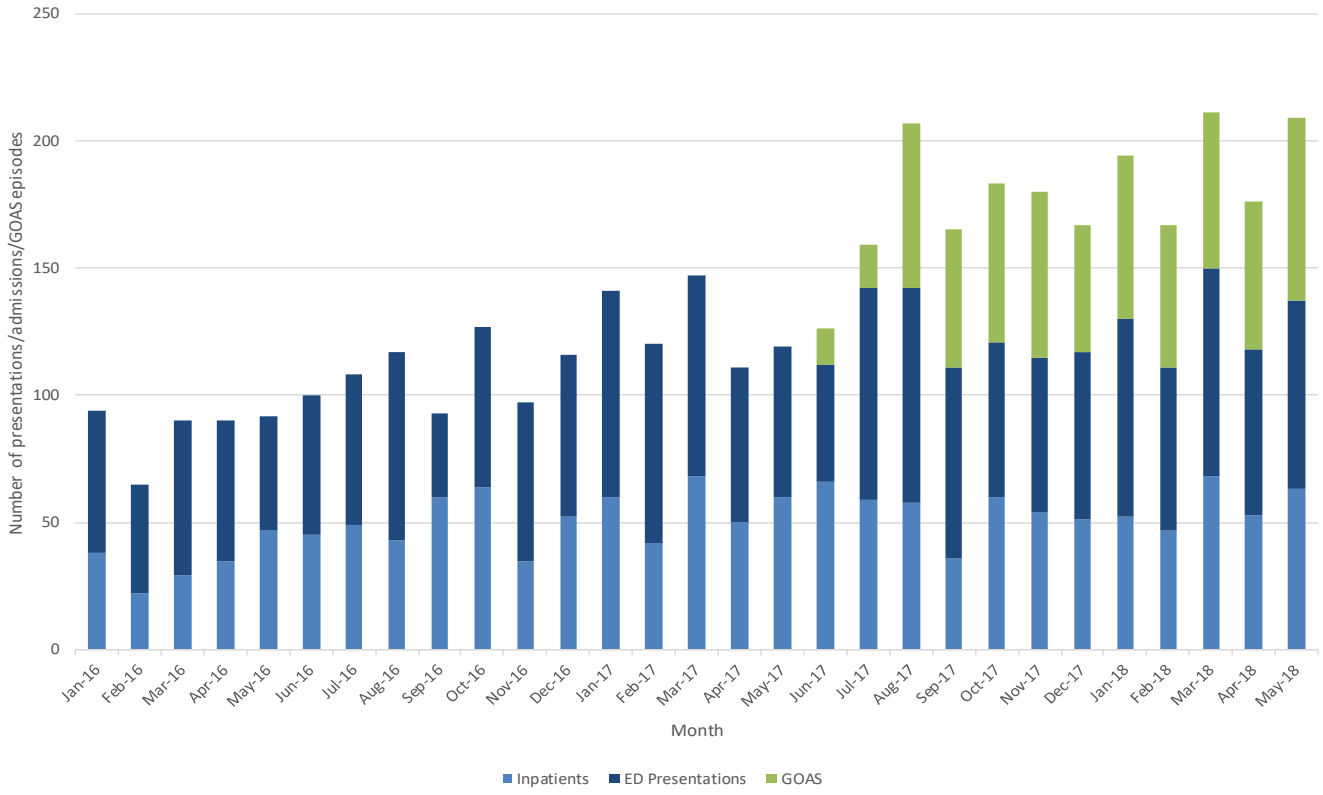
Figure 30: Estimated potentially prevented presentations/admissions as a proportion of all GOAS episodes by month



Source: GOAS Database Jun 17 – May 18 extracted 4/6/18

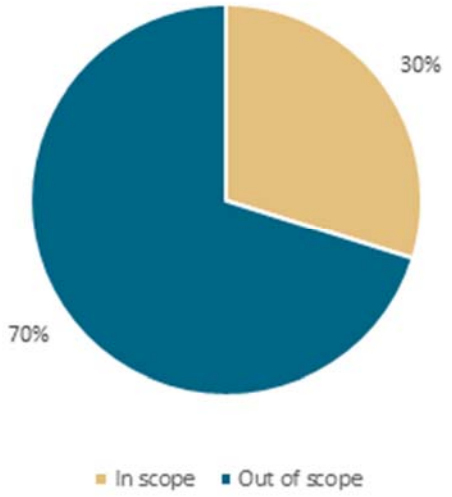
Potentially prevented presentations/admissions avoided represent 30 per cent of all TPCH RACF activity as shown in Figure 31 (June 17-May18). This is in line with 30 per cent of aged care beds in the region being in scope for GOAS. Total activity by type for RACF patients is shown in Figure 31 with overall activity continuing to increase but the GOAS component indicates a proportion of this care is able to be provided outside of the hospital setting.

Figure 31 Episodes of care for RACF patients at TPCH, Jan 16 – May-18



Source: External Service Facilitator Database, extracted 4/6/18 & GOAS Database Jun 17 – May 18 extracted 4/6/18

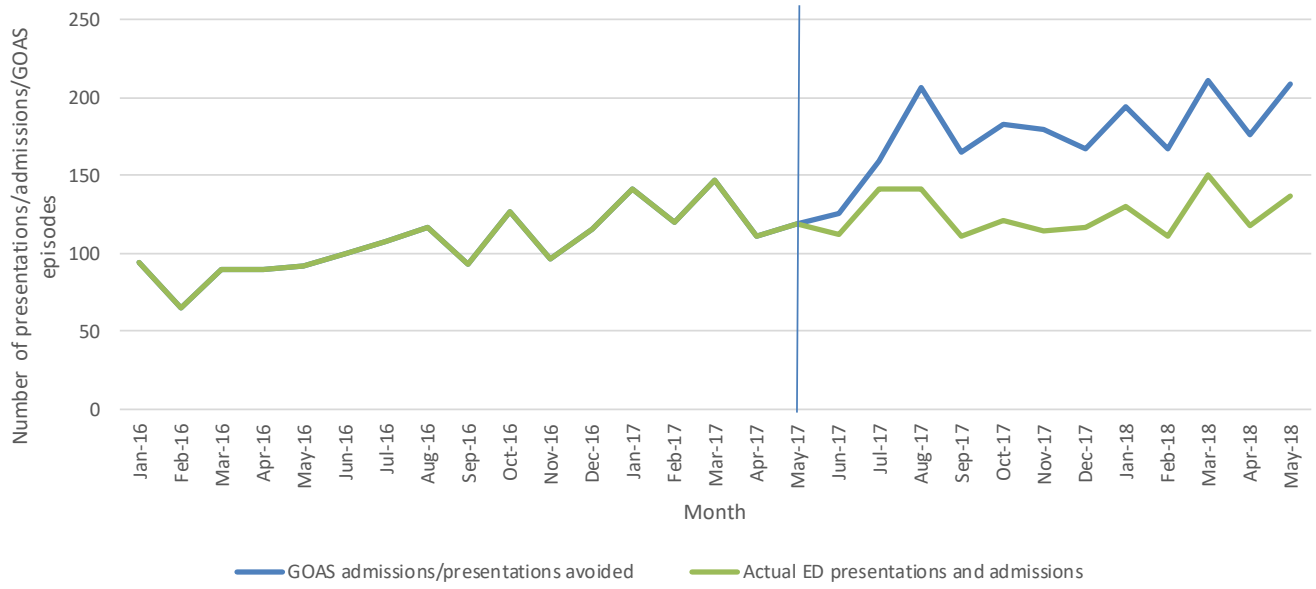
Figure 32: Proportion of aged care beds from in scope facilities from referring RACFs



Source: GOAS Database

Note: This is based on historical data of patients presenting to the TPCH

Figure 33: GOAS potentially prevented presentations/admissions avoided compared to actual presentations/admissions for RACF patients at TPCH, Jan 16 – May-18



Source: External Service Facilitator Database, extracted 4/6/18 & GOAS Database Jun 17 – May 18 extracted 4/6/18

Figure 33 highlights the potential potentially prevented presentations/admissions avoided compared to actual presentations/admissions for RACF patients at TPCH, which follows a similar trend in terms of peaks during the flu season.

Stakeholders, consumers and carers commented on how the service **avoided the need to go to hospital**, which reduced stress for inconvenient travel for the residents:

'A very helpful service, not waiting around at the hospital' (Consumer)

'After needing to take my father to TPCH several times for the same need, - This experience was solved in a short period with much less trauma to person' (Carer)

'Fantastic service to try and keep resident's in their home and away from hospital. Friendly team. Exceptional care.' (Carer)

'Having GOAS come to my mother in aged care stopped any anxiety or fear of going to hospital. She was cared for in her own surroundings and comfort. The doctor and nurse spoke in layman's terms which was wonderful, everything was clear. They did not rush so there was no unanswered questions.' (Carer)

'My husband was treated very well. Saved sending him to hospital which he was happy about. This is a great service.' (Carer)

'Never having had the knowledge of GOAS it was a great relief for my husband not to be sent to hospital for treatment he has Miloma but was doing ok until developing pneumonia being treated at his nursing home is wonderful. It saves the ambulance time taken to take him to hospital and no stress.' (Carer)

'It was terrific to have the Dr. and Nurse come to the aged care facility where mum was instead of the stress on mum (elderly with cognitive issues) having to go to them.' (Carer)

Less disruption to residents. Residents can be cared for at the facility and seen here, therefore not requiring ambulance transfers and escorts. Residents do not get as stressed or anxious when attended to in our facility. Sometimes reviewed quicker than if they were sent to hospital. (Stakeholder)

'Once family and our residents understand they can stay here and receive all the appropriate treatment it is very reassuring and gives them so much comfort and peace of mind. (RACF)

3.1.3 Timeliness of care

Timeliness of care is demonstrated by service data, consumer feedback and length of stay data for RACF patients from in-scope facilities. Overall **71 per cent of GOAS services were provided on the same day** as referral received exceeding a target of 60 per cent (Table 14).

Table 14: GOAS Episodes by same day and next day by month

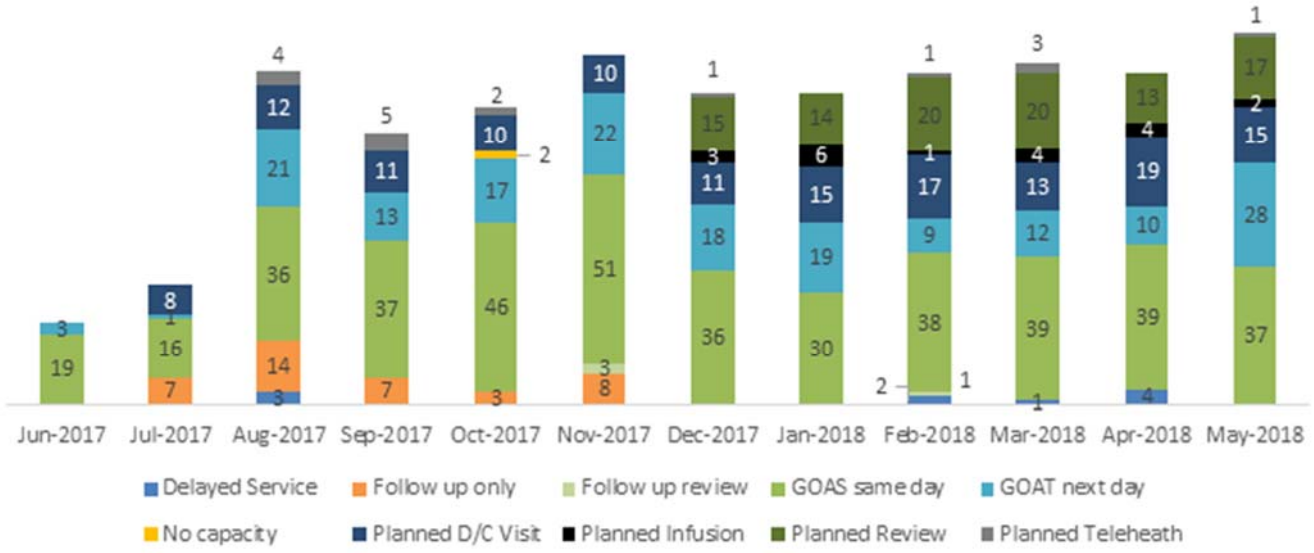
Type of Indicators	Month													12-month Indicators
	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Total	
Same day visits*	**19**	**16**	**36**	**37**	**46**	**51**	**36**	**30**	**38**	**39**	**39**	**37**	**424**	
%	86	94	63	74	73	70	67	61	81	76	80	57	71	**60%**
Next day visits*	**3**	**1**	**21**	**13**	**17**	**22**	**18**	**19**	**9**	**12**	**10**	**28**	**173**	
%	14	6	37	26	27	30	33	39	19	24	20	43	29	

* excludes planned visits

Source: GOAS Database Jun 17 – May 18 extracted 4/6/18

A further breakdown by month is shown below (Figure 34).

Figure 34: Timeliness of GOAS by month, Jun 17 – May-18



Source: GOAS Database Jun 17 – May 18 extracted 4/6/18

The average length of stay for in-scope RACF residents was 0.63 days less; 2.3 days for out of scope facilities compared to 1.68 days for residents from in-scope facilities (Table 15).

Table 15: ALOS by in-scope and out of scope facilities June 17 to May -18

	Out of scope	In-scope	Difference
ALOS days	2.3	1.68	-0.63

Notes: Data in the External Facilitator Database combines ED and Inpatient components of length of stay
Source: External Services Facilitator database, 4 June 2018

In addition, 68 per cent of consumer's respondents felt they were responded to in a timely manner and 98 per cent stakeholders agreed the GOAS provided a high quality and timely service.

Table 16: Consumer and stakeholder feedback on timeliness

	Consumers	Stakeholders/ Service providers
Timeliness	68% felt they were responded to in a **timely manner**	98% stakeholders agreed the GOAS provided a high quality and timely service

Source: Consumer and carer survey n=51, stakeholder survey n=57

3.1.4 Safety and quality of care

A number of indicators support the quality of care provided by the GOAS. Over the period (June 17 to May 18), no clinical incidents were reported, and no complaints were received. For in-scope facilities the re-presentation rate within 28 days decreased by 2.7 per cent post GOAS implementation.

Table 17: Representations to ED within 28 days from in-scope facilities, Jun 17 – May-18

	Pre GOAS (Jun16-May17)		Post GOAS (Jun17-May18)		Difference	
Representations to ED within 28 days	68	9.8%	67	7.%	1	-2.7%

Source: External Services Facilitator database, 4 June 2018

- 99 per cent of referrals met the GOAS referral criteria compared to a target of 90 per cent
- 91 per cent of episodes were seen by both the registrar and clinical nurse compared to a target of 90 per cent.

Table 18: Referrals meeting GOAS Criteria and clinical input by month, Jun 17 – May-18

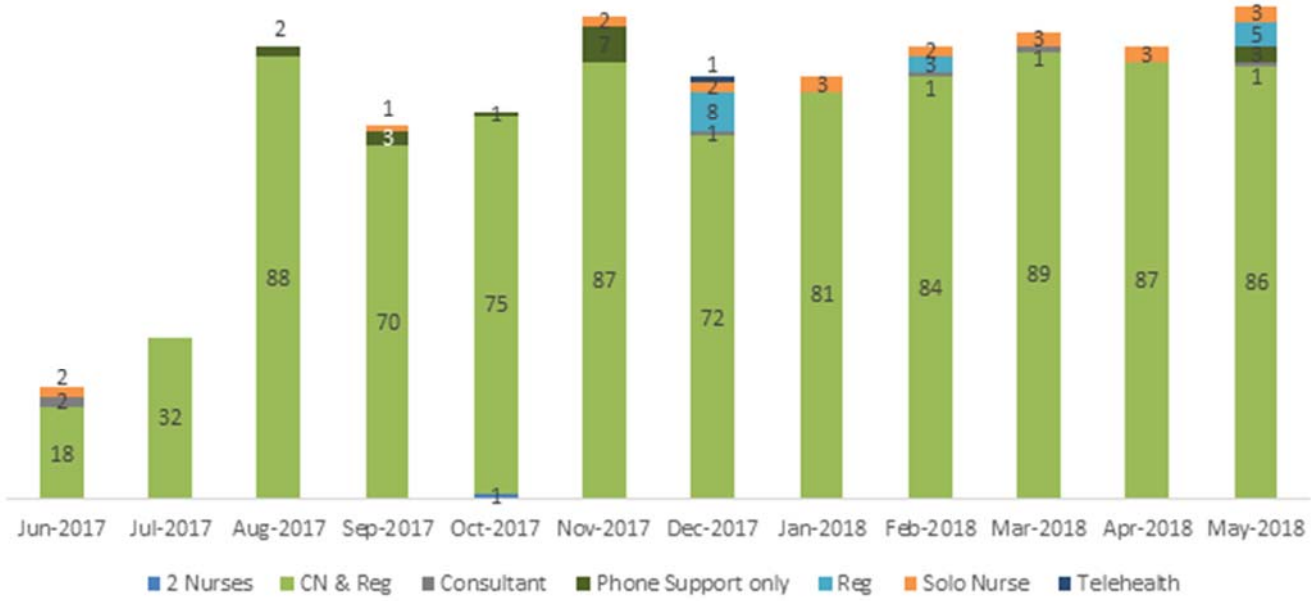
Type of Indicators	Month													Target
	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Total	
Referrals met GOAS criteria (%)	92	100	100	99	100	98	99	99	99	100	98	99	99	**90%**
Clinical inputs by Registrar & CN (%)	18	32	88	70	75	87	72	81	84	89	87	86	869	
	75	100	96	89	93	90	86	95	91	96	94	80	91	**90%**

Source: GOAS Database Jun 17 – May 18 extracted 4/6/18

Note: referrals meeting GOAS criteria are defined in section 7.1 p. 45

Further detail on the team providing care by month is shown in Figure 35, highlighting the geriatrician led model of care implemented by the GOAS.

