

KISP

Katherine Individual
Support Program

First Evaluation Report

JULY 2019



Acknowledgements

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Acronyms and Abbreviations

AHS	Aboriginal Health Service providing primary care.
ED	Emergency Department.
KH	Katherine Hospital.
KWHB	Katherine West Health Board, AHS servicing all remote communities west of Katherine.
KCAI/KCAAC	Kalano Community Association
KISP	Katherine Individual Support Program
VTAC	Venndale Transitional & Aftercare
VT	Vicarious trauma
VR	Venndale Rehab
WSP	Wellness Support Pathway, evaluation of referral pathway for frequent attenders to KISP.
WWHS	Wurli-Wurlinjang Health Service, providing services to urban people living in or close to Katherine.

1 INTRODUCTION

The Katherine Individual Support Program (KISP) is an individual support program for vulnerable people who frequently attend the emergency department (ED) at Katherine Hospital (KH) that was developed in collaboration with key organisations in the health and housing sectors. The KISP commenced as a pilot program for the Katherine region in February 2018 and takes a whole of community approach, working collaboratively with key health and community services to engage and support clients and to improve access to social, environmental and other support services that can help to address underlying factors that can contribute to frequent ED attendance. The participating services work together to provide collaborative case management to support clients. Aboriginal people account for the majority of KISP clients, and face multiple and complex health, housing and psychosocial challenges. The KISP was funded through the Northern Territory Department of Health and significantly augmented by funding through the Federal Community Safety Plan of the National Partnership on Northern Territory (NT) Remote Aboriginal Investment.

This is the first evaluation report for the Katherine Individual Support Program.

1.1 Background

1.1.1 *Health inequalities in the Katherine region*

The Katherine region of the Northern Territory covers almost 350 thousand square kilometres, with a population of 26,000, half of whom live in very remote towns and the other half within the town of Katherine. More than half of the regional population are Aboriginal people, representing over 20 different tribal nations, and with over ten different spoken languages. Homelessness is a substantial social and health issue in Katherine; a longstanding problem that began with colonisation when people were displaced from ancestral land, and remains extreme in this region at 31 times the national average.¹ In the harsh tropical environment, housing insecurity leads to exposure to extreme weather and this can increase hospital utilisation.^{2,3} There are lengthy waiting lists for public housing, and the lack of suitable accommodation options contributes to overcrowding and often places increased pressure on relatives who provide temporary relief.⁴⁻⁶

Health inequalities are still widely experienced by Australian Aboriginal and Torres Strait Islanders around the country, but this is often even more pronounced in remote areas.⁷ Aboriginal people in the Katherine region have very high rates of illness and death, a result of a complex clustering of health and psychosocial issues, including rheumatic heart disease, kidney disease, infections, addiction and trauma.⁸

There are a raft of social, environmental, economic and cultural factors that influence the health and wellbeing of people in the Katherine region (see Figure 1), and recognition of this is embedded in the ethos of KISP and the range of support it provides.

People attending Katherine Hospital are some of the most vulnerable in Australia, with complex social determinants and multi-morbidities affecting the majority of patients. Aboriginal people account for 70% of patients admitted to Katherine Hospital.



Figure 1: Social Determinants of Health

1.1.2 Vulnerability and Emergency Department Presentations in the Katherine region

There is increasing recognition in Australia and internationally, that people who present frequently to ED are often experiencing a complexity of health and psycho-social challenges.⁴ Unstable and complex life circumstances can also present barriers to accessing primary care services and results in frequent hospital presentations.⁹⁻¹¹ Attendance at ED often occurs at a point of crisis, when health conditions have deteriorated to the point that they are potentially life threatening.^{9,12} Nationally, it is recognised that Aboriginal people are over-represented across Australia in usage of ED services,¹¹ and this is also the case in Katherine.² Homelessness and overcrowded housing is common among people who frequently attend KH ED, as is having multiple health conditions.²

Frequent attendance at ED by people with high levels of vulnerability is often associated with a lack of access to primary health care services as well as the substantial logistical and psychosocial barriers they face in accessing these services.¹⁰⁻¹² In the development of the KISP, database reviews and discussion with clinicians at Aboriginal health services and KH identified that access to primary health care is challenging for people who frequently attend ED in the Katherine region and that there was a need for case-management support.

There are specific challenges associated with frequent hospital attendance in the Katherine region associated with the scale of homelessness, the intergenerational impacts of colonisation and dispossession and extreme weather conditions. People experiencing homelessness in Katherine are particularly vulnerable to extreme weather conditions and subsequent exposure, with a large body of evidence that heatwaves and very hot weather result in significant increases in morbidity and mortality,⁴ and with the North of Australia,

Improving health outcomes is inextricably linked to improving accommodation and living circumstances, particularly in locations such as Katherine that have extreme environmental conditions.

particularly remote living Aboriginal people, predicted to suffer early and dramatic impacts of climate change,¹ These region-specific issues informed the development of the KISP.

1.1.3 Benefits of a case management response to frequent ED attendance

National and international studies support the benefits of case management interventions within the ED to support people who attend frequently.¹³⁻¹⁶ Key features of successful case management programs supporting people who frequently attend ED identified in a systematic review¹⁷ were adequate case identification in the

The acute nature of care provided in EDs is often not able to adequately address chronic health and psychosocial issues and individuals end up in a revolving cycle of frequent ED attendance and deteriorating health .¹⁰

ED, rigorous training of case managers, sufficient intensity of the intervention, and of particular relevance to the development of the KISP, good integration with partner service providers. Previous research has demonstrated cost effectiveness of programs targeting frequent attenders in terms of reduced ED attendance and Emergency Medical Service transports.^{18,19}

1.2 Focus of this report

This evaluation focuses on the structure of the KISP, the demographic profile and health needs of KISP clients enrolled in the first 10 months of KISP and their patterns of health service utilisation both before and after support from KISP. This evaluation drew upon several data sources; baseline demographic and health data was collected for a subset of 105 KISP clients through earlier research, hospital service utilisation data was provided by KH and the Wurli KISP Team provided data for client case studies.