Figure 35: Team providing care by month, Jun 17 – May-18



Source: GOAS Database Jun 17 – May 18 extracted 4/6/18

In addition, 88 per cent of consumers were satisfied with the quality of care they received overall and 98 per cent stakeholders agreed the GOAS provided a high quality and timely service.

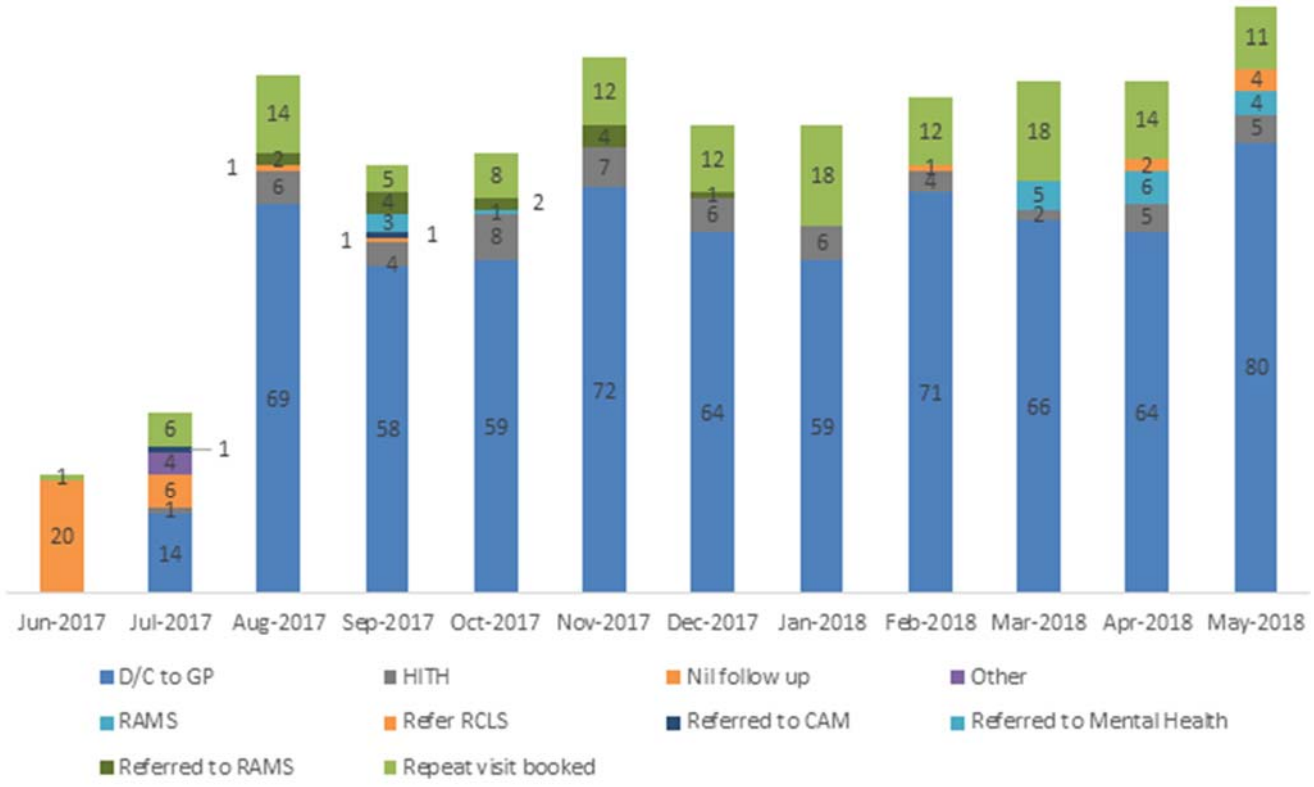
Table 19: Reported quality of care by consumers, carers and stakeholders

	Consumers/carers	Stakeholders/ Service providers
Quality of care	88% were satisfied with the **quality of care** they received overall	98% stakeholders agreed the GOAS provided a high quality and timely service

Source: Consumer and carer survey n=51, stakeholder survey n=57

73 per cent of patients required no further follow-up post GOAS input or were discharged back to their GP. 14 per cent of patients required a repeat GOAS visit. Further detail is included in Figure 36.

Figure 36: Outcomes post GOAS input by month, Jun 17 – May-18



Source: GOAS Database Jun 17 – May 18 extracted 4/6/18

3.1.5 Continuity of Care

The GOAS works collaboratively with a range of stakeholders to ensure continuity of care.

GPs noted it was much less distressing for their patients **to be treated in the nursing home** and GOAS was able to attend to patients in instances where they were not well enough to go to hospital. It was reported that if needed, the GOAS team were able to fast track the admissions process. GOAS facilitated 16 direct admissions over the period. It was also reported that because GOAS were able to follow up with patients in a definite time period, this had enabled patients to be discharged back to the nursing home from hospital sooner. The reduced average length of stay for in-scope RACF residents as reported in section 2.3.1.3 may also provide evidence to support the discharge of in-scope facility patients sooner. 70 per cent of patients are referred back to their GP, with monthly rates shown in Figure 37.

Figure 37: Proportion discharged to GP by month, Jun 17 – May-18

Source: GOAS Database Jun 17 – May 18 extracted 4/6/18

98 per cent of stakeholders agreed the GOAS worked with others to improve access and provide better coordination and integrated care for residents and 96 per cent of stakeholders agreed the GOAS supported and built trust, dependability and integrity between service providers. 65 per cent of consumers and carers surveyed agreed GOAS had improved access to other specialist services.

Table 20: Reported continuity of care by consumers, carers and stakeholders

	Consumers /Carers	Stakeholders/ Service providers
Continuity of care	65% agreed GOAS had **improved access to other specialist services**	98% stakeholders agreed the GOAS streamlined the referral process for residents 98% stakeholders agreed the GOAS worked with others to improve access to and provide better coordination and integrated care for residents

Source: Consumer and carer survey n=51, stakeholder survey n=57

100 per cent of GPs surveyed valued the key elements of the GOAS including its patient centred approach, timely response, specialised comprehensive geriatric service and coordination of care for residents. Specifically, GPs reported the linkage to Hospital in the Home (HITH) services and support dealing with families.

Clinicians raised that GPs did not always have time to discuss **forward planning** and this was something the GOAS was able to facilitate. GPs also appreciated having a second opinion.

Stakeholder Feedback:

The GOAS team has helped foster more collaboration between community practitioners and acute care/hospital practitioners. Working together as a team, resident care will only continue to improve. Furthermore, the GOAS team has helped ensure practitioners (nursing, allied health, nurse practitioners, general practitioners) are all using current evidence based approaches to clinical conditions. The GOAS team program is cutting edge and should be implemented throughout Brisbane, Australia, and the program outcomes should be shared with other health systems on a global scale.

Confidence of GPs to refer has increased due to the consultative and non judgemental attitude of the GOAS team. This results in better care for Residents (stakeholder)

3.1.6 Improved Access

The GOAS improved access to geriatrician outreach care for 744 patients equating to 960 episodes of care over the period. This equated to an average of 3.9 episodes a day over the period (12 June 2017 to 31 May 2018).

The case study and GP interviews demonstrate the range of services that were provided in the nursing home by GOAS such as tests, intravenous medications/antibiotics, ultrasound, catheters for urine retention and the ability to assist with behavioural issues.

The top 20 diagnoses treated by GOAS from June 17 to May 2018 are included in Table 21.

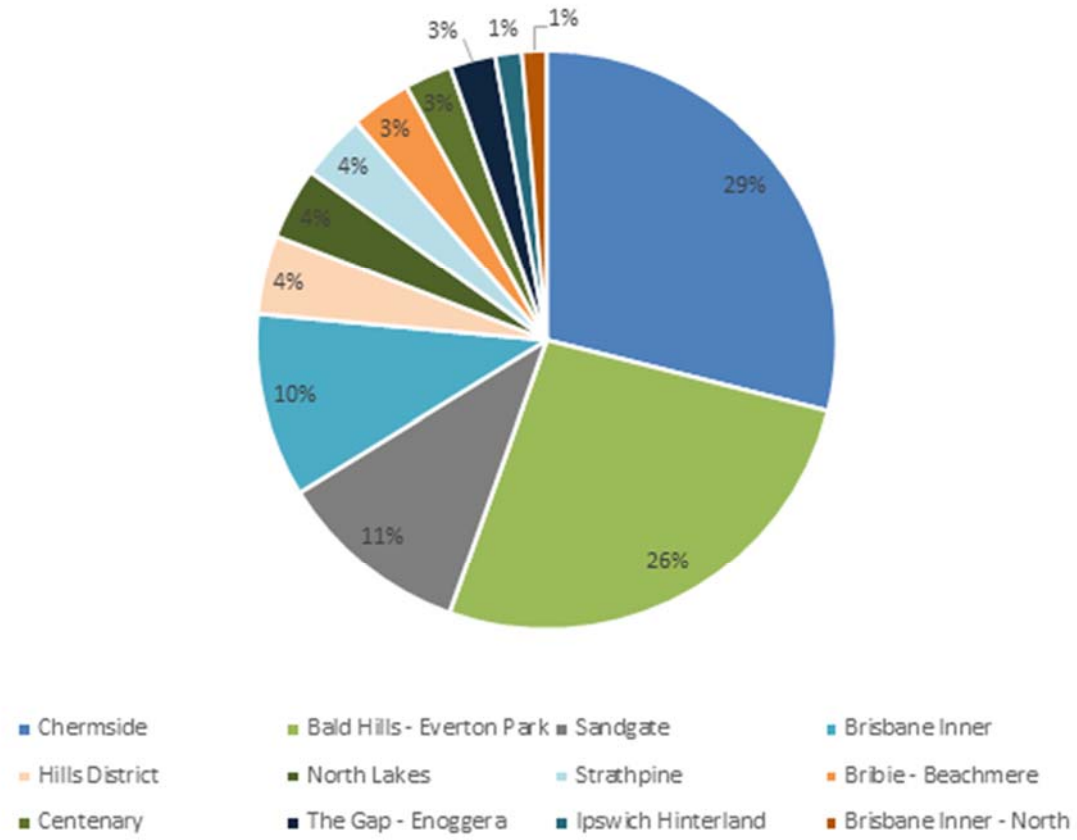
Table 21: GOAS top 20 Diagnosis for June 17 - May 2018

	Top 20	Number of episodes	per cent of episodes
1	Pneumonia	49	5 %
2	Pain	37	4%
3	Congestive cardiac failure (CCF)	37	4%
4	Wound	32	3%
5	Delirium	28	3%
6	Urinary Tract Infection (UTI)	26	3%
7	Progression of disease	24	3%
8	Cellulitis	24	3%
9	Dementia	24	3%
10	End of Life (EOL)	24	3%
11	Dementia with BPSD	21	2%
12	Iron deficiency anaemia with iron infusion	19	2%
13	Constipation	19	2%
14	Falls	19	2%
15	Trial of Void	17	2%
16	Urine Retention	17	2%
17	Aspiration pneumonia	15	2%
18	Anaemia	15	2%
19	Urosepsis	15	2%
20	Medication advice	10	1%
21	Other	488	51%

Source: GOAS Database Jun 17 – May 18 extracted 4/6/18

There were no barriers reported in terms of access for disadvantaged groups. Consumers came from a range of suburbs with statistical areas shown in Figure 38.

Figure 38: GOAS episodes by place of residence by statistical area for in-scope facilities 3, Jun 17 – May 18



Source: GOAS Database Jun 17 – May 18 extracted 4/6/18

3.3 Efficiency /sustainability /replicability

Did the GOAS improve efficiency?

Criteria	Description	Data Source	Findings
1. Replicability and transferability	Majority of stakeholders agree project could be replicated/ expanded	Semi structured interviews Stakeholder survey Steering Committee survey GP survey	• 98% of stakeholders would support the service to be expanded across Metro North. • 87% agreed the GOAS would be suitable to be replicated at other hospitals or on a larger scale • If it was to be implemented elsewhere, the geographical distances travelling between RACFs may also need to be considered. Telehealth could be used in more regional areas where distances are too far to travel. • GPs reported for the service to be replicated, the following would need to be considered: education amongst GPs and private practice about the availability, collaboration with health informatics and increased funding and staff.
2. Capacity building	Majority report increased knowledge Majority report changes to nursing practice as a result of training	Training database Training feedback form Semi structured interviews	• 417 training sessions were delivered to 3,019 participants at RACFs • 98% of staff who participated in the training at RACFs agreed the training had increased their knowledge / improved their confidence in managing RACF patients / met their learning needs and was relevant • 90% of staff agreed they would make changes to their nursing practice based on the training they had received • Training was seen to improve the quality of referrals to GOAS
3. Cost analysis	Cost savings	Costing data HHS Actual project expenditure from project documentation	• Under the status quo residents continue to use the emergency department and/or hospital care and the cost of treatment is borne by the state at a cost of approximately $3,469,000-$4,332,000 with the 20% variation rate. • Under with a scenario where the GOAS service is provided and it is assumed all those who would have gone to the ED for treatment receive a GOAS visit, the cost of setting up of the service on the first year is at $745,598. • Based on this analysis, the scenario with the GOAS represents a cost saving to the state.
4. Sustainability	Sustainability factors assessment rating	SC survey Stakeholder survey Semi structured interviews	• The GOAS demonstrated many of the factors of sustainability including infrastructure for sustainability, a fit with the strategic aims of the organisation, clinical and senior leadership engagement, staff involvement and training to sustain the process and benefits beyond helping patients. • There was an improvement in five of the ten sustainability factors at follow up. Six of the ten elements scored 100% (Factor 1) supporting sustainability. • Stakeholders reported if there was a seven day service / after hours service it would be utilised • Challenges were evident in securing long term funding for the project within the context of an activity based funding environment

3.3.1 Replicability and transferability

98 per cent of stakeholders supported the service to be expanded across Metro North and 87 per cent agreed the GOAS would be suitable to be replicated at other hospitals or on a larger scale.

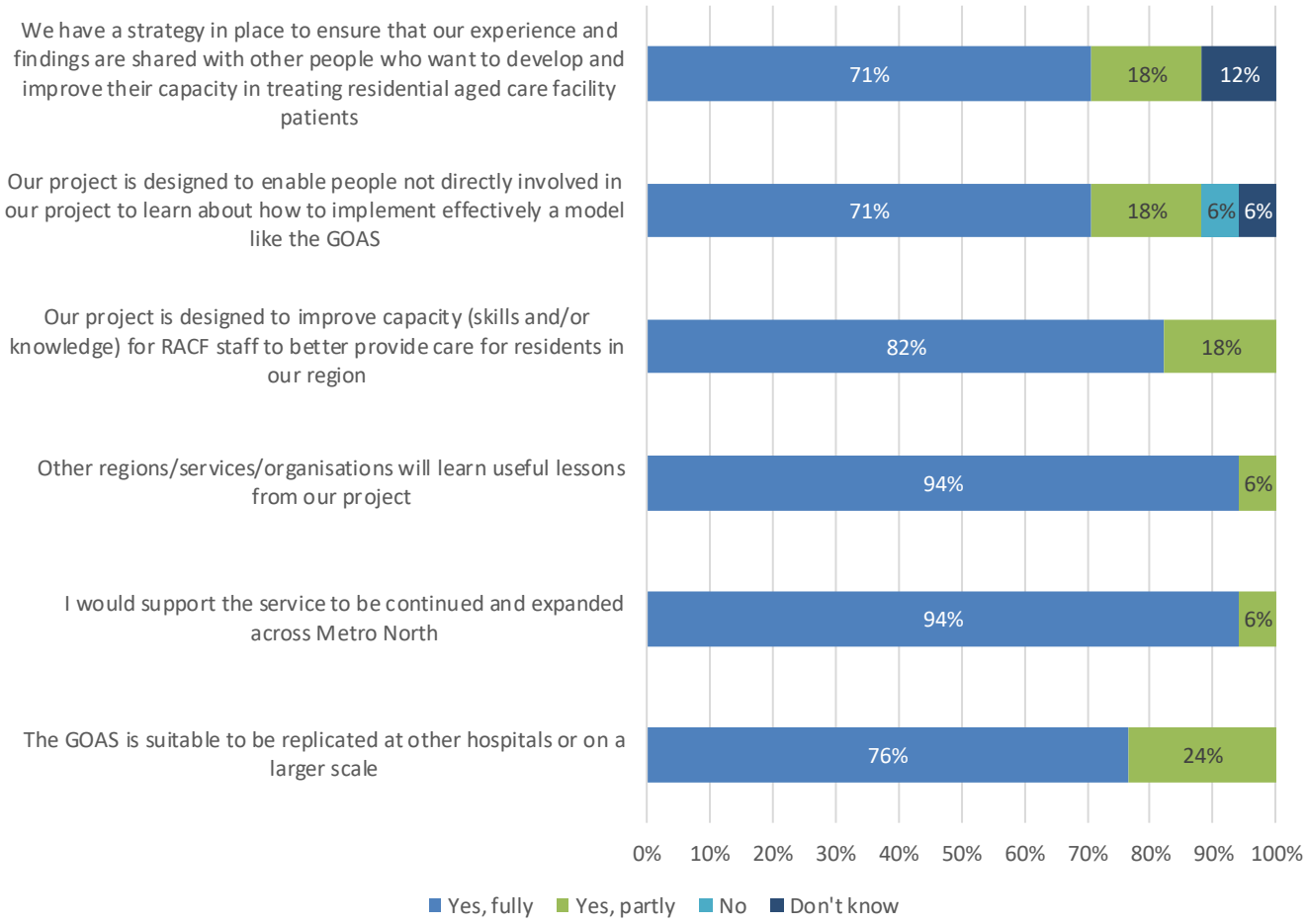
Table 22: Reported Replicability and transferability

	GPs	Stakeholders/ Service providers
Agree the service to be continued and expanded across Metro North	94%	98%
Agree that GOAS is transferable to other hospitals or replicated on a larger scale	94%	97%

Source: GP Survey n=39 , Stakeholder survey n=57

The GOAS demonstrated many of the factors for replicability and transferability including developing capacity and having a strategy to ensure experience and findings are shared.

Figure 39: Replicability and transferability



Source: Steering committee survey follow up n=24

The project steering committee, GPs and stakeholders reported the following factors as being critical to replicating the project successfully:

Collaboration

- Commitment and collaboration from key stakeholders

- Buy in from the RACF management
- GP engagement
- Communication with all stakeholders
- Support from stakeholders
- Co-ordination with local ED

Promotion/capacity building

- Network before official launch
- Promotion at least three months prior
- Education of pathways prior to going live
- Education amongst GPs and private practice about the availability

Governance

- Good governance structure
- Adequate medical officer staffing and geriatrician oversight
- Timely and effective medical/clinical care
- The right people (GOAS clinicians)

Resources

- Recurrent funding
- Increased funding and staff

Person centred

- Enhance patient/residents care
- Family involvement if it is possible
- Consumer-centred care focus and quality improvement driven

Timeliness

- Quick response to referral

Accessibility

- Ease of access to the service
- Expanded hours of access

Other factors included passion, transparency, demonstrating the benefits, awareness of limitations, non-judgemental attitudes of staff and a reliable database for monitoring and evaluation.

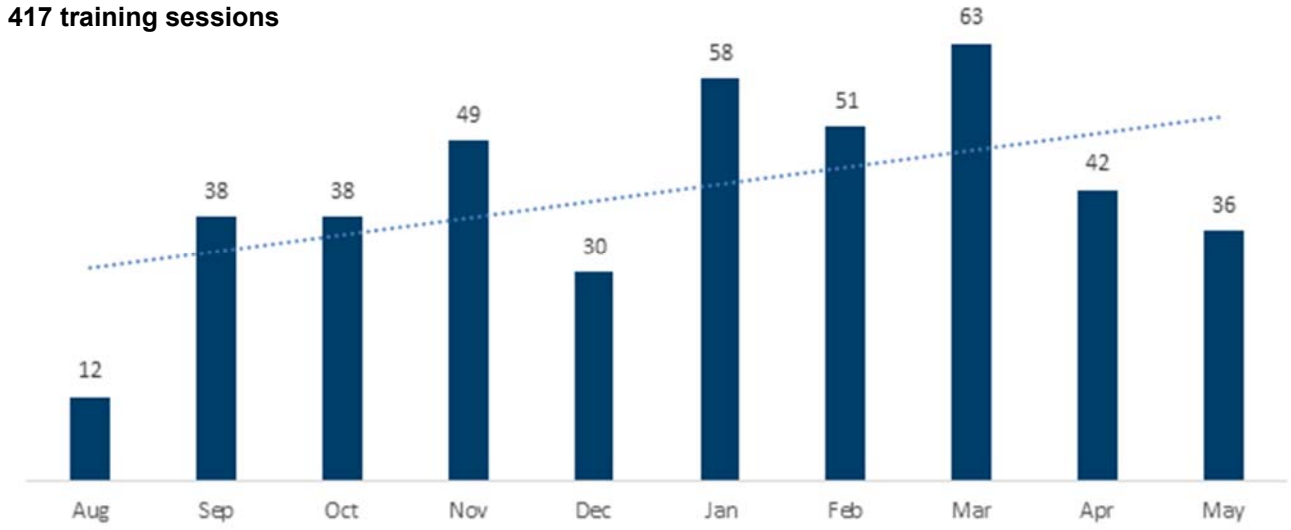
GPs reported the service could be improved by providing a 7-day service/nights, increasing awareness among the public and providing more timely feedback after visits. Some also raised that if the service was to be expanded to seven days or after hours, GP authorisation may be a barrier to access. If it was to be implemented elsewhere, the geographical distances travelling between RACFs may also need to be considered. Telehealth could be used in more regional areas where distances are too far to travel.

Semi structured interviews revealed the timing of funding, policy context /environment, the need to inform families and buy in from leadership were all also important factors to replicability.

3.3.2 Capacity building

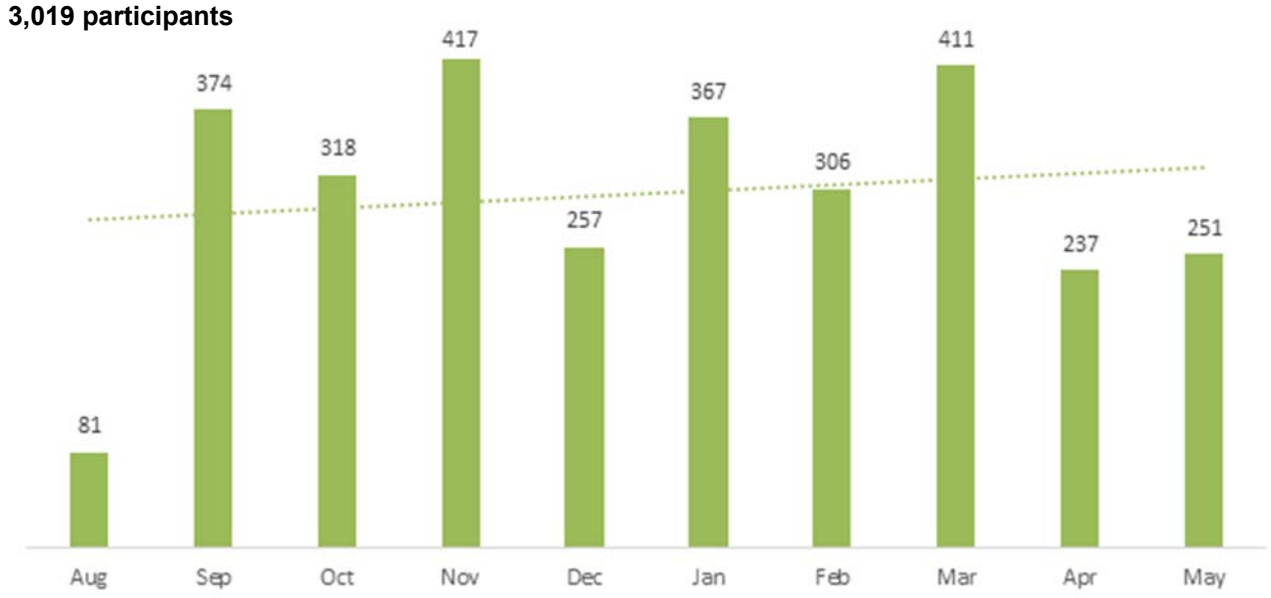
The GOAS built capacity through delivering 417 training sessions to 3,019 participants at RACFs from August 2017 to May 2018. A wide variety of topics were covered as shown in Figure 42. One third of participants were AINs (34 per cent) followed by RNs (22 per cent) and PCWs (21 per cent).

Figure 40: Training sessions by month, Aug 17 – May-18



Source: Training database, supplied June 2018

Figure 41: Participants by month, Aug 17 – May-18



Source: Training database, supplied June 2018

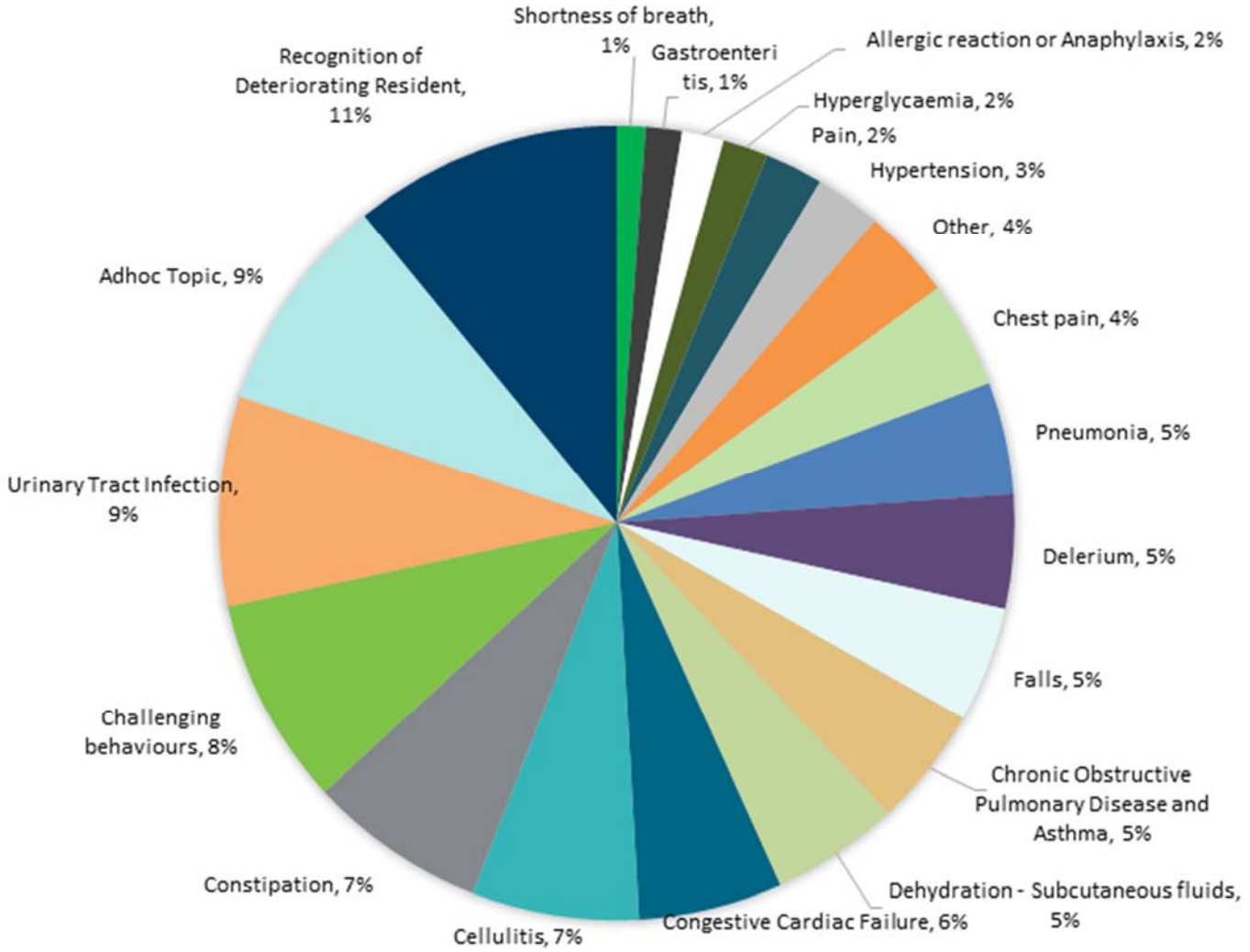
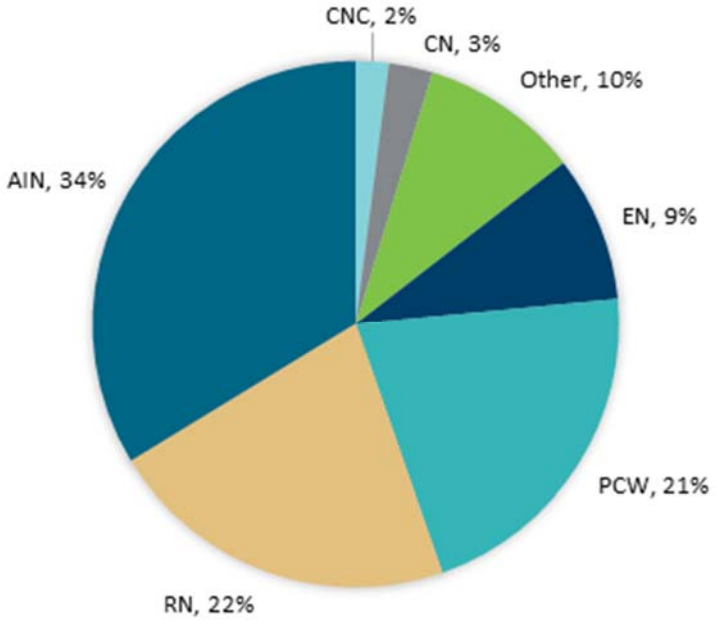


Figure 42: Training topics, Aug 17 – May-18

Source: Training database, supplied June 2018

Figure 43: Training by participant type, Aug 17 – May-18



Source: Training database, supplied June 2018

84 per cent of stakeholders agreed the GOAS provided support to RACF staff through education and training on clinical pathways

98 per cent of staff who participated in the training at RACFs agreed:

- The training had **increased their knowledge** of referral and clinical pathways
- The training and/or information had **improved their confidence** in managing RACF patients
- The training **met their learning needs** and
- The training was **relevant**

90 per cent of staff agreed they would make changes to their nursing practice based on the training they had received. Examples of changes include:

- Ensuring to monitor fluids
- Being more aware of signs and symptoms, looking for signs of deterioration
- More attention to constipation, asking patients about their normal bowel motions
- More aware of falls risks & management
- Sit the resident up to allow more oxygen
- Handwashing
- Encourage and assist mobilisation
- Daily weighs
- Use clinical pathways and referral
- Examine the residents skin frequently
- Dealing with challenging behaviours
- Will arrange GOAS to review resident if resident is not in emergency but need clinical attention
- Change indwelling urethral catheter at commencement of antibiotics
- Encourage GP to organise GOAS instead of hospital admission

The reported most important information gained from the session included:

- Signs and symptoms of heart failure
- More knowledge about how to manage COPD patients

- Clinical pathways
- Management of unstable resident and when to escalate to ED
- Causes and symptoms of shortness of breath
- Risk factors for hypertension
- Falls assessment tool
- Ways to deal with challenging behaviours
- Difference between dementia and delirium
- The signs of hypoglycaemia
- how to deal with a resident with pneumonia
- Procedures and plans for progression of symptoms
- Preventing urinary tract infection (UTI) and learning the signs of UTI
- What GOAS is about and can offer
- Keeping myself and my resident safe
- Information about catheter change

Further sessions were requested by those attending on topics such as medications, constipation, urinary tract infection shortness of breath, catheter education, nausea and pain management. More illustrations, having topics on a USB stick and longer sessions were also requested by participants.