Photo 1: Many KISP clients camp along the Katherine river

2 THE KATHERINE INDIVIDUAL SUPPORT PROGRAM MODEL

2.1 Overview and Objectives

The overarching aim of KISP is to provide collaborative case-management and support to vulnerable people who frequently attend KH ED. There are four key objectives (Figure 2):

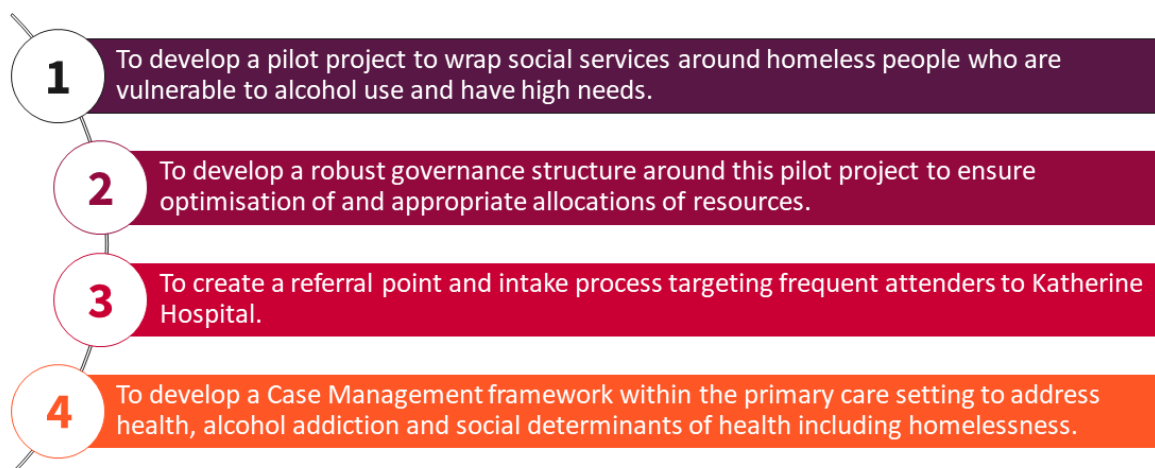


Figure 2: KISP Objectives

2.2 Organisations involved in the KISP collaboration

The KISP involves key organisations across the health and community services sector, who provide collaborative case management to support clients. Katherine Regional Aboriginal Health and Related Services (KRAHRS) is the lead organisation of the KISP Consortium who support the direction and governance of the KISP. A reference group provides constant feedback into the implementation of the KISP and the Collaborative Case Management Group provides frontline services to clients, meeting frequently to review client needs. Importantly, the model is non-hierarchical and is supported by strong community buy-in. As a pilot project, improvements and modifications have been made to the collaborative case management process as the KISP has developed. Figure 3 demonstrates the breadth of organisations involved in KISP.



Photo 2: ED and KISP teams, Katherine Hospital

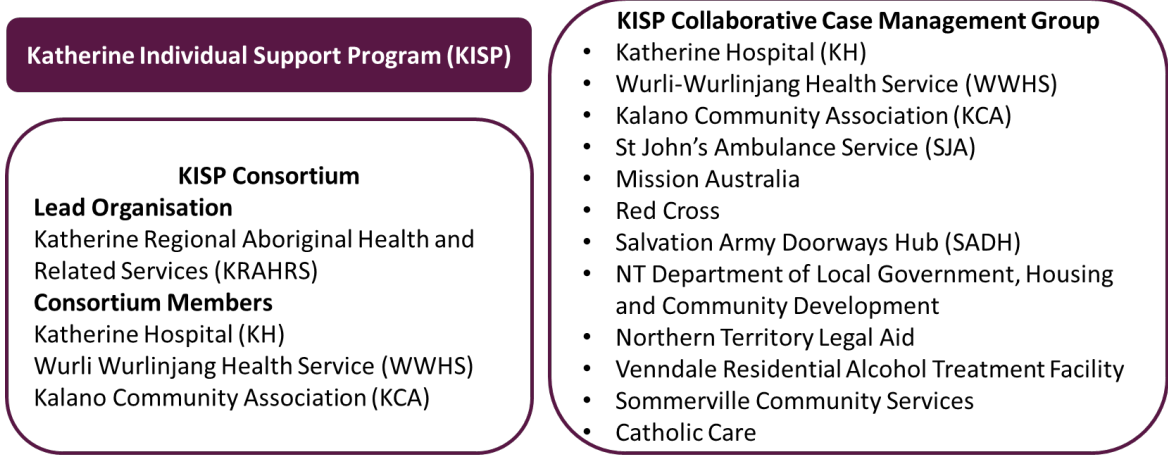


Figure 3: Partner Organisations in the KISP

2.3 The KISP Governance Structure

There is a three-tiered structure that incorporates clinical and corporate governance:

- Tier 1 overseeing corporate governance and consisting of the four main partners in the consortium; KRAHRS (chair), KH, Wurli Wurlinjang Health Service and Kalano Community Association,
- Tier 2 consists of organisations providing services and provides feedback and collaborative buy-in
- Tier 3 the coalface Collaborative Case Management group that works directly with the KISP clients.

2.3.1 The KISP Reference Group

Katherine Regional Aboriginal Health and Related Services, as facilitating partner, chaired the KISP Reference Group and provided administrative support. The KISP Reference Group consists of multiple local Katherine agencies that support clients with complex needs who are likely to be enrolled into the program (see Figure 4).