Semi structured interviews revealed challenges with RACFs initially engaging to participate in the training and time constraints within RACFs. Feedback however from RACF staff who participated was overwhelmingly positive with some examples included below.

Training feedback:

What an awesome and professional presentation, thank you!

Very knowledgeable. I've learned a lot of stuff I didn't know before

Could have been longer- but we had time restraints

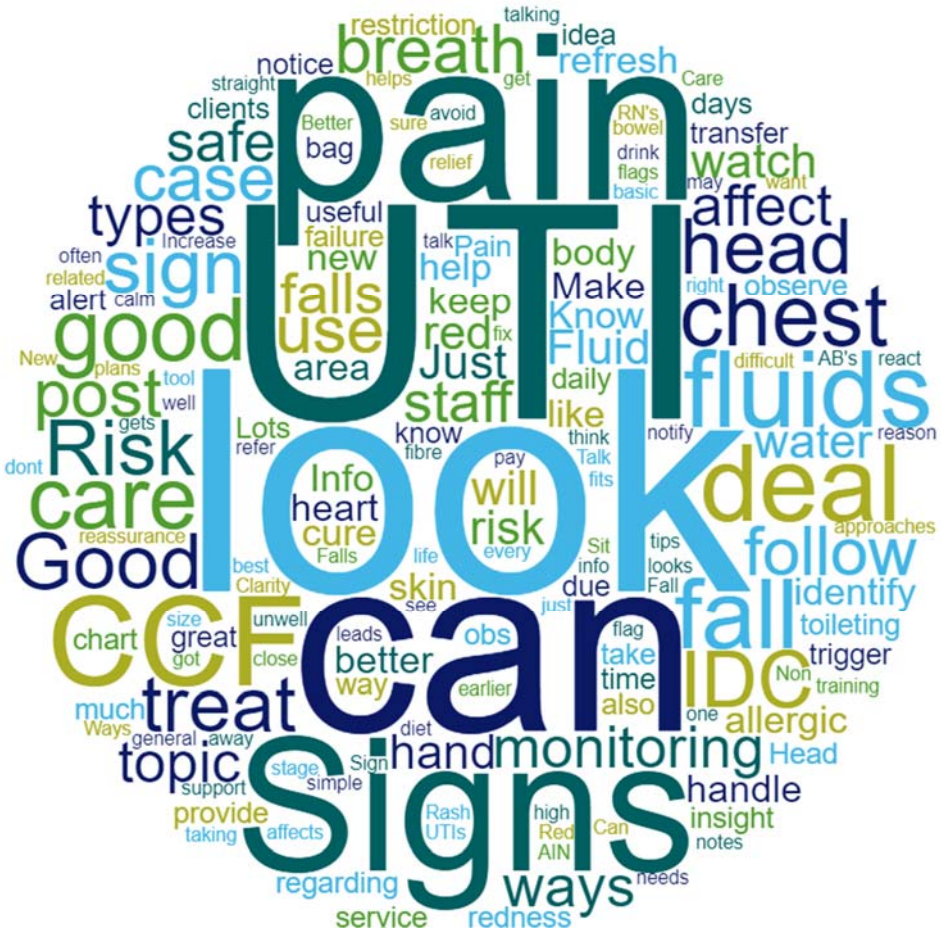
Great content and good length

Stakeholders reported the GOAS team provided formal and informal education to help all practitioners provide current and evidence-based care. The development and use of clinical pathways was reported to have helped with strong evidence-based practices and decision-making.

The training was also seen to improve the quality of referrals to GOAS. After providing GOAS RN pathway education staff noted an improvement in the information the RNs give when referring a patient to GOAS.

The GOAS team also experienced a number of learnings around processes, implementing a project involving multiple stakeholders and across sectors, marketing, evaluation and project management. An improved knowledge of services and how the system works were also reported.

Figure 44: Word cloud most important information gained from the session



Source: Post education feedback form n=1565

3.3.3 Cost Analysis

Two positions are presented below for analysis:

- ***Position 1: Retain the Status Quo, without the GOAS:***
  Residents in RACFs continue to use the emergency department/hospital for geriatric care and no outreach service is provided. Under this position, residents will continue to use the ED and/or hospital care and the cost of treatment is borne by the state at a cost of approximately $3,469,000-$4,332,000 on the first year. This status is sensitive to the assumptions regarding potentially prevented ED presentations and admissions, therefore a range has been applied, which gives a lower bound at 20 per cent below the calculated rate and the upper bound which includes all potentially prevented presentations/admissions.

  In the second year, applying a compound annual growth rate of 4 per cent based on the growth in RACF ED presentations from January 2016 to May 2017 at TPCH, the cost of treatment is estimated to be approximately $3,607,000 - $4,505,000.

- ***Position 2: GOAS Service Implemented:***
  Under position two a geriatric outreach assessment service is implemented and it is assumed all those who would have gone to the ED for treatment receive a GOAS home visit. In the first year, the cost for setting up the service is estimated at approximately $745,598.

  From the second year onwards, the cost for the service is estimated at $463,898 as a result of cessation of 1 FTE Clinical Nurse and set-up cost.

Based on this analysis position two with the GOAS represents a cost saving to the state.

Table 23: Cost analysis summary

The table below shows break-down details of gains and costs of investment over two years.

Cost-analysis Summary				
Year	**First year (2017-18)**		**Second year (2018-19)** (estimated with 4 per cent increase in service demand)	
Position	**Without the GOAS** (20 per cent variation)	**With the GOAS**	**Without the GOAS**	**With the GOAS**
Service Provision	744 residents/960 episodes of care would require acute care services 638 episodes of care would be considered as potentially preventable ED presentations and 498 would be considered as potentially prevented hospitalisations	960 episodes of care provided for 744 residents 638 potentially preventable ED presentations 498 potentially prevented hospitalisations	774 residents/998 episodes of care would require acute care services 664 episodes would be considered as potentially prevented ED presentations 518 episodes would be considered as potentially prevented hospitalisations	
Cost estimations	**$3,469,000 - $4,332,000**	**$745,598**	**$3,607,000 - $4,505,000**	**$463,898**

Costing Methodology:

This analysis is based on the following assumptions:

- An average cost of ED presentations and Hospital Admissions

  The GOAS costing utilised the External Services Facilitator database that captures data regarding presentations and admissions from RACFs in TPCH catchment.

  A three-month sample from October to December 2016 of in-scope RACF patients who were flagged as being a possible hospital avoidance, whether they were an ED presentation or hospital admission. The individual cost of these patients for their episode of care was derived from Transition 2 Clinical Costing system in QLD Health.

  There were a total 132 ED episodes of care within this period. The average episode cost being $1,036, with an average length of stay in the department of 4.73 hours.

  There were a total of 128 inpatient episodes of care within this period. The average episode cost being $5,212 with an average LOS of 2.21 days. The Top 10 DRGs of this inpatient cohort were identified (Index). Overall the top 10 DRGs represent 45 per cent of the patient group.

- **Queensland Ambulance Cost:**

  $1,214 fixed fee for QAS emergency transport and $450 fixed fee for non-emergency transport return to RACF, bringing a total cost of a QAS round trip is at $1,664[38].

- **Telehealth cost:** MBS item number 149 A28 at $461.30 per consultation

- **Presentations and admissions:**
  - Based on clinical data there were approximately 638 potentially ED preventable presentations and 498 potentially prevented hospitalisations (78 per cent of ED presentations)
  - over the period of 11.5 months 16 direct admissions to hospital however given that statistically significant reductions were not yet able to be seen in the population data and attributing impact is related to a complex interaction of a number of factors a range has been provided and should only be used as a guide and not a definitive costing. A longer time frame is recommended in order to be able to determine the population level impact.

- **Gains of investment & Costs of investment**
  - Gains of investment includes of cost estimates of potentially ED preventable presentations, potentially prevented hospitalisations, QAS transportation cost, revenue from Telehealth consultations.
  - Costs of investment includes of all expenses for setting up the service, including labour and non-labour, in kind contributions

- **Other**
  - GP cost of care is assumed to be the same as follow up/return to GP care would be required after either an ED attendance or GOAS attendance
  - Analysis does not factor in the non-monetary benefits to the patient of receiving care at home which is often more convenient and the avoided time spent waiting in an emergency department

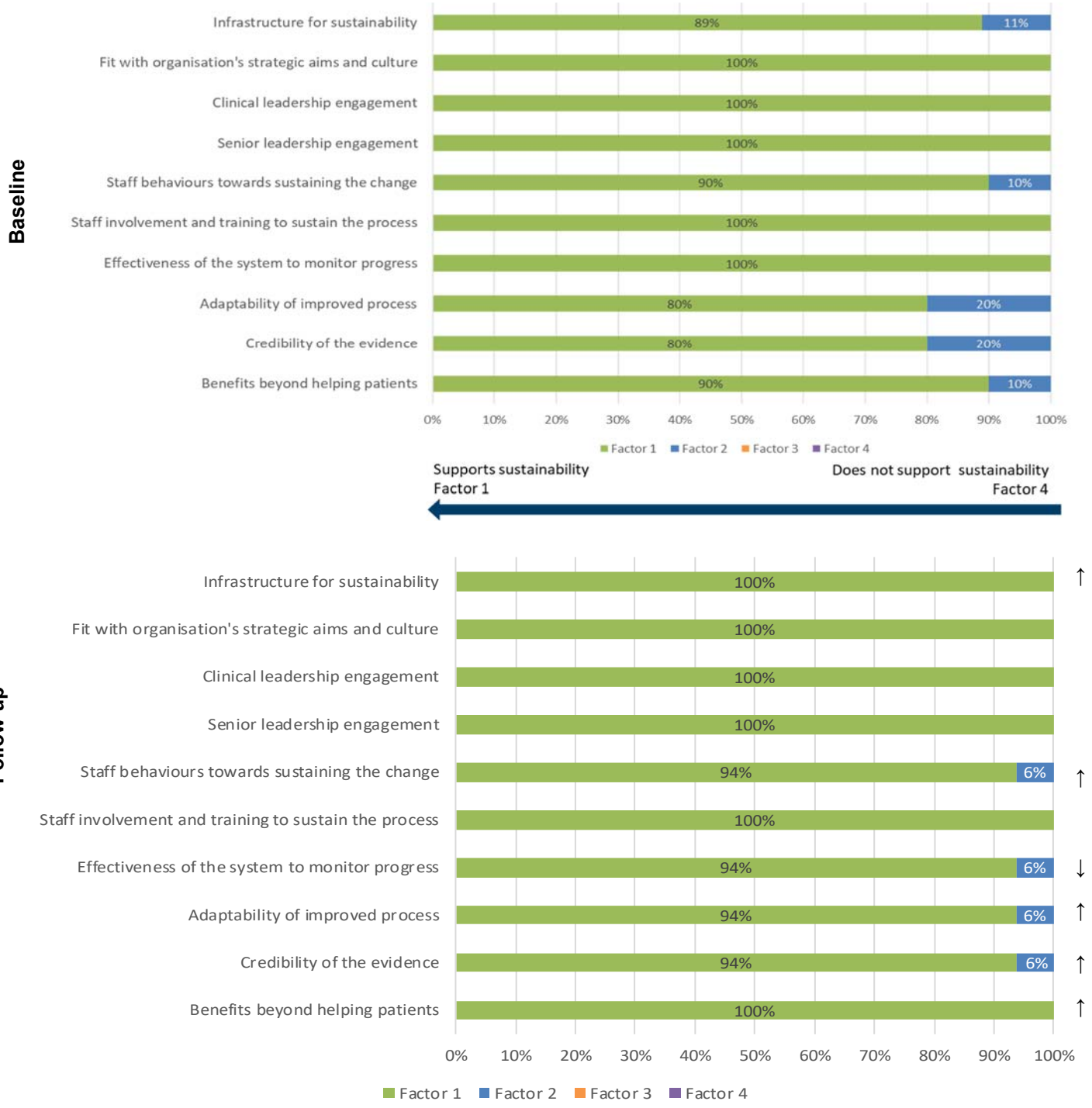
Table 24: Gains of investment & Costs of investment over two years period 2017-2019

Gains of investment estimation	No.	$	2017-18	2018-19 (4% increase)	Costs of investment estimation	2017-19	2018-19
Reduced ED presentations	638	1036	$ 660,968	$ 687,407	Labour MNHHS	$548,998	427,398
Reduced hospital admissions	498	5211	$ 2,593,202	$ 2,696,930	Non-Labour MNHHS	36,500	36,500
Telehealth revenue*	18	461.3	$ 8,303	$ 8,636	Equipment	15,000	-
Reduced ED presentation due to direct admissions	16	1036	$ 16,576	$ 17,239	MNHHS In kind	50,000	-
Reduced ambulance costs (Emergency)	638	1214	$ 774,532	$ 805,513	Labour PHN	77,600	-
Reduced ambulance costs (non-Emergency)	638	450	$ 287,100	$ 298,584	Non-labour PHN	500	-
Reduced ambulance due to Telehealth Consultations (non-emergency)	18	900	$ 16,200	$ 16,848	Clinical Pathways, Communication	7,000	-
					BNPHN In kind	10,000	-
TOTAL (Upper bound)			**$ 4,356,881**	**$ 4,531,157**	**TOTAL**	**$745,598**	**463,898**
TOTAL (Lower bound with 20% less)			**3,485,505**	**$ 3,624,925**			

3.3.4 Sustainability

The GOAS demonstrated many of the factors of sustainability including infrastructure for sustainability, a fit with the strategic aims of the organisation, clinical and senior leadership engagement, staff involvement and training to sustain the process and benefits beyond helping patients.

Figure 45: Sustainability factors (per cent agreement) – Baseline versus follow up



Source: Steering committee survey baseline n=12, follow up n=24

There was an improvement in five of the ten sustainability factors at follow up. Six of the ten elements scored at 100 per cent (Factor 1) supporting sustainability.

There was a desire amongst stakeholders to continue the project. However, challenges were evident in securing long term funding for the project within the context of an activity based funding environment. A Metro North wide initiative was planned to commence on 4 June 2018 – the Metro North Residential Aged Care District Assessment and Referral Team (RADAR) Coordination Service. RADAR will be managed by a nurse navigator and provide a single point of phone contact during "high traffic" times for QAS transport and RACF enquires. Through the coordination of enquires, the service will aim to provide best patient pathways and clinically appropriate alternatives for residents that would otherwise have presented or represented to the ED. This service would no doubt be inter-dependent on the existing services operating within MNHHS, including the GOAS, Older Persons Acute Assessment Service at RBWH (OPAAS), Residential Care Liaison Service at Redcliffe Hospital (RCLS) and outreach component of the Geriatric Emergency Department Intervention Service at Caboolture Hospital (GEDI).

Further service improvements were raised by stakeholders including:

- The need for a seven days a week/after hours service, it was reported that stakeholders believed this service would be utilised for cases over the weekend or overnight.
- A multidisciplinary team including pharmacist, allied health and supporting components including advanced care planning, palliative care, behaviour management
- Incorporating electronic systems for medical records from inception would allow transfer of information to the primary care provider in a timely manner.
- The development of infrastructure in the RACFs to support Telehealth services which would negate the need for attendance at outpatient appointments.
- Nurse practitioners
- Specialist geriatric nurse to deal with non-pharmacological and behavioural cases
- Access to a mobile x-ray

PART 4: LESSONS LEARNT & RECOMMENDATIONS

The following key lessons learned from the GOAS project were collected throughout the course of its 11.5-month implementation and from various sources, including 1,773 survey responses via six surveys, a number of consultations with both internal and external key informants, informal feedback from stakeholders, experiences and insights from the project team. A summary of a meeting with GPs in TPCH catchment conducted by the joint Brisbane North PHN and MNHHS Health Alliance on 9 May 2018 is also used as a reference.