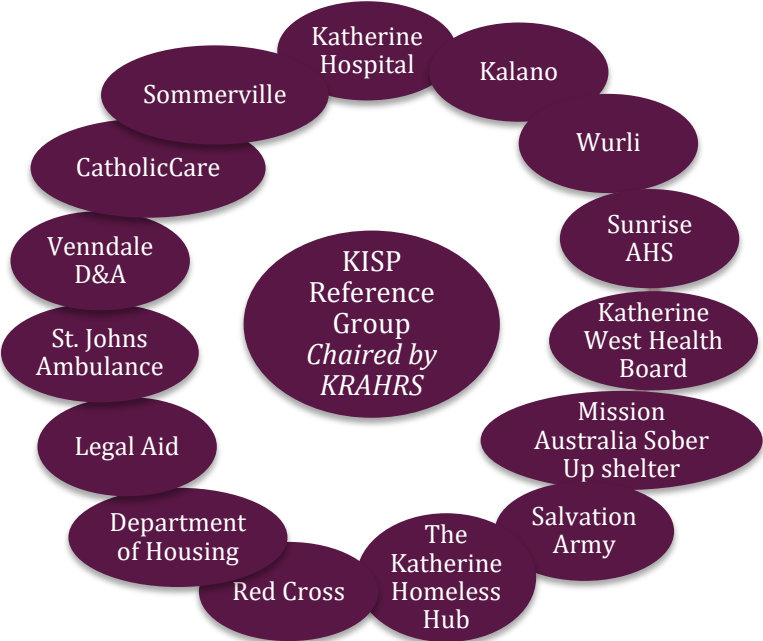


Figure 4: KISP reference group

2.3.2 The KISP Collaborative Case Management Group

The Collaborative Case Management Group is chaired by the KISP team at Wurli, and meets once a fortnight at KH to engage all agencies in town that do or are likely to provide services to this group (Figure 5).

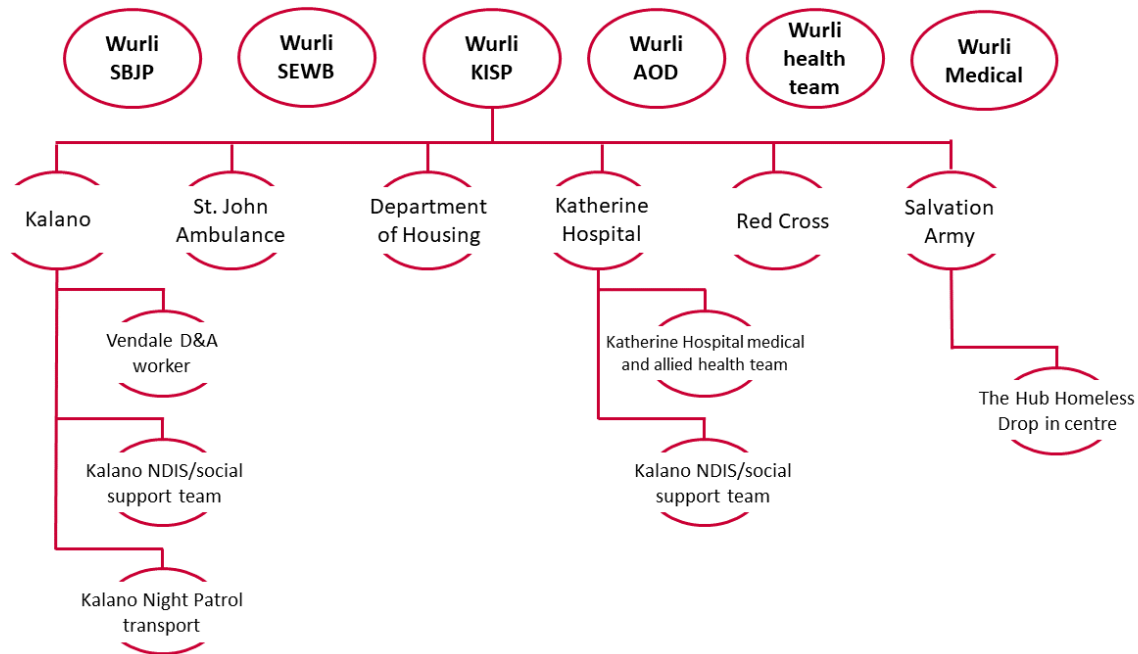


Figure 5: Collaborative case management structure

The Wurli KISP team incorporates their organisation’s clinical governance in this process and maintains the key role in coordinating stakeholders around each client to work effectively together to achieve positive outcomes. A central tenet of this meeting is maintaining strict client confidentiality, ensured by a careful process at KH and at Wurli. The CCMG are well attended, with a total of 12 organisations regularly in attendance and an average of 12 participants per meeting.

At the CCMG meetings, the client’s case is discussed and a plan is documented. The meeting is chaired with a firm agenda, and up to 15 cases are presented by the Wurli KISP team, predominantly composed of new clients recently enrolled or those with acute issues. At the end of this meeting any other member can raise issues around any client on the KISP.

2.3.3 The Wurli KISP Team

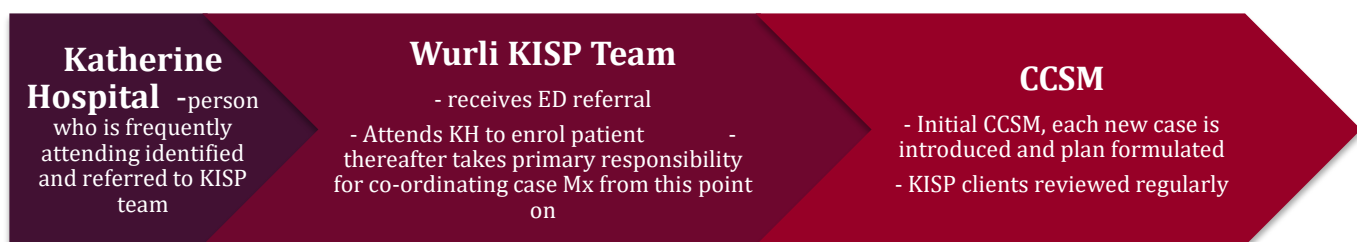
The Wurli KISP team acts as a central point of management and coordinating services around each client. The longer a client is on the program, the better they are known to the Wurli KISP team and the more the staff and organisations attending CCMG appreciate the complexities and needs of each client to improve their wellbeing and circumstances. Organisations frequently attending the CCMG include Kalano Community Association, Wurli Wurlinjang KISP staff, and KH clinicians, Salvation Army Doorway Hub, Venndale and Department of Housing. Each client’s needs between service providers is from then on coordinated by the Wurli KISP team. The client remains on the Wurli KISP team’s books and future changes in circumstances are brought up by any

member of the CCMG organisations attending the CCMG meetings including, for instance, further frequent re-attendance to ED.

2.4 The KISP Client Pathway

KISP clients have often faced barriers to engaging with primary care and prior to receiving support from KISP, the ED is typically their main point of engagement with health services.

Participants are identified firstly as a frequent attender to KH and are then reviewed by the KH medical or ED team to determine whether they are eligible for KISP, i.e. vulnerable to homelessness, alcohol issues and with high needs. If eligible and consenting to participate, the patient is enrolled with a questionnaire highlighting the social and medical vulnerabilities. The Wurli KISP team attends KH that same day to meet the client and commence the enrolment process.



The enrolment process for KISP includes a medical and social history hand-over to Wurli KISP team who are then introduced to the client. The Wurli KISP team usually transports this newly arrived client home upon discharge from hospital to assess their living circumstances. If the client has alcohol or other drug issues they may be referred to Venndale for rehabilitation, with Kalano Community Association providing ongoing case management. There are also four dedicated beds for KISP clients at Venndale Transitional and Aftercare, however these have been at capacity for the duration of the KISP.

2.5 Support provided by KISP

KISP provides ongoing case management support for clients as well as addressing immediate needs. The Wurli KISP team conducts a full assessment of the client's needs and current service providers and has access to brokerage funds to rectify emergency requirements including, where appropriate, funding transport to return a patient to their community of origin, emergency bedding and tent, food and cooking equipment and other resources deemed immediately imperative to that person's wellbeing. The following client case studies below (Box 1 and Box 2) demonstrate the impact of support provided by the KISP.

Box 1: Client Case Study Support Provided by the KISP

Background

Patrick is a 26 year old Garuwa man originally from the Barkley Tablelands who was raised in a small community 30km west of Katherine. As a teen he moved to Katherine and was developing a very promising career in AFL and was scouted to play for the Sydney Swans, though could not continue after he developed diabetes in his mid-twenties. He started drinking heavily, and became addicted to cannabis. Patrick was, however, intent on succeeding in life and joined the army reserves which gave him structure and stability, but was discharged after being caught with marijuana. His life then spiraled out of control and his drug and alcohol addiction consumed him, he became very depressed and lonely.



Health issues

He has lived his whole life in extremely over-crowded housing, and as a child suffered from rheumatic fever. When he was 16, he was shot in the chest in a drug-dealing related incident. Patrick developed type 1 insulin-dependent diabetes in his mid-twenties which severely impacted his ability to play football and led to addictions to cannabis and alcohol. *“My life was like hell going through suicidal thoughts, people saying I was mental, life was very hard and lonely”*

Support provided by KISP

He was enrolled in to the KISP program in April, and agreed to moving into Ormond House for homeless men. He was highly engaged with his KISP workers, and started to comply with all of his medications. He stopped drinking alcohol and significantly reduced his cannabis intake. Despite this he suffered from a serious diabetic foot infection and had a partial amputation of his toe. He was in Royal Darwin Hospital for many weeks and eventually took his own leave. When this happened he called his KISP case worker and when he arrived back home he dropped in to the KISP office. The KISP team took him over to Gudbinji clinic and introduced him to the chronic care team. He has subsequently been compliant with all medications, and has much appreciated the food vouchers and the new sheets that the KISP team purchased for him. He is living back at home in Binjari with a new bed and clean sheets, and the fridge is full.

“My life is back on track and how it used to be. Life is good and I'm happy and I appreciate Bruce, Nick and Eli's support with everything they boys do for me”

Background

Leon is a 29 year old Yolngu gentleman and has 2 young daughters. The family moved to Katherine 4 years ago to be closer to his mother, however this eventuated into a transient lifestyle, moving between Beswick and Katherine when the family needed respite from overcrowded homes in both locations.

Health issues

Leon developed a lung condition after a bout of pneumonia as a child, and his grandmother sent him to boarding school in Darwin at 12 years of age, to be closer to medical services. Unfortunately Leon was introduced to petrol-sniffing while in Darwin, and he was expelled from school, and returned to live with family members. Leon began using cannabis and alcohol and after a 10 year period of polysubstance addiction, it began to affect his mental health, leading to a revolving cycle of psychosis and hospitalisation. Prior to referral to KISP, Leon had attended KH 11 times in the 12 months prior, resulting in 4 admissions. His health concerns included leg weakness, serious chest infections, and social stressors at home. The leg weakness had been an ongoing issue, with specialists unsure about the cause.



Support provided by KISP

KISP has supported Leon to address his health issues, and also assisted housing and other issues that impact on stressors and wellbeing. He was connected with Wurli Primary Health, self-initiated compliance with medication, and sought assistance with an NDIS application. Leon was able to access financial planning, resulting in self-initiated income management that has enabled him to buy a family car. KISP also supported Leon and his family in their application for priority housing. Leon was able to apply for KISP Environmental brokerage funds to address home improvements, thus allowing Leon to maintain the yard, keep on top of household duties and pass house inspection. Importantly, this also ensured a safer environment for his children to play. Since receiving support from KISP, Leon only attended the hospital on two occasions.

“It’s been a while, 5 years since I’ve been home (Gapuwiyak), missed a lot of funeral, which has made me sad. I would like to buy a car so I could travel around and go fishing and see my family more often. People need more support, more housing in Katherine and for younger people who have become homeless I would tell them to go back to community, its more safe there. My health is a little bit better, I feel supported, and these fellas help me and my family with emergency relief packs and food.”