The lessons learned highlights key success factors for designing, planning and implementing a service like the GOAS - an outreach clinical service at the interface between acute and aged care involving RACFs.

A. Success factors to consider for designing and planning an outreach clinical service to RACFs

Lesson 1: Multiple stakeholders, one goal

It was clearly recognised that the key challenge for any kind of initiative like the GOAS is the need to work effectively across the sectors including primary and tertiary care, aged care, the QLD Ambulance Service and other hospital-based and community-based services.

In order to overcome the challenges posed by the systemic divide and for effective collaboration, a commitment by all stakeholders is needed to work towards the common goal. As a result, setting realistic aims and objectives for all stakeholders to achieve was crucial for the GOAS pilot project's success.

The aim for GOAS to improve quality of care for the residents, was readily accepted by key stakeholders, including all 24 in-scope RACFs and 35 out of 104 GPs (33.6 per cent), who operate at RACFs within TPCH catchment area as well as relevant services within TPCH.

One barrier was the level of awareness of this service among Queensland Ambulance Service (QAS) staff. There is room for improvement in continuing to engage with QAS in order to provide for the care needs of RACF residents, as they play a vital role in the patient's journey through the healthcare system.

Lesson 2: Understanding the local context, including the residents, GPs and RACFs

When introducing a new clinical specialist service for a population cohort in a specific geographical catchment, understanding the local context in which an initiative is introduced is an important determinant factor for success.

The GOAS conducted a comprehensive evaluation plan comprising of five surveys to obtain feedback from residents and families, GPs, staff of RACFs, MNHHS and QAS. The survey responses enabled the project to have holistic views of stakeholders on how effectively the service was provided to residents and what could be improved

2.1 The resident health characteristics and their values

The resident health characteristics - "No one's well in a nursing home"

A database maintained by the External Services Facilitator Clinical Nurse Consultant at TPCH, over three years prior to the project commencement, collected information including number of ED Presentations, hospital admissions, diagnoses, and identified the top 22 conditions which were considered as potentially prevented hospital admissions. As a result, the GOAS design was based on this information to form the GOAS referral criteria and related services, as well to as develop and provide training on clinical pathways for these 22 conditions for RACF staff.
Over the course of the project, the GOAS provided 946 episodes of care for residents in 24 RACFs in TPCH catchment and among these, pneumonia, end of life, pain, dementia and dementia with BPSD, wound care, delirium, CCF, iron deficiency, UTI and cellulitis were the top 10 health conditions.

The resident's and their family's values

Survey responses from residents and their carers were overwhelmingly positive with 98 per cent of consumers and carers likely to recommend the GOAS to family and friends, but what they valued the most was being listened to, given choices and involved in the decision-making process.

Consumer feedback affirmed the relevance of the GOAS model of person-centred care, which was central to its service delivery.

2.2 General Practitioner (GP)

In the GOAS project, GPs were divided into three groups for implementation of communication strategies: GPs who do not visit RACFs, GPs who deliver services in RACFs, and After-Hours Doctors.

2.2.1 GPs' perspectives regarding the care for residents in RACFs: *"It's not a popular job"*

According to the Australian Institute of Health and Welfare (AIHW), an estimated 200,000 Australians live in RACFs[39]. GPs play a large role in visiting and treating these residents as well as in providing support to nursing staff in dealing with medicine side of aged care.

The joint Brisbane North PHN and MNHHS Health Alliance conducted a meeting participated by 11 GPs within TPCH area with regards to care of the frail elderly person in RACFs. Findings from the meeting, supported by a study[40] showed that managing patients in RACFs was not as desired as the other aspects of General Practice due to the following:

- higher workload, complexity, but poor remuneration
- difficult, time-consuming, personal life disruption
- time spent in unremunerated activities such as reviewing and obtaining clinical reports, making phone calls and responding to calls from other healthcare professionals and travelling to and from the RACFs.
- Residents' complex and chronic healthcare needs including dementia and behavioural psychological symptoms of dementia (BPSD) present GPs with a great challenge.
- Delivering palliative care and interacting with families in RACF setting is difficult and feel educationally unprepared.
- RACF standards, workforce, incentive policy, and the variety in level of care between facilities creating a multifaceted challenge in GP care provision to the residents.
- The absence of advanced care planning with residents and their families

However, the study stated that if administrative and logistic support were provided, it could be an effective strategy to improve GP participation in RACFs[41].

2.2.2 GPs who deliver services to residents in RACFs – *"It's like having a part-time job after hours, but still love doing it"*

In 2016, there were an estimated 1,111 GPs working within the Brisbane North PHN region. Among these, 286 general practitioners were in TPCH catchment[42].The GOAS database found 104 GPs who visited RACFs, equivalent to 36 per cent of the total of GPs in TPCH area.

The project found that although all the above barriers would also apply to the GPs in TPCH area, many were willing to deliver services to RACF and expressed their passion in improving quality of care for the residents through different approaches.

There were some examples of innovative models within the project scope, in which practices and GPs provide a holistic medical care to the residents by visiting these RACFs on specific days every week and working closely and in collaboration with specialists to improve care. Some practices employed specialist chronic disease nurses, who were able to upskill the staff, educate carers at facilities enabling them to care for the residents' needs. One of the practices also offered extended hours (7 am to 8 pm) across 7 days. These models provide a consistent and better continuity of care for the residents, offering a number of benefits for both residents and RACF staff.

This GP group was approachable and engaged in project activities such as participating in meetings, surveys, interviews and other project communication activities. They were also keen to receive relevant updates and information that were related to older people generally and RACF residents. Hence, having a database of these GPs has proven to be useful in:

- developing targeted and effective communication strategies to enhance productive working relationships, maximise engagement and collaboration
- distributing and effectively providing the project information to assist in a change in management process, especially in the first two phases of creating Awareness of and Desire for using the GOAS
- monitoring and evaluation of the service uptake by GPs throughout the project duration to address any identified risks and issues in a timely manner.

2.2.3 After hours GP services

After hours GP services appear to be available in sufficient quantity in the region, however there were concerns about the quality of care provided, as after hours doctors:

- are not necessarily experienced in providing care to complex elderly patients, resulting in the resident being sent to ED
- are not necessarily working within a structure that supports their development as clinicians.

Consequently, GPs who visit RACFs did not see the after hours doctors' services as an integral part of continuity of care for their patients, except in the case where the after hours service was run by their own practices.

The GOAS project therefore, did not pursue an initial plan of promoting the GOAS to this group.

2.3 Residential Aged Care Facilities

2.3.1 RACF Workforce characteristics – *"Experienced Registered Nurses in RACFs are an endangered species"*

According to the Aged Care Amendment (Ratio of skilled staff to care recipients) Bill 2017, RACFs currently have an obligation to have sufficient appropriately skilled and qualified staff, but the number is flexible to allow for differing care needs of residents and other characteristics of a facility such as its location[43]. However, the bill failed to state how the mandatory staff ratio would be calculated leading to further actions on aged care workforce development.

The aged care sector workforce is a critical element in the provision of quality services to older Australians. To ensure quality, the workforce must have the appropriate education and training, skills, and attributes to provide the care that is needed. There are three levels of care staff working in RACFs: Registered Nurses (RN), Enrolled Nurses (EN) and Personal Care (PC). The PC workforce includes personal care workers, assistants in nursing and other unlicensed workers[44].

Between 2003 and 2016, there has been a significant shift in the aged care workforce[45]. Although the number of direct care staff has increased by 29 per cent, registered nurse positions decreased by 10.5 per cent despite the proportion of aged care residents assessed as having high care needs increasing from 64 per cent to 83 per cent. The 2008 report "*Who Carers for Older Australians*" by the National Institute of Labour Studies, showed a significant increase in the proportion of PCW and this trend was confirmed by the Aged Care Workforce 2016 - Final Report[46].

2.3.2 RACF staff education and training needs

Although the aged care workforce is highly skilled, a relatively small proportion of the workforce has a specialised qualification in care of the elderly, with the most lacking areas being palliative care, dementia, mental health and gerontology, the Aged Care Workforce 2016 revealed. The GOAS project initial plan was to provide education and training for nursing staff only, but due to the delay of the development of clinical pathways and at the request of RACFs, the project developed and provided a training program for PCs.

Over the period of nine months from August 2017 to May 2018, the GOAS provided 417 training sessions on 22 common conditions and clinical pathways for 3,019 staff at 24 RACFs in TPCH area. The GOAS training program development was based on adult learning principles, work-related training methodology and utilisation of real case studies. The training feedback was very positive and the findings suggest that there is the need for upskilling and improving knowledge on gerontology for the PC group, especially when the current workforce structure in RACFs is increasingly relying on PCs to provide direct care for the residents

2.3.3 Linkage between RACF models, GPs and hospital admissions – *"The nature of RACF ownership is changing – Now they are all businesses"*

A review of 78 papers shows a strong connection between RACF ownership types with the numbers residents transferred to hospital. "For profit" facilities and those with poorer staff to patient ratios have higher rates of hospital admissions as compared to those owned by not-for-profit organizations or with better registered nurse staffing[47]. The Aged Care Workforce 2016 – Final report, showed ownership of RACFs as follows:

	Model	Percentage
1	Private for profit	39.1
2	Private not for profit	31.4
3	Religious providers	24.8

4	State/Government	4.7

The GOAS findings was unable to see this connection due to lack of time. However, it was able to identify that RACFs who have dedicated GPs to provide frequent and holistic medical care for their residents were usually more engaged in the GOAS training programs, proactive in using GOAS services and decreased the need of sending residents to hospital.

B. Key success factors for the implementation of an outreach clinical service to RACFs.

As same as any new businesses, getting the right people, appropriate processes and meaningful marketing and communication strategies is the key for success.

Lesson 3: Getting the right people

The GOAS clinical team led by the Geriatrician and consisted of a small team of five staff members.

3.1 Geriatrician

The role of the Geriatrician in the GOAS team was primarily a champion for leading the change and to ensure sustainability of the program. Within this role, the Geriatrician advocated for the GOAS, influenced within the organisation and dealing with all management levels. This role was crucial to the success of the GOAS and required a senior consultant who was not only a clinical expert but also an influencer, a change agent who has a passion for improving quality of care for older people and the capacity to inspire others.

3.2 Registrar

The registrar together with a clinical nurse formed the face of the GOAS, as they provided care for the residents in RACFs on a daily basis. Hence, central to the success of the GOAS model is identifying a Registrar with a genuine special interest in geriatrics, embracing person-centred care principles in their daily practices and possessing high level interpersonal and communication skills. This set of attributes also assisted in establishing trust with, and the acceptance of the model by key stakeholders. The registrar worked directly and interacted with a range of stakeholders including the residents, their families, RACF staff, GPs and other health professionals.

The GOAS findings show that the residents did not necessarily know about the GOAS, but remembered doctor and nurse's names and how they were treated.

The Registrar position was appointed on a 3 to 6 month roster basis, and as a result, during the pilot, three registrars were working on the project. While their performances were exceptional, according to consumer survey results, this rotational change made relationship building with stakeholders, especially GPs, a challenge.

3.3 External Services Facilitator Clinical Nurse Consultant (ESF CNC)

The TPCH CNC ESF whose main responsibility is to provide a coordinated, appropriate clinical care response between TPCH and RACFs with a focus on reducing unnecessary presentations and admissions of residents to acute care facilities was tasked to support the GOAS team.

The ESF CNC provided direct supervision and leadership for the GOAS clinical nurses and administrative officer, advocated for the GOAS model within TPCH, and was the key contact for the GOAS Project Manager in managing the pilot. The ESF CNC valuable support was critical in the GOAS successful implementation.

3.4 Clinical Nurses (CN)

Appointing two Clinical Nurses with the right skill mix and right attributes to implement GOAS clinical services and deliver training to RACF staff was equally important.

The GOAS appointed three senior clinical nurses to share these two FTE positions, who possessed a high level of clinical skill in geriatrics including palliative care and experience in training delivery.

These positions also performed some non-clinical functions to facilitate the GOAS implementation such as developing training materials, arranging training schedules, following up on both clinical and education requirements and data entry.

Lesson 4: Applying the right processes

Duration of the pilot

No different to introducing a new product to market, the adoption of the GOAS by stakeholders occurred in phases. According to Everett Rogers, whose *"Diffusion of Innovations*" concept has been widely used nowadays in the marketing field, there are five categories of adopters: Innovators, Early adopters, Early Majority, Late Majority and Laggards. Innovators have a very different motivation of adopting a new idea, which initially may be perceived as uncertain and even risky[48]:

- *Innovators* adopt something simply because it is new. They love exploring for the sake of exploring and are willing to take risks, even if those risks result in failure.
- *Early adopters* are often opinion leaders. They are similar to innovators in how quickly they adopt, but they are more concerned about the coolness factor and maintaining their reputations as being ahead of the curve on new ideas.
- *Early majority* and late majority are the critical mass that ensures adoption. The early majority looks for productivity and practical benefits more than coolness or reputation. The late majority is similar but also expects a lot of help and support before they are willing to commit.
- *Laggards*, as the term implies, are slow to adopt. They are the most resistant to change and do so only when forced to adopt because everyone else has.

A connection between adopter category's proportion and influence on market share can be found at Appendix 14.

After 30 years of applying the Rogers adopter process, Geoffrey Moore found that to overcome the gap between the early adopters (13.5 per cent) and the early majority (34 per cent) is the greatest challenge in the process and the new idea or service is only attracting the early majority users because it has proven useful and valuable[49].

Aligned with the adopter process, the product life cycle shows five stages of a product development[50]. See Historical pattern of a product development at Appendix 14

The GOAS pilot was funded for a 12-month period. Based on both the adopter process and product life cycle, at the end of the pilot, the GOAS was likely still in the first stage - market development, and therefore, only attracting the first two categories of innovators and early adopters, which were accountable for 16 per cent of total users.

Although the GOAS performed extremely well at this stage attracting 100 per cent of RACFs (all 24 RACFs) and 33.6 per cent of GPs (35 out of 104 GPs visiting RACFs) in TPCH catchment using the GOAS, the pilot would have the opportunity to attract more clients if it had a longer period for implementation and monitoring.

Lesson 5: Embracing communication tools & marketing campaign

Having a dedicated Communication Officer to assist in the development and implementation of communication strategies and plans is vital in successfully introducing a new service in a short timeframe.

The GOAS was fortunate to have valuable support from the PHN's communication team, which facilitated the GOAS communication plan effectively throughout the project implementation period, by targeting key stakeholders and applying various communication strategies and media to influence and maximise engagement.

The dedicated Communication Officer was critical to planning and coordinating the project launch at a local aged care facility. They helped organise the venue, catering, event speakers and media coverage. They also edited a video from the launch, and uploaded it to a webpage they created, to describe the project and provide contact information.

For the GOAS list of communication materials, go to Appendix 15.

Lesson 6: Embracing technology – "It takes a village" to provide the care for residents in RACFs.

Caring for residents in RACFs with complex care needs relies on the effective collaboration of multiple stakeholders across the sectors. Residents often require on-going consistent medical care. For them, making a trip to see either their GP or a specialist can be difficult.

Using Telehealth could improve working relationships between specialists, geriatricians, GPs and RACF staff, while supporting skills transfer. Other benefits Telehealth can provide are access to specialist services provided in the RACF for the resident without having to leave their facilities, easy access for GPs to a specialist, shared responsibility for resident care, and a reduced visitation schedule.

The GOAS conducted 18 Telehealth consultations involving RACFs, GPs and other health professionals using the Telehealth portal. The Queensland Health Telehealth Portal provides an easy, safe and secure way to videoconference with health professionals from within a web browser on a computer or through an app on a tablet or smart phone. The feedback from all stakeholders affirming the positive impact not only on the resident, but the facility also and is a resource, which will be effectively utilised in the future.

C. Key success factors for a collaborative approach across the sectors

The GOAS Steering Committee and model of care clearly demonstrate how an effective collaborative initiative across sectors can work towards the common goals of improved quality of care for RACF residents, and reduced ED presentations and hospital admissions.