3 DEMOGRAPHIC AND HEALTH PROFILE OF KISP CLIENTS

As of 1 March 2019 there were 140 clients enrolled in the KISP, with 14 clients having passed away since commencing on the program (10%). Demographic data is available for a subset of 109 KISP clients, enrolled in the first ten months, who participated in a survey about their health, accommodation situation and issues that can impact on health completed at the time of their enrollment into the KISP. The majority of KISP clients, 91%, were Aboriginal people. Clients were aged between 23-86, with an average age of 51. Just over half (54%) of clients were female.

3.1 Clients' Circumstances at the Time of First Contact with the KISP

At the time of first contact with KISP, the majority of clients were facing substantial challenges and stressors. The majority of clients lacked access to stable and suitable accommodation, with 26% of clients rough sleeping when they were first supported by KISP (Figure 6). Of the 64% of clients who were living in a house, 40% were experiencing overcrowding, which is included in the definition of homelessness used by the Australian Bureau of Statistics.²⁰

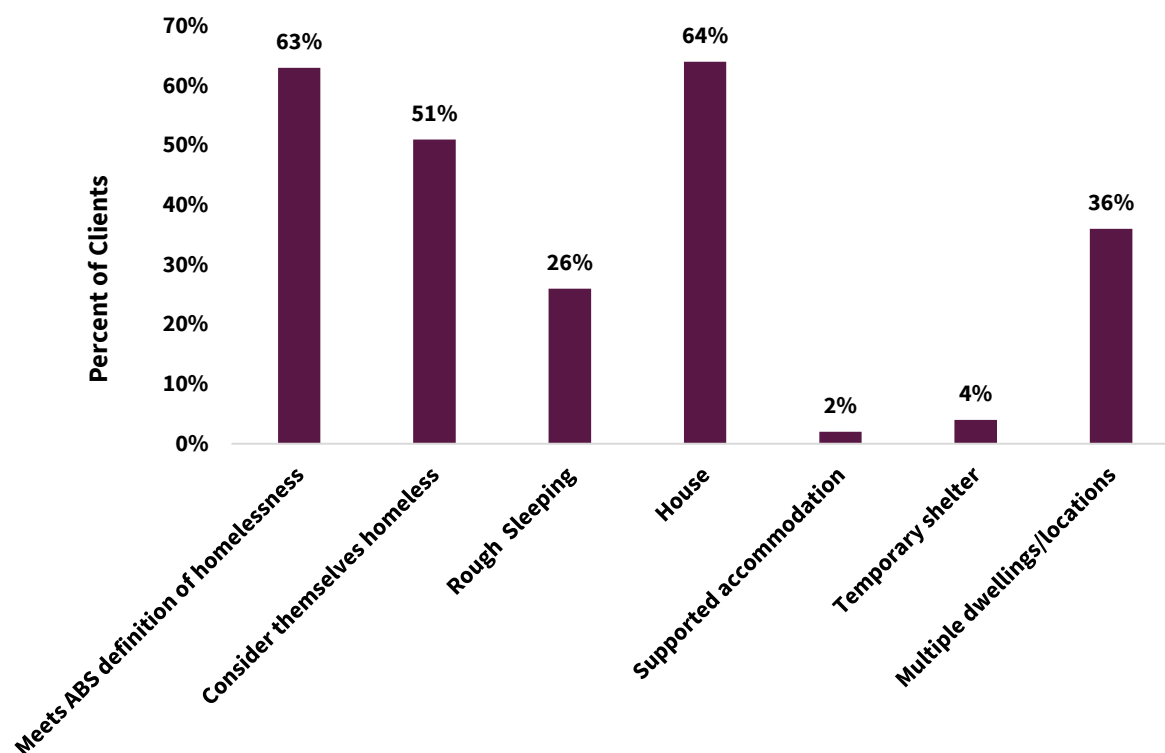


Figure 6: Clients' Living Circumstances at First Contact with the KISP

Clients of the KISP also faced additional challenges, with food security impacting 60% of clients. Access to reliable transport was very poor, only 20% of clients had access to private transport. At first contact with the KISP, 13% of clients identified having experienced family violence.

3.2 Cultural Heritage and Social Perspective

From a cultural heritage and social perspective, there is a lot of movement of KISP clients, with particularly high enrolment from the western communities of Lajamanu and Kalkarindji. There are clients from at least 20

tribal groups in the region, and there are people in the community who have moved to the region from the Barkley and Central Australia, Northern Queensland and North West Western Australia, and there is significant movement of KISP clients between different and very widely dispersed areas. Over 75% of KISP clients had accessed both Wurli and either Katherine West Health Board or Sunrise AHS. This movement of clients presents challenges to keeping track of patients, their diagnoses and their medical and social needs.

3.3 HEALTH PROFILE OF KISP CLIENTS

As a group, KISP clients have an extremely complex health profile complicated by their chaotic life circumstances and social determinants of health. Lack of access and difficulty engaging with primary health services is common amongst KISP clients. In the year prior to being supported by KISP, 61% of clients accessed the ED more frequently than their primary health care provider and 9% of KISP clients had never accessed primary care.

3.3.1 Health Conditions at First Contact with KISP

The majority of KISP clients have multiple health conditions with an average of three different conditions per client. There was a particularly high burden of alcohol and other drug issues, cardiovascular and renal disease amongst KISP clients.

Figure 7 demonstrates the most common health conditions experienced by clients of the KISP.

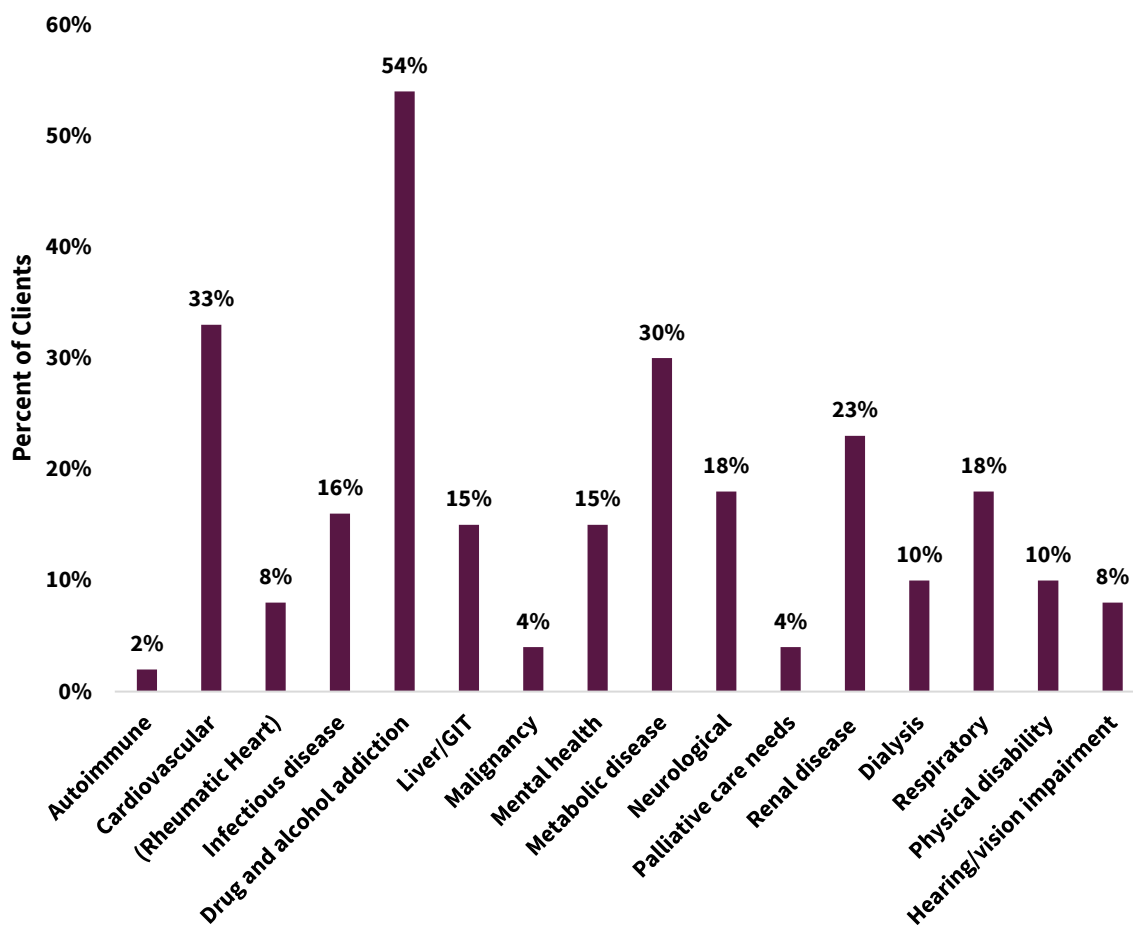


Figure 7: Health Conditions at First Contact with the KISP

3.3.2 Alcohol and Other Drug Issues

Clients of the KISP have a high burden of alcohol and other drug issues which contribute to frequent attendance at ED, high hospital service utilisation and poor health status. There is a substantial shortage in the Katherine Region of community-based options to support people to overcome alcohol and other drug issues (Figure 8).

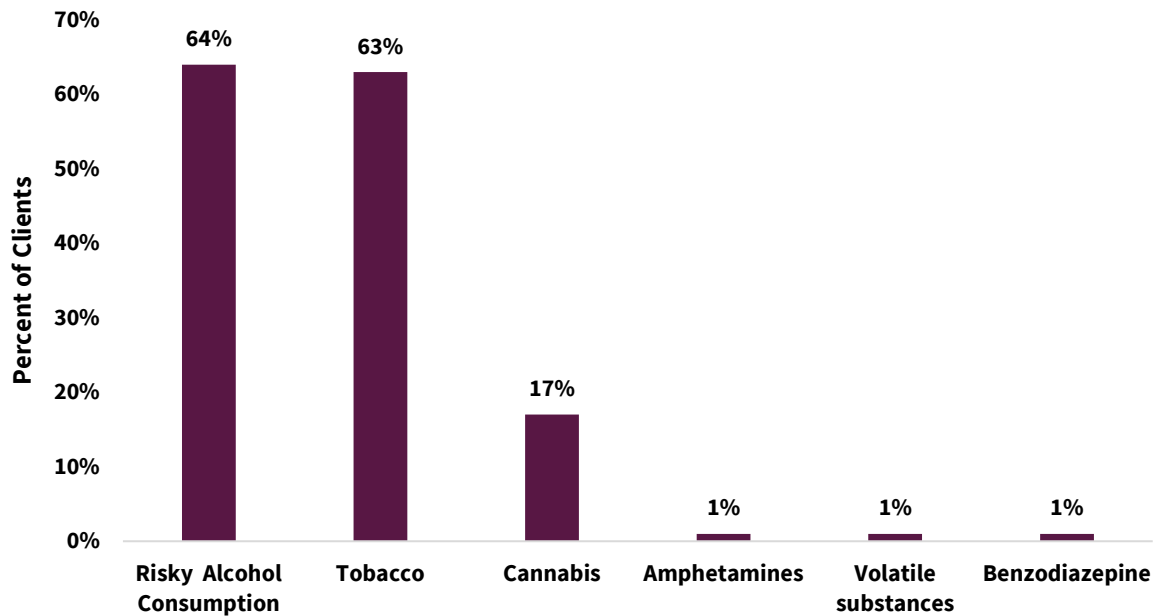


Figure 8: Alcohol and Other Drug Issues among KISP Clients

3.3.3 Reasons for presenting to ED

The majority of KISP clients presented to ED for both health and social reasons. The ED clinicians' perceptions of the main factors driving ED attendances amongst KISP clients is shown in Figure 9.