Lesson 7: Establishing the right governance

Two types of governances were established, one was for the project and the other was for the GOAS itself.

The project was managed by the Aged Care Project Lead, Brisbane North and received direct support and guidance from the Project Steering Committee (PSC) comprising of 24 members representing Brisbane North PHN, MNHHS, Queensland Ambulance Service, RACFs, Primary Care, Queensland Health, Metro South HHS, and consumers. The Nursing Director, Medicine Stream, MNHHS and the Executive Manager, Aged and Community Care, Brisbane North PHN co-chaired the committee meetings. This composition was instrumental in ensuring ownership and relevance of the project, leading to a better collaboration between the two funding organisations as well as among other stakeholders across the sectors

The GOAS team led by the Project Manager met weekly to review project progresses against action plans. The PSC met monthly for 90 minutes and members were updated on the project including progress by month, key risks and issues, finance, and other related businesses.

The GOAS clinical governance sat within the Internal Medicine Service (IMS) at TPCH. The GOAS clinical governance ensured that:

- the GOAS aims and objectives aligned with the MNHHS generally and the IMS particularly
- on-going support and resources were appropriately provided from the IMS
- future planning for the GOAS sustainability was considered by the IMS and MNHHS.

Lesson 8: The PHN as a game changer to facilitate effectively a collaborative approach

Brisbane North PHN has two key objectives: increasing the efficiency and effectiveness of medical services for patients, particularly those at risk of poor health outcomes; and improving coordination of care to ensure patients receive the right care in the right place at the right time.

One of the PHN's roles is to understand the healthcare needs of its community to identify and address service gaps. In 2016-17, Brisbane North PHN released a combined health needs assessment for the North Brisbane and Moreton Bay region in collaboration with MNHHS. This allowed Brisbane North PHN to develop a shared understanding of the health and service needs of the region and look at ways issues can be addressed collaboratively. Of note, Brisbane North PHN and Metro North Health have a shared focus on the care of older people over the next five years and the GOAS Project illustrates this commitment.

The GOAS initiatative was successfully implemented as a result of the application of project management best practices by Brisbane North PHN and the provision of responsive and high quality clinical services provided by TPCH. Having an experienced Project Manager and a dedicated Evaluation and Reporting Officer to work diligently on the project has contributed to the project success.

In addition, this arrangement created a natural neutral platform encouraging stakeholders across the sector to participate in the project, discuss and share diverse points of views in achieving the project aim of improving quality of care for the residents.

Lesson 9: Provision of training for and relationship building with RACF staff

The GOAS used clinical pathways as the main tool to support decision making for management of residents who are acutely unwell, as well as intervention planning and care coordination. Clinical pathways played an important role in assisting in the consistency and standardisation of care process, supporting RACF staff in decision making and identifying appropriate contacts within relevant services.

The GOAS evaluation indicates that providing training for RACF staff was challenging, mainly due to RACF time limitations and staff restrictions on each shift, especially in releasing Registered Nurses (RN) to participate. An assumption made prior to the GOAS commencement was that RACFs would be engaged and proactive in organising staff to attend training sessions. Throughout the course of the pilot, it was observed that, this was not the case for some RACFs. To ensure the training effectively delivers on intended outcomes, a number of factors are required, but ultimately, a high level of engagement from RACF management is critical.

The clinical pathways and training plan were developed at the commencement of the pilot project. It identified that the GOAS could potentially visit each of the in-scope RACFs prior to the pilot commencement to determine staff learning needs and discuss a suitable plan that supported their needs and was aligned with their own existing training plan. In doing so, it was likely the engagement with and uptake of the GOAS training could have been improved.

In relation to training topics of 22 clinical pathways, the evaluation found that the GOAS training was relevant, met the needs of all levels of RACF staff and facilitated changes in their practices resulting in better care for the residents. However, many RACFs requested additional topics such as end of life and indwelling catheter management.

Of note, the evaluation found the provision of training led to trust and productive relationships between the GOAS team and RACF staff, resulting in RACF staff becoming engaged in seeking out further education advice. The training task was shared between the GOAS Clinical Nurses to ensure flexibility but more importantly, enhance learning outcomes by connecting hands-on clinical practices with theory and using real case studies

D. Recommendations – Moving forward

Recommendation 1: Improvement of awareness of GOAS 5-day service among key stakeholders.

Despite a multiple approach promotion strategy, many GPs were unaware of the service until they had heard about it from other colleagues who had used the service. To improve awareness of this service among GPs, regular communications with GPs via emails, newsletters and through GP Liaison Officers would need to continue on a regular basis.

Face to face meetings with GPs and RACF are still required to facilitate wide uptake of the service.

Another approach is raising awareness about the service with carers and family members through promotional flyers and information in the admission packs given to the family prior to a resident moving into an RACF.

Recommendation 2: Improvement of GOAS Service delivery – Clinical related

There has been a need for this service in the community. This has resulted in the GOAS achieving targets much earlier than planned. Evaluation results show that in order to improve the GOAS service delivery, the following is recommended:

2.1. Extend the service from 5-days to 7-days to assist in the provision of quality care to RACF residents outside business hours of 8:00 am to 4:00 pm.

2.2. Changeing the operating hours from the usual business hours to 10:00 am to 6:00 pm would be beneficial as majority of referrals are received late in the morning. This would allow more time for the RACF to contact the GP and get approval for the GOAS to assess their resident.
2.3. Increasing administrative support from 0.5 FTE to 1.0 FTE (Full Time Equivalent) would allow a single person to triage the calls and streamline it to the appropriate person resulting in improving timeliness of the service. The increase in administrative support would be beneficial to the other service GRACE (GP Rapid Access to consultant Expertise) which is for community dwellers.
2.4. Alternatively, separation of the GOAS telephone number from the GRACE number would allow for a dedicated person to answer the GOAS referral calls.
2.5. The advent of smartphones has led to better information availability. The GOAS would benefit from developing an App for clinical pathways that would be available to all hospital and RACF staff members, thus providing easy access to the clinical pathways.

Recommendation 3: Improvement of GOAS Service delivery– Non-clinical

3.1 The clinical pathways have been very useful for RACFs. Education on the pathways has led to better patient care as well as more appropriate referrals. The project recommends a commitment to continue education sessions to empower staff of all RACFs in the Brisbane North region to recognise the early signs of deterioration and thus allow for early intervention in the care of the older person.
3.2 The pathways need to be further developed to include end of life care to meet the need of the community of treatment in the terminal phase of life.
3·3 It may have been of benefit for education to be managed by an external training agency, where professional development hours and points could be attached to each session, or/and electronic on-line modules.

3·4 The development of an Electronic database for patient episodes of care and vital clinical information would allow for better communication with the GP and provide real time communication with the primary care providers. The database would allow for digital clinical photography to be uploaded on to patient medical records and allow for monitoring of progress by all involved in the care of the older person.
3·5 Telehealth uptake has been sub-optimal. The possible reasons for this could be lack of adequate infrastructure in RACFs. Streamlining the processes to set up Telehealth services and rectifying hardware and software issues that cause delays or interrupted internet connections, could assist in better care for the older person in their own homes rather than being transported to outpatient clinics. To increase uptake of Telehealth clinics, a concerted effort is recommended to increase awareness of GPs and other referrers (inpatient teams and ED) to this service. A list of common indications for telehealth reviews should be formulated which can be distributed among stakeholders to prompt for uptake of this service.

Recommendation 4: Expand service to regional level

The 12-month implementation learnings from the GOAS in the TPCH catchment area support investment in a regionally consistent approach to supporting high quality healthcare to unwell residents in aged care and to preventing avoidable presentations to EDs. The service should be expanded to a hub and spoke model operating out of the four hospitals across the Metro North region, using the RADAR 1800 number as the intake centre.

Recommendation 5: Expand service to state level

Residents of Residential Aged Care Facilities across Queensland could also benefit from a locally implemented service like the GOAS. The increased use of Telehealth could support viability in more regional and rural areas and improve the integration with primary health care.

Recommendation 6: A population health approach

To improve coordination and integration more broadly across the sector,a Population Health Approach is recommended for the funding and provision of care to older people in all community and hospital settings. The GOAS ensures better coordination and integration of care between hospital services and residents in RACFs. A population approach will expand this approach, improving coordination and integration across the whole patient journey for a specified population. This will involve moving funding incentives from their current focus on volumes to a focus on outcomes that matter most to older people and the quality of care. In this way, funding will more directly relate to population needs. This is often referred to as shifting from ‘Volumes” to “Value”.

6.1: Building on the experience and relationships developed in GOAS, a three year intervention in the TPCH catchment is recommended that focuses on the whole health journey for people aged 75 + and Indigenous people aged 50+. To achieve this, the following will be required:

- Develop and deliver a clinically integrated approach for this population from primary prevention, primary care through to acute care and long-term residential and end of life care.
- Support a clinical governance group comprised of front line clinicians and managers from across the sector.
- Equip front line health workers and system managers with the information they need to improve the quality of care they are delivering to patients. This should cover both the breadth of data (longitudinal patient datasets over multiple episodes) and the depth of data (detailed snapshots of each patient encounter).
- Build collaborative arrangements in the sector when this will enhance patient care and system performance. This includes commissioning one or more services to achieve important outcomes, and align funding and provision risks and incentives more closely with patient and system outcomes.
- Support this initiative with a combined MNHHS/ Brisbane North PHN implementation team combining the strengths of both organisations. Both organisations have a shared in-depth understanding of local health needs. The PHN has established effective relationships with GPs and community-based organisations, whileMNHHS has led a major cultural change program focusing on improving outcomes for frail older people.

As a result of the GOAS pilot aimed at improving quality of care for residents and understanding the needs of consumers and their carers, it has been possible to gain their trust and engagement. Therefore, TPCH would be an appropriate service provider for a pilot implementing a value based or population based funding model. In acknowledging the person-centric nature of value based care focused on wellness rather than illness, acute care services, primary care, aged care and other services concerned with the care of older persons should be included in the pilot cohort, along withhealth promotion programs and public health interventions .

Some value based care pilots are being implemented in Australia, of which some are in Queensland, such as a Kidney Supportive Care Program in the MNHHS area, and a Palliative Care Program in the Sunshine Coast Hospital and Health Service area.

6.2 Parallel with a funding model shift for acute healthcare services, a comprehensive service across care settings for older persons is recommended to better coordinate and integrate care. This can be achieved by supporting GPs, enhancing community-based programs and improving communication and relationships between health services and community services. The PHN could potentially facilitate this service because it already has effective relationships with GPs and community-based organisations.

PART 5: FINANCIAL REPORT

GOAS Budget & Expenditure

ITEMS		TIME-FRAME	BUDGET	EXPENSES AS OF 30.06.17	EXPENSES 01.07.17-31.05.18	BNPHN EXPENSES AS OF 31.05.2018	TOTAL EXPENSES 31.05.2018	BALANCE AS OF 31.05.2018
			Costs					
Labour Costs	0.20 FTE Geriatrician L24	Apr, 17-Jan, 18	$33,028	$ 14,671	$ 21,409			
	0.30 FTE Geriatrician L24	Feb -Jun, 2018	$24,771		$ 19,817			
	1.0 FTE Registrar L13	Jun, 17 - Jun, 18	$147,235		$134,965.42			
	2.00 FTE Clinical Nurses NGR6	Apr, 17- Jun, 18	$243,200	15,541	$ 200,958			
	0.50 FTE Admin Support AO3	Jun, 17 - Jun, 18	$43,238	1,323	$ 33,210			
	0.80 FTE Project Lead	Jun, 17 - Jun, 19	$77,600			$ 71,133		
	Total 1		**$569,072**					
Others								
	ECG	Jun, 17 - Jun, 18	$ 8,500		$ 2,643			
	Bladder scan		$ 13,575					
	Ipad		$ -		$ 589			
	Motor Vehicle leasing + Fuel & Oil		$ 11,083					
	Clinical Pathways handbook		$ 5,000			$ 5,000		
	Communications – Fliers, Catering		$ 2,000			$ 2,000		
	Total 2		**$ 40,158**					
	GRAND TOTAL		**$609,230**	**$ 31,535**	**$ 413,591**	**$ 78,133**	**$ 523,260**	**$ 85,970**

APPENDIX

1. Control charts

GOAS implementation

Figure 46: Inpatient admissions at TPCH from in-scope RACFs, Jun-17 to May-18

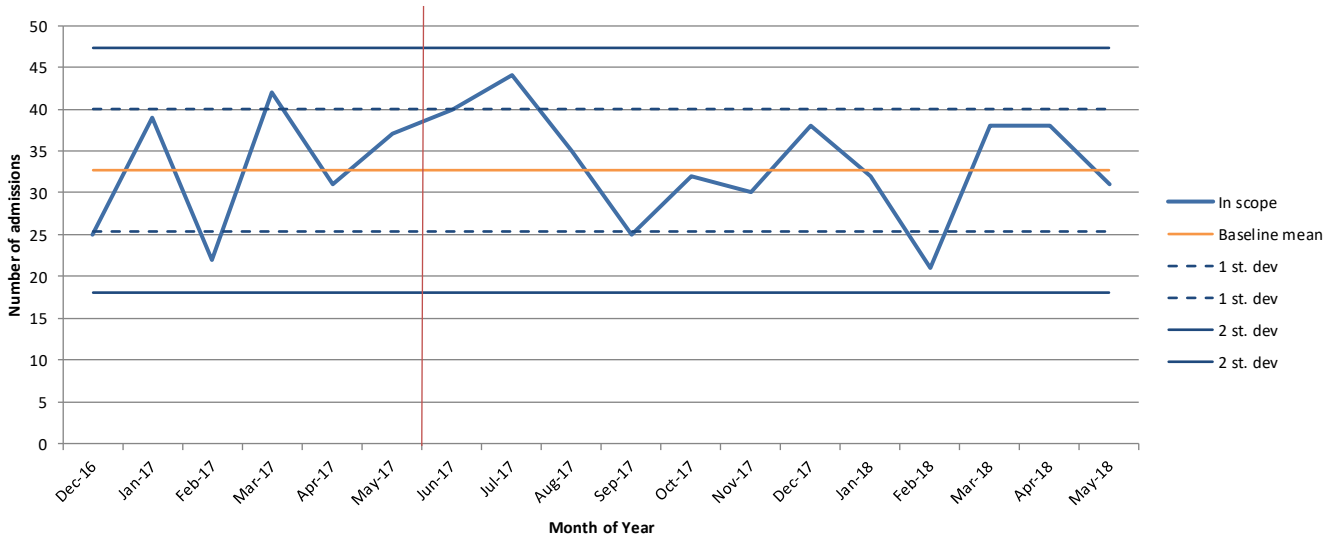


Figure 47: Inpatient admissions at TPCH from out of scope RACFs, Jun-17 to May-18