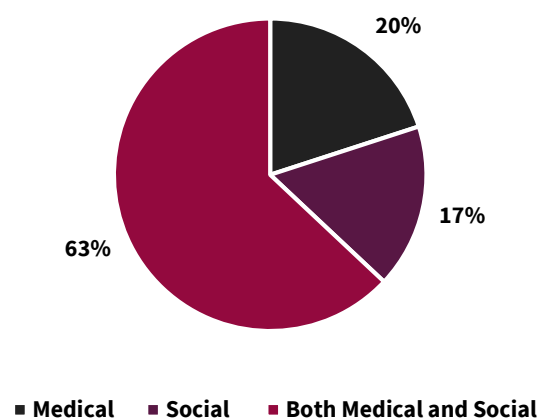


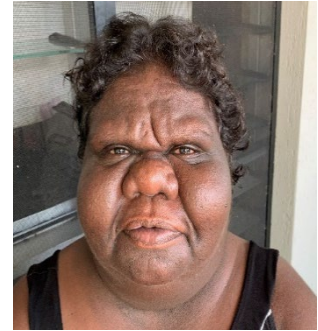
Figure 9: Vulnerabilities Driving ED Attendances

The following client case study demonstrates both the complex health needs of a KISP client and the positive impact of the KISP (Box 3).

Box 3: Client Case Study Complex Health Needs

Background

Maggie is a 42 year old Rembranga lady, living between Beswick community and her mother's country near Jabiru. She has fond memories of growing up in the community, learning from her grandmother about bush tucker and finding beautiful and rare scented flowers. Maggie attended boarding school until age 16. Maggie has shared that it wasn't always easy growing up, and is happy to see her elders now living differently with some family no longer drinking. She is married to a Warlpiri man from Lajamanu, they have 3 adult children. The family moved between communities for many years, with alcohol and substance use escalating over time. Maggie and her husband moved to public housing 6 years ago. The children and other family members often visit and stay, and sometimes there are prolonged drinking sessions where disharmony becomes a problem with fights, hurtful words and jealousy always present.



Health issues

Maggie was diagnosed with a serious lung condition 10 years ago, significantly limiting life expectancy. She is reliant on a CPAP night-time breathing machine. Her challenges with weight affect her self-esteem, mobility, functional ability, and negatively affects her ability to breath, which is substantially worse when drinking. Maggie had 38 ED presentations in the year prior to KISP enrolment, most often related to domestic violence, intoxication and dramatic decrease in lung function. Presentation often required week long stays in hospital. Due to physical incapacity she found her home environment difficult to maintain, made worse by poorly installed air-conditioning, stagnant waters, leaking taps, lack of hand rails and severe pest infestation that had nested in her breathing machine. Her home environment severely affected her recovery and quality of life.

Support provided by KISP

After Maggie enrolled into KISP in March 2018, the KISP team arranged a full clean-up of her house, both inside and out, and addressed the pest infestation. She reconnected with family in Jabiru, returning for holidays where she did not drink any alcohol. She now understands that drinking alcohol leads to very serious life-threatening lung complications, and she drinks far less and far less frequently. She has only had 16 ED presentations during last year, with KISP assisting her.

"I've known KISP for almost a year. Before that I struggled getting access to food and would go to Centrelink for help. I don't live in the long grass but do worry for people, I feel if there was somewhere cheap and affordable place to stay and give people dignity. Meeting KISP is the best thing that has happened to me, being on this program, everyone with mental health or sick people should be on this program, it's helped me"

4 HEALTH SERVICE UTILISATION OF KISP CLIENTS

4.1 Hospital Service Utilisation

Clients of the KISP are very frequent users of hospital services, both in terms of frequent attendances at ED and inpatient admissions. The complex nature of health conditions experienced by KISP clients means that, to some extent, high levels of hospital service use are unavoidable and are in fact necessary for successful management. However, prior to engagement with KISP, the majority of clients were attending ED more frequently than their primary care providers, often when their health had deteriorated and they required emergency inpatient admissions. Hospital data for six months pre/post KISP support was available for 95 clients, and, for a subset of 60 clients twelve month pre/post data was available.

4.1.1 Emergency Department Attendances Prior to Contact with the KISP

Hospital data shows that attendance at ED overall for this client group escalated in the year and six months prior to clients' first contact with KISP. This is similar to the escalating health service utilisation prior to receiving support that has been observed in previous studies in other jurisdictions, with length of time homeless particularly a risk factor for deteriorating health¹⁸. Of the 60 patients who have been supported by the KISP for more than 12 months, there were 516 ED presentations in the year prior to engaging with KISP, an average of 5.4 presentations per person (see Table 1). The cohort of 95 clients who have been supported by the KISP for at least six months had 525 ED attendances in the six-months prior to engaging with the KISP (see Table 1).

Table 1: Emergency Department Attendances in the Six Months and Year Prior to Contact with the KISP

	6 months prior (n=95)	1 year prior (n=60)
Total presentations	516	525
Mean (SD)	5.4(4.0)	8.7(6.1)
Range	1-22	1-36

4.1.2 Inpatient Admissions Prior to Contact with the KISP

The KISP cohort had high rates of inpatient hospital admissions prior to KISP enrolment also. In the year prior to contact with KISP, across the 60 clients who had been supported for one year by KISP, there were 1005 inpatient admissions, with an average of 17 admissions per client (see Table 2). These admissions resulted in 1346 days spent in hospital for these 60 patients alone in the year prior to first contact with KISP.