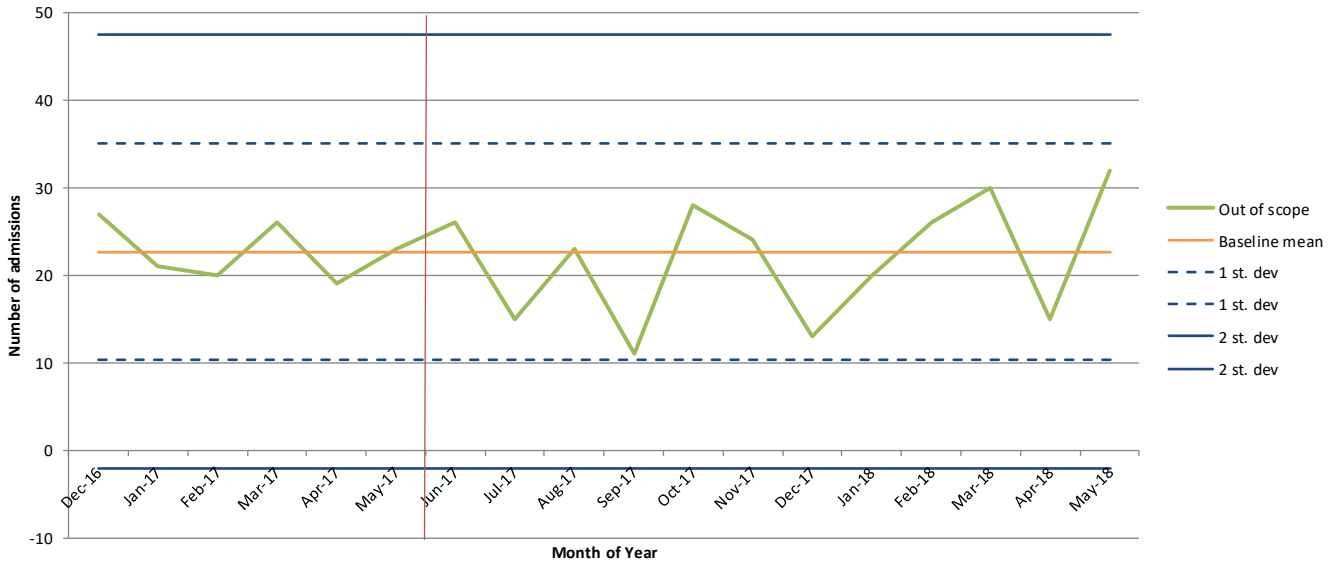


Figure 48: ED Presentations at TPCH from in-scope RACFs, Jun-17 to May-18

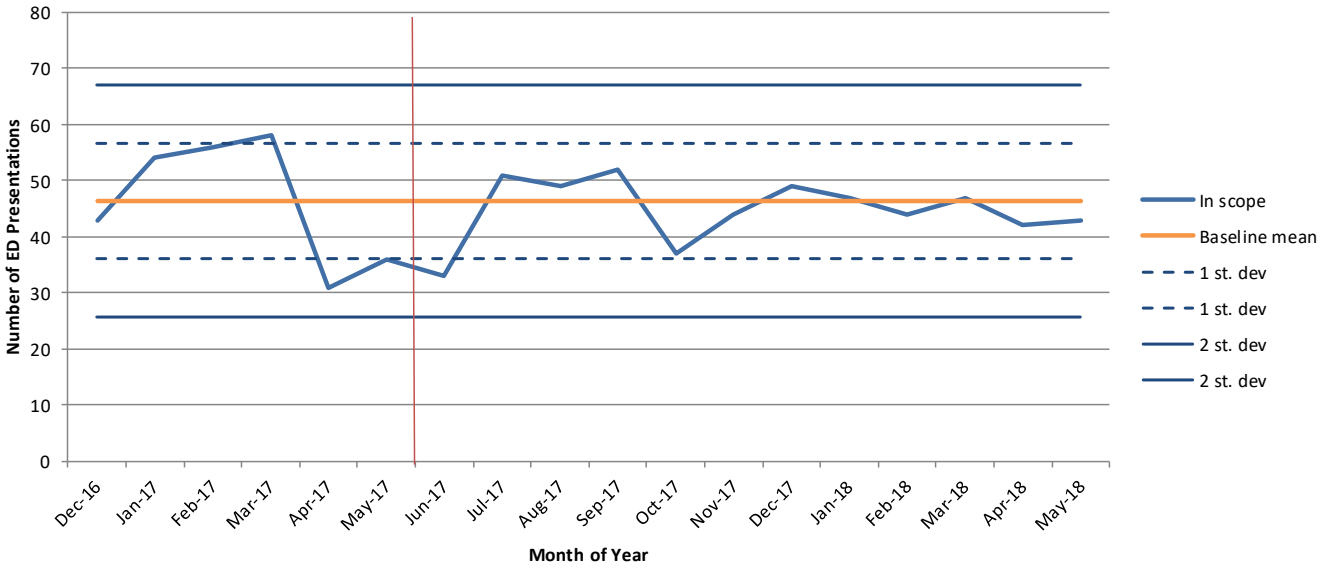
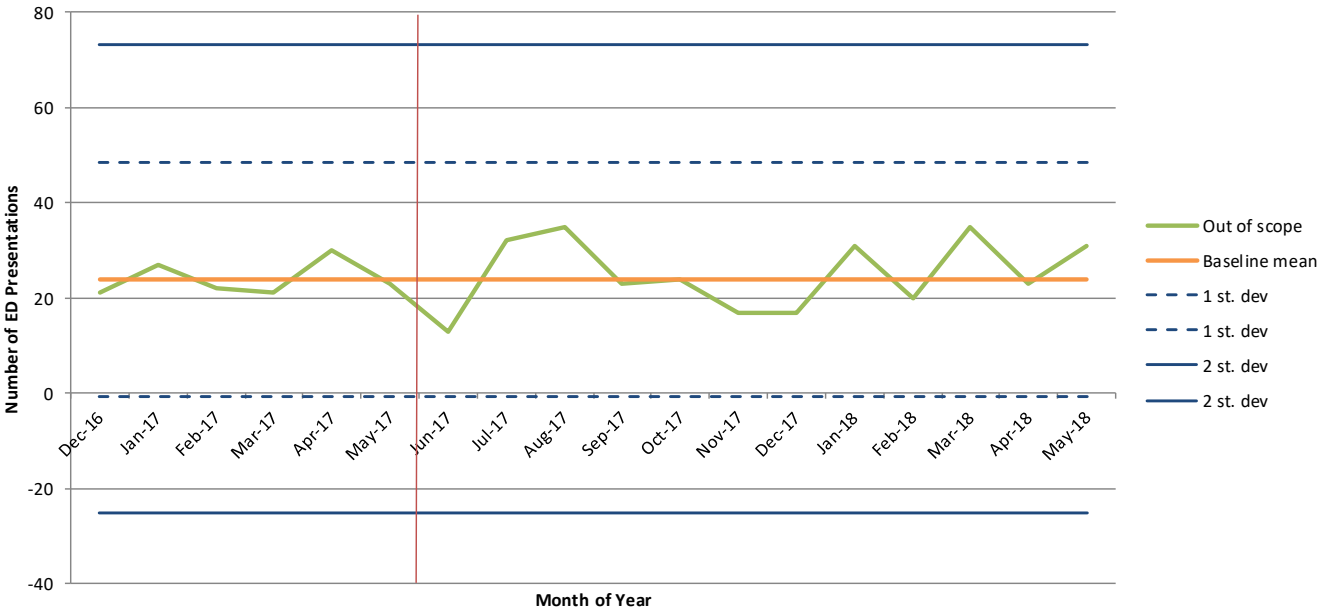


Figure 49: ED Presentations at TPCH from out of scope RACFs, Jun-17 to May-18



2. In- scope RACFs

Table 25: In-scope RACFS

	In-scope RACFS
1	Allambee
2	Anam Cara
3	Arcare Taigum
4	Bellevue Care Centre
5	Bethesda
6	Clifford House (Carinity)
7	Emmaus Aged Persons Home
8	Estia Albany Gardens
9	Holy Spirit Boondall
10	Holy Spirit Carseldine
11	John Wesley Gardens
12	Kedron Nursing Home
13	Mary Damian Centre
14	Opal Raynbird Place
15	Pine Woods
16	PM Village
17	St Martins Nursing Home
18	Symes Grove
19	Tricare
20	Wesley Mission Cooper House
21	Wesley Mission Parkview
22	Wesley Mission St Mark's House
23	Wesley Missions Emmaus Village
24	Zion Lutheran Nursing Home

3. Technical Notes

Limitations

- The period of June 2017 to May 2018 was used for reporting purposes. il is understood that the program and training continued into June 2018. However in order to prepare the final report in time for the final steering committee meeting only data up to May 2018 was able to be included. Therefore the number of services provided and training provided will in fact be an underestimation of the totals provided.
- Due to the shortened nature of the project, an analysis of longer term outcomes was not able to be conducted, it is recommended that if the project were to continue a future analysis of ED presentations and hospital admissions be conducted in order to determine the long term impact of the GOAS.
- It is assumed that the way in which hospitals code patients or record data has not changed over the period and that where comparative analysis has occurred all other factors are assumed to have remained the same.
- It is assumed that there was no leakage of the GOAS to out of scope facilities.
- A limitation of the External Facilitator data was that ED length of stay and admitted patient length of stay was not able to be separated reliably therefore length of stay calculations in this report have used the combined data in all calculations.
- Data from the GOAS database may not align to other reporting systems. EDIS was not used as it did not include an appropriate and reliable flag to identify RACF patients.
- Survey reliability is influenced by the response rates of the various surveys as shown in Table 26.

GOAS Database

The GOAS data was supplied by TPCH to the PHN on the 4 June 2018. It is assumed that the data in this database was up to date and complete at the time of supply. As this database is maintained separately to the Emergency Department Information System (EDIS) data may not align to other reporting systems. EDIS was not used as it did not include an appropriate and reliable flag to identify RACF patients.

External Services Facilitator database

The External Services Facilitator data was supplied by TPCH to the PHN on the 4 June 2018. It is assumed that the data in this database was up to date and complete at the time of supply. As this database is maintained separately to the Emergency Department Information System (EDIS) data may not align. EDIS was not used as it did not include an appropriate and reliable flag to identify RACF patients.

4. Response rates

Table 26: Response rates by survey

Survey	Dates Available	Method	Estimated Sample size	Number of responses	Estimated Response Rate
Project team baseline survey	18/9/17 - 30/10/17	Online	24	12	50 per cent *Margin of error: 17per cent* *Confidence Interval: 90per cent*
Project team follow up survey	6/6/18- 20/6/18	Online	30	24	80 per cent *Margin of error: 7.6per cent* *Confidence Interval: 90per cent*
GPs	Sept 17 – Apr 18	Paper & online	35	39	100 per cent *Margin of error: 0per cent* *Confidence Interval: 99per cent* **some GPs may have completed the survey more than once however surveys were de-identified so this is not known*
Consumers	Sept 17- Apr 18	Paper-based	744	51	6.85 per cent *Margin of error: 11per cent* *Confidence Interval: 90per cent*
RACF Staff Training Feedback	Nov 17- Apr 18	Paper-based	3,019	1,565	51.83 per cent *Margin of error: 1.7per cent* *Confidence Interval: 95per cent*
Service Provider Survey	29/1/18-26/3/18	Paper & online	400	57	14.25 per cent *Margin of error: 10per cent* *Confidence Interval: 90per cent*

5. Interviews & Consultations

Table 27: Semi Structured Interviews

Interview	Date	Attendees	Topics	Conducted by
GP Interviews	27/3/18	1. Dr. Manderson	GP feedback/Case study	Amalia Savini, Dr John Bennett
	5/4/18	1. Dr Kevin Ball,	GP feedback	Dr John Bennett
	5/4/18	2. Dr Crowley,	GP feedback	Amalia Savini, Dr John Bennett
	9/4/18	3. Dr Maria Boulton,	GP feedback/Case study	Amalia Savini
Registrar /clinical	9/4/18	4. Dr Liam Krebs,	Case study	
	13/4/18	5. Dr Irshad Suffee ,	Case study	
RACF Nursing staff	22/3/18	6. John Wesley Gardens staff,	Case study	Amalia Savini, Amy Petrocy
	20/3/18	7. PM Village staff,	Case study	
Patients for case study	22/3/18	8. John Wesley Gardens patient and 1 family member,	Case study	
	20/3/18	9. PM Village patient,	Case study	
PHN Team	15/3/18	11-14 Michele Smith, Mai Eames, Helen Wilson, Helen Hoare,	Evaluation	Amalia Savini
TPCH Team	13/4/18	15-18 Veronica Thomsett, Madhu Lata, Leena Prasad, Leanne backfilling Jayne Lee,	Evaluation	
Nurse Educator	5/4/18	19 Jayne Lee	Evaluation	
Senior Medical Officer	TBC	20 Gurudev Kewalram	Evaluation	
TPCH Emergency Department	10/05/2018	21 Dr Neil Grant (NG) Clinical Director	Evaluation	Mai Eames
		22 Dr Melissa Krawczyk ED Consultant	Evaluation	
		23 Polash Adhikaru ED Consultant	Evaluation	
PHN Communication	29/05/2018	24 Simon Brook Public Relations Officer	Evaluation	
Telehealth Service	31/05/2018	25 Helen Spyt, Care Manager Mercy Aged Care Service	Evaluation	

6. Data Collection Tools

Further detail on all the data collection tools can be found in the GOAS evaluation plan, please refer to this document.

7. The GOAS Project Plan

View document here

8. Project Steering Committee Terms of Reference

View document here

9. The GOAS Evaluation Plan

View document here

10. The GOAS Training Plan

To access this document, contact Brisbane North PHN on 07 3630 7300 or email info@brisbanenorthphn.org.au.

11. The GOAS Service Profile

To access this document, contact Brisbane North PHN on 07 3630 7300 or email info@brisbanenorthphn.org.au.

12. GOAS 3-month Review Report

View document here

13. GOAS 6-month Review Report

View document here

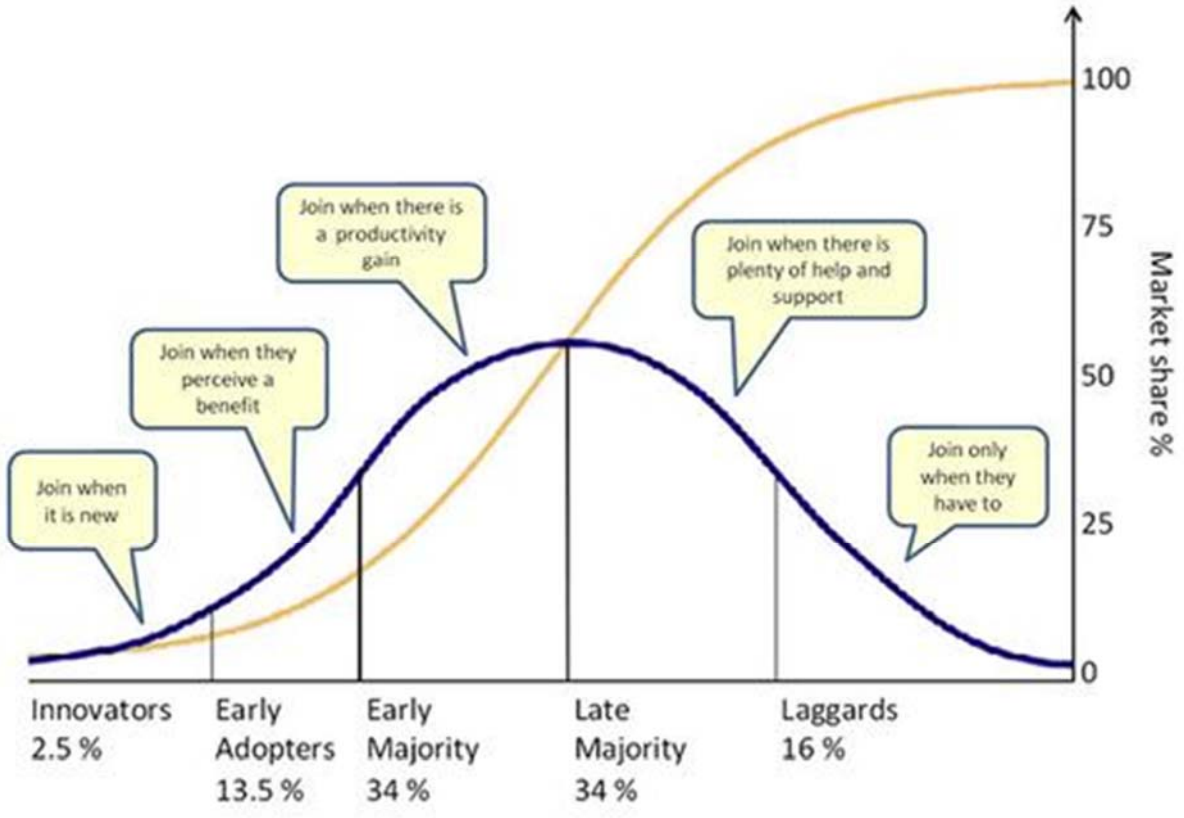
14. Full-time equivalent direct care employees in the residential aged care workforce

Full-time equivalent direct care employees in the residential aged care workforce, by occupation: 2003, 2007, 2012 and 2016 (estimated FTE and per cent)

Occupation	**2003**	**2007**	**2012**	**2016**
Nurse Practitioner	n/a	n/a	190 (0.2 per cent)	293 (0.3 per cent)
Registered Nurse	16,265 (21.4 per cent)	13,247 (16.8 per cent)	13,939 (14.7 per cent)	14,564 (14.9)
Enrolled Nurse	10,945 (14.4 per cent)	9,856 (12.5 per cent)	10.999 (11.6 per cent)	9,126 (9.3 per cent)
Personal Care Attendant	42,943 (56.5 per cent)	50,542 (64.1 per cent)	64,669 (68.2 per cent)	69,983 (71.5 per cent)
Allied Health Professional	5,776* (7.6 per cent)	5,204* (6.6 per cent)	1,612 (1.7 per cent)	1,092 (1.1 per cent)
Allied Health Assistant			3,414 (3.6 per cent)	2,862 (2.9 per cent)
Total number of employees (FTE) (per cent)	76,006 (100)	78,849 (100)	94,823 (100)	97,920 (100)

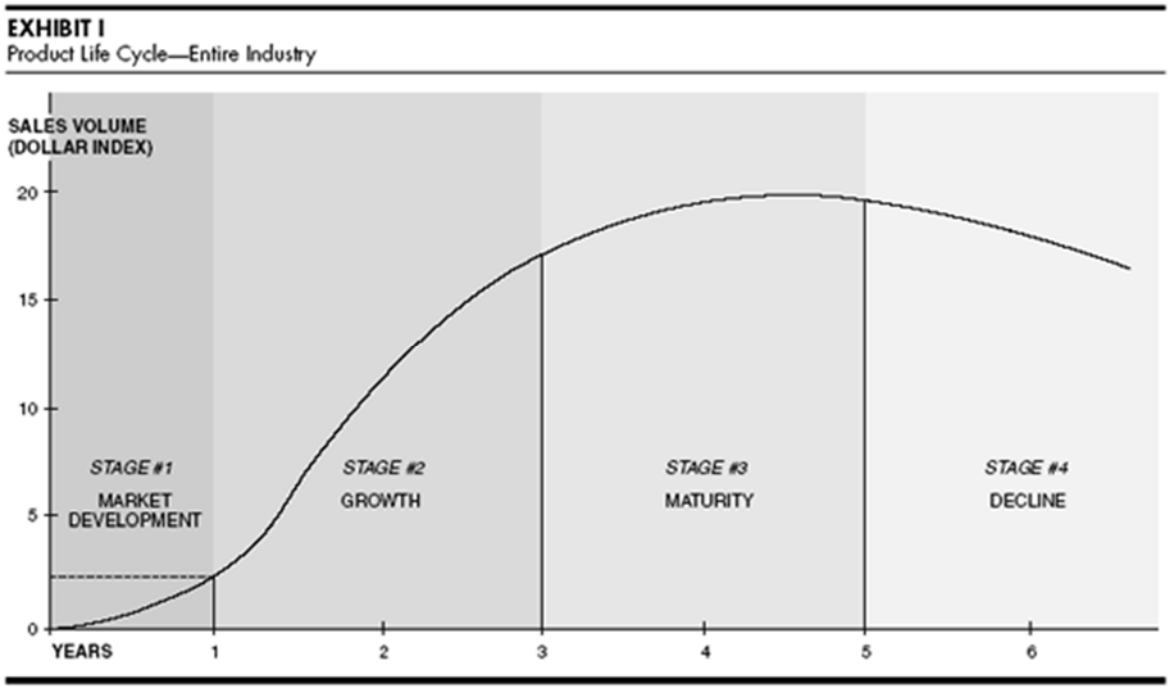
Source: Mavromaras K, Knight G, Isherwood L, et al. 2017. The Aged Care Workforce 2016. Commonwealth of Australia as represented by the Department of Health. Table 3.3 page 1

15. A connection between adopter category's proportion and influence on market share



Source: E. Rogers, 2003. *Diffusion of Innovations*. Free Press, 5th Edition, 2003

Historical Pattern of a product development



Source: Theodore Levitt. *Exploit the Product Life Cycle*. Harvard Business Review.

16. GOAS Communication and Marketing list

Trial offers support for aged care residents
A NEW medical outreach service aims to help elderly aged care residents in North Brisbane avoid unnecessary trips to the emergency department.
Bayside Star, p.15, 26 July 2017

On-call medical support for aged care facilities
A new medical outreach service will help elderly aged care residents in Chermside and surrounding suburbs avoid unnecessary trips to the Emergency Department.
Doctor (McGregor Marketing), p.90, July / August 2017 edition

On-call medical support model for residential facilities launched
A new medical outreach service helps aged care residents avoid unnecessary trips to hospital emergency departments.
By Megan Stoyles, Australian Ageing Agenda, 7 July 2017

On-call medical support for QLD aged care facilities
A new medical outreach service will help elderly aged care residents in Chermside and surrounding Brisbane suburbs avoid unnecessary trips to the Emergency Department.
SeniorAU.com.au, 7 July 2017

On-call medical support for aged care facilities
A new medical outreach service will help elderly aged care residents in The Prince Charles Hospital catchment avoid unnecessary trips to the Emergency Department.
Metro North Hospital and Health Service, 29 June 2017

Yellow Envelopes and Geriatric Outreach helping to minimise resident transitions
Brisbane North PHN has recently rolled out two initiatives – Yellow Envelope and Geriatric Outreach Assessment Service – to help or minimise the transition of aged care residents from facilities to hospitals, which have long been desiderata of the industry.
By Patrick Avenell, Aged Care Insite, 5 July 2017

ACT aged care pilot working to curb avoidable ED admissions
The ACT primary health network has joined other PHNs around Australia initiating programs to provide expert, coordinated and collaborative health care to aged care facility residents.
By Megan Stoyles, Australian Ageing Agenda, 12 Nov 2017

Facilitating aged care's integration
As a key executive behind Brisbane North Primary Health Network's work on aged care, Michele Smith speaks to Darragh O'Keeffe about ongoing efforts to better connect the health and aged care systems.
Australian Ageing Agenda, pp.22-23, March-April 2018

Network Link (Brisbane North PHN)*:*

Surveys reveal high praise for GOAS project
Network Link, p.4, March 2018

GOAS hits target three months early
Network Link, p.3, November 2017

Local aged care initiatives launched
Network Link, August 2017

The Prince Charles Hospital to offer new geriatric outreach assessment service
Network Link, June 2017

Partners in Health (Brisbane North PHN)*:*

GOAS hits target three months early
Partners in Health, October 2017

Local aged care initiatives launched
Partners in Health, July 2017

YouTube Videos:
https://youtu.be/ktxF7VI23Ew
https://youtu.be/0uf9GME7PSU

REFERENCES

[1] AIHW 2014. *Australia's health 2014.* Australia's health series no. 14. Cat. no. AUS 178. Canberra: AIHW

[2] O'connell et al, 2013. *Referrals to hospital emergency departments from residential aged care facilities: Stuck in a time wrap*. Contemporary file:///C:/Users/maie/Downloads/CNJ_452_228-233per cent20(1).pdfNurse, Volume 45, Issue2, Oct 2013. Accessed 14 May 2018 file:///C:/Users/maie/Downloads/CNJ_452_228-233per cent20(1).pdf

[3] Planning Institute Australia. *Through the lens: Megatrends shaping our future, 2016.* file:///C:/Users/maie/Downloads/Throughper cent20theper cent20lensper cent20megatrendsper cent20shapingper cent20ourper cent20future.pdf

[4] ABS, *Annual Report, 2016-2017, Sep, 2017.* http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/3B641F80D47793B2CA2581BD000F8996/$File/10010_2016_17.pdf

[5] ABS, 2015. Hospital Emergency Department. http://www.abs.gov.au/ausstats/abs@.nsf/Latestproducts/4343.0Mainper cent20Features72016?opendocument&tabname=Summary&prodno=4343.0&issue=2016&num=&view=

[6] ABS, 2015. Hospital Emergency Department. http://www.abs.gov.au/ausstats/abs@.nsf/Latestproducts/4343.0Mainper cent20Features72016?opendocument&tabname=Summary&prodno=4343.0&issue=2016&num=&view

[7] AIHE. *Australia's Health 2016* https://www.aihw.gov.au/getmedia/9844cefb-7745-4dd8-9ee2-f4d1c3d6a727/19787-AH16.pdf.aspx?inline=true

[8] COTA. Aged Care https://cotaqld.org.au/information_/aged-care/

[9] AIHW, 2012. *Residential Aged Care in Australia 2010-11: A statistical Overview* https://www.aihw.gov.au/getmedia/ba6a7e49-6939-499e-af79-f72acc5bff56/13755.pdf.aspx?inline=true

[10] AIHW, 2012. *Residential Aged Care in Australia 2010-11: A statistical Overview* https://www.aihw.gov.au/getmedia/ba6a7e49-6939-499e-af79-f72acc5bff56/13755.pdf.aspx?inline=true

[11] AIHW 2012. *Australia's health 2012*

[12] AIHW 2014. *Australia's health 2014.* Australia's health series no. 14. Cat. no. AUS 178. Canberra: AIHW

[13] AIHW, 2011. *Residential aged care in Australia 2010-11: Statistical overview.* Accessed May 20, 2018 https://www.aihw.gov.au/getmedia/ba6a7e49-6939-499e-af79-f72acc5bff56/13755.pdf.aspx?inline=true

[14] Arendts, G., & Howard, K. (2010). *The interface between residential aged care and the emergency department: A systematic review*. Age and Ageing, 39(3),306–312. http://dx.doi.org/10.1093/ageing/afq008

[15] O'connell et al, 2013. *Referrals to hospital emergency departments from residential aged care facilities: Stuck in a time wrap*. Contemporary file:///C:/Users/maie/Downloads/CNJ_452_228-233per cent20(1).pdfNurse, Volume 45, Issue2, Oct 2013. Accessed 14 May 2018 file:///C:/Users/maie/Downloads/CNJ_452_228-233per cent20(1).pdf

[16] Ouslander et al, 2019. *Reducing potentially avoidable hospitalizations of nursing home residents: results of a pilot quality improvement project*. Journal of American Medical Directors Association 10: 644-652. DOI:10.1016/j.jamda.2009.07.001

[17] NHS, National Institute for Health Research, 2017. *Advancing Care- Research with care homes*

[18] Smith et al. 2015. *Focus on: Hospital admissions from care homes*. The Health Foundation and the Nuffield Trust, 2015.15

[19] National Institute for Health Research, 2017. *Advancing Care- Research with care homes*. NIHR Dissemination Centre, July 2017

[20] Queensland Health, 2016. *The health of Queenslanders 2016.* https://www.health.qld.gov.au/__data/assets/pdf_file/0017/537101/cho-report-complete.pdf

[21] Brisbane North PHN, 2016. Health Needs Assessment 2016. Accessed July, 2017, http://www.brisbanenorthphn.org.au/page/about/our-region/health-planning/

[22] Brisbane North PHN, 2016. Health Needs Assessment 2016. Accessed July, 2017, http://www.brisbanenorthphn.org.au/page/about/our-region/health-planning/

[23] Brisbane North PHN, 2016. Health Needs Assessment 2016. Accessed July, 2017, http://www.brisbanenorthphn.org.au/page/about/our-region/health-planning/

[24] Australian Family Physician, 2015. *General practice encounters with patients living win residential aged care facilities*. Volume 44, Issue 4 (Apr, 2015).

[25] Brisbane North PHN, 2016. Health Needs Assessment 2016. Accessed July, 2017, http://www.brisbanenorthphn.org.au/page/about/our-region/health-planning/

[26] Australian Bureau of Statistics. *Population by Age and Sex. Regions of Australia, 2015. August 2016.*

[27] Queensland Health, 2017. *Final Outcome Evaluation Report, Comprehensive Aged Residents Emergency and Partners in Assessment Care and Treatment (CARE-PACT). 2017.* Health Innovation Fund – Final Outcome Evaluation Report 2017. Published by the State of Queensland (Queensland Health), March 2017

[28] Department of Health. *Stakeholder Engagement Framework.*

[29] Adapted from Murray SA and Sheikh A. *Concept of trajectories at the end-of-life, physical and other dimensions.* BMJ 2008;336:958-959

[30] National health and Hospitals Reform Commission, 2008. Submission response: *Governance, accountability and coordination – the keys to person-centred health care*. Price Water House Coopers, 30 May 2008. https://www.pwc.com.au/industry/healthcare/assets/national-health-hospitals-reform-commission-2008.pdf

[31] National Safety and Quality Health Service Standards, Sep 2012 https://www.safetyandquality.gov.au/wp-content/uploads/2011/09/NSQHS-Standards-Sept-2012.pdf

[32] Australian Society for Geriatric Medicine 2011. *Position Statement No. 8 Comprehensive Geriatric Assessment and Community Practice*. Accessed 21/08/2017 http://www.anzsgm.org/documents/positionstatementno8geriatricassessmentandcommunitypractice.pdf

[33] Australian Society for Geriatric Medicine 2011. *Position Statement No. 8 Comprehensive Geriatric Assessment and Community Practice. Accessed* 21/08/2017 http://www.anzsgm.org/documents/positionstatementno8geriatricassessmentandcommunitypractice.pdf

[34] Australian Society for Geriatric Medicine 2011. Position Statement No. 8 Comprehensive Geriatric Assessment and Community Practice. Accessed 21/08/2017 http://www.anzsgm.org/documents/positionstatementno8geriatricassessmentandcommunitypractice.pdf

[35] The King's Fund, 2017. Embedding enhanced health care in care homes. Accessed 21/08/2017. https://www.kingsfund.org.uk/projects/enhanced-health-care-homes?utm_source=Theper cent20Kingper cent27sper cent20Fundper cent20newsletters&utm_medium=email&utm_campaign=8557597_NEWSL_Theper cent20Weeklyper cent20Updateper cent202017-08-10&utm_content=carehomesbutton&dm_i=21A8,53F31,FLXBZH,JIT8R,1

[36] Australian Skills Quality Authority 2013. *Training for aged and community care in Australia. A national strategic review of registered training organisations offering aged and community care sector training*. Accessed 21/08/2017 https://www.asqa.gov.au/sites/g/files/net2166/f/Strategic_Reviews_2013_Aged_Care_Report.pdf

[37] Centers fr Medicare & Medicaid Services. https://www.cms.gov/

[38] Deloitte Access Economics, 2016. *Analysis of after hours primary care pathways. National Association of Medical Deputising Services.*

[39] Australian Institute of Health and Welfare 2012.*Residential aged care in Australia 2010–11: a statistical overview*. Aged care statistics series no. 36. Cat. no.AGE 68. Canberra: AIHW. Available at www.aihw.gov.au/publication-detail/?id=10737422821

[40] Pearson et al, 2018. *Australian general practitioner attitudes to residential aged care facility visiting*. Health and Social Care Community, 2018;1-8

[41] Pearson et al, 2018. *Australian general practitioner attitudes to residential aged care facility visiting*. Health and Social Care Community, 2018;1-8

[42] Commonwealth Department of Health (DoH). National Health Workforce Dataset, 2016.

[43] Parliament of Australia. *Aged Care Amendment (Ratio of Skilled Staff to Care Recipients) Bill 2017*. Accessed May 31, 2018 https://www.aph.gov.au/Parliamentary_Business/Bills_Legislation/Bills_Search_Results/Result?bId=s1086

[44] The Commonwealth Department of Health and Ageing.2012. *The Aged Care Workforce, 2012 – Final Report*. Accessed June 1st 2018 https://agedcare.health.gov.au/sites/g/files/net1426/f/documents/11_2014/rdp004-nacwcas-report.pdf

[45] Australian Nursing and Midwifery Federation (2015). *Fact sheet 4: A snapshot of residential aged care.* Accessed June 2018 http://anmf.org.au/documents/reports/Fact_Sheet_Snap_Shot_Aged_Care.pdf

[46] The Commonwealth Department of Health and Ageing.2012. *The Aged Care Workforce, 2016 – Final Report* Accessed Jun 1st 2016, https://agedcare.health.gov.au/sites/g/files/net1426/f/documents/03_2017/nacwcs_final_report_290317.pdf

[47] The Journal of Post-Acute and Long-term care medicine, 2015. *Unplanned Transfer to Emergency Departments for Frail Elderly Residents of Aged Care Facilities: A Review of Patient and Organizational Factors.* Jamda (2015) 1-12

[48] E. Rogers, 2003. *Diffusion of Innovations,* Free Press; 5th edition (August 16, 2003).

[49] Geoffrey A. Moore,1991. *Crossing the Chasm*. Harper Business Essentials.

[50] Theodore Levitt. *Exploit the Product Life Cycle*. Harvard Business Review. Accessed Jun 4, 2018 https://hbr.org/1965/11/exploit-the-product-life-cycle