Table 2: Inpatient Admissions in the Six Months and Year Prior to Contact with the KISP

	6 months prior (n=95)	12 months prior (n=60)
<i>Inpatient Admissions</i>		
Total admissions	817	1005
Mean (SD)	8.7(18.6)	17.3(36.9)
Range	0-80	0-147
<i>Days Admitted</i>		
Total days	1231	1346
Mean (SD)	13.1(20.5)	23.2(38.7)
Range	0-87	0-161

The high burden of renal disease among Aboriginal people is well documented, and this is evident in the patterns of hospital use among KISP clients also, resulting in frequent planned admissions to hospital for dialysis. Many admissions were also unplanned however, with almost a third of inpatient admissions classified as emergency in the six months prior to support from the KISP (see Figure 10). This is by no means unique to this cohort, as the Royal Perth Hospital Homeless Team for example, has observed that the majority of hospital admissions among patients it sees are unplanned, and often result from an ED presentation.

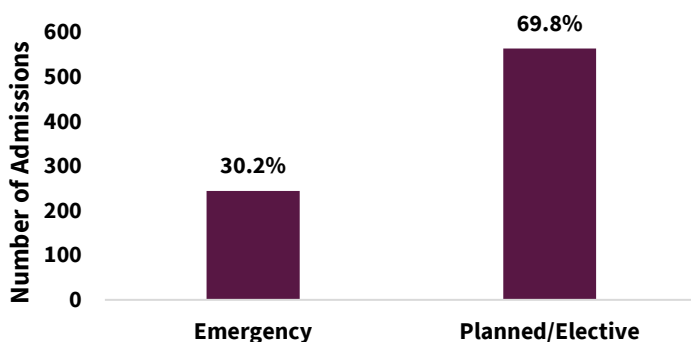


Figure 10: Type of Inpatient Admissions Six Months Prior to Support from the KISP

The average length of stay for an emergency inpatient admission in the six months prior to KISP support was 2.5 days, substantially longer than the average length of stay of one day for planned and elective inpatient admissions (Figure 11).

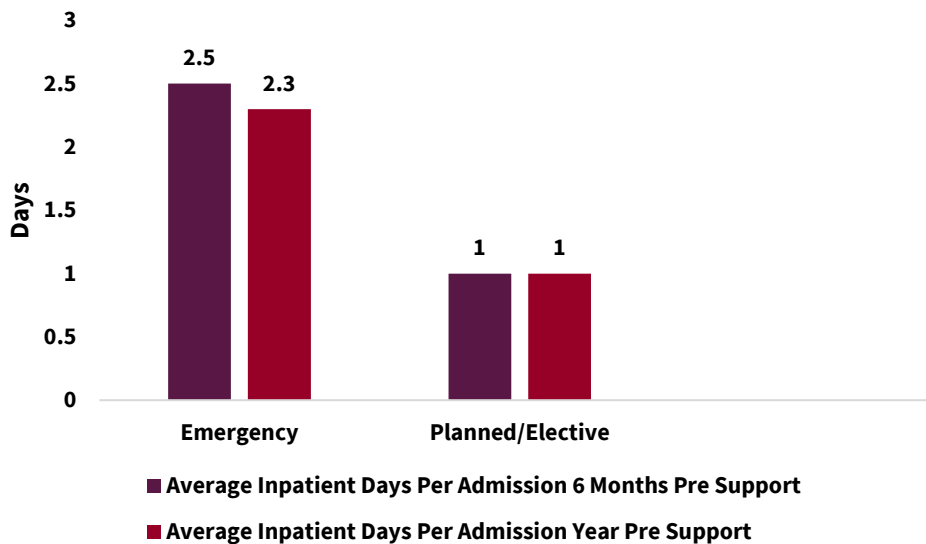


Figure 11: Average Length of Stay Type of Inpatient Admission

4.1.3 Associated Economic Cost

One of the drivers for the establishment of KISP was to reduce ED and hospital attendances by supporting clients to access community based primary care and other supports. The cost for an ED presentation in the Northern Territory is \$688, with inpatient admissions costing an average of \$2,012 per night, based on Independent Hospital Pricing Authority costings.²¹

Based on these costs, in the year prior to support from the KISP, the average cost of combined hospital service utilisation (ED and inpatient admissions) per client was \$51,156 (see Table 3).

Table 3: Cost of Hospital Service Utilisation by KISP Clients in the Six Months and Year Prior to Support

	Presentations/ Days	Unit Price*	Aggregate Cost	Cost per Person
Six Months Pre Support (n=95)				
Aggregate ED Presentations	516	\$688	\$355,008	\$3,737
Aggregate Inpatient Days	1231	\$2012	\$2,476,772	\$26,071
TOTAL			\$2,831,780	\$29,808
One Year Pre Support (n=60)				
Aggregate ED Presentations	525	\$688	\$361,200	\$6,020
Aggregate Inpatient Days	1346	\$2012	\$2,708,152	\$45,136
TOTAL			\$3,069,352	\$51,156

* Independent Hospital Pricing Authority (Round 21) figures for the 2016-17 financial year for NT

4.2 Changes in Health Service Utilisation after Support from the KISP

A key role of the KISP is to support clients to access primary healthcare services and to encourage appropriate engagement with health services. It is important to note however that this may not necessarily result in

reduced hospital use in the short term, with international studies showing that where health needs are complex and may have gone undiagnosed or untreated for some time, appropriate engagement and management of health conditions may result initially in increased contact with services. In this analysis of patterns of hospital use therefore, we examined whether there had been a change in health service use among those clients who had been supported for 6 months or more by KISP.

4.2.1 Changes in Emergency Department Attendances after Support from the KISP

ED attendances decreased after clients received support from KISP. For clients who had been supported by KISP for six months or more, in the six months after receiving support from KISP, there were 173 less ED attendances than the six months prior to support. For the 59 clients who have been engaged with KISP for a year, ED attendances also decreased in the year post support (Table 4).

Table 4: Changes in ED Attendances Post KISP Support

	6 Months (n=95)			1 Year (n=60)		
	PRE	POST	CHANGE	PRE	POST	CHANGE
Total presentations	516	343	-173	525	452	-73
Mean (SD)	5.4	4.4	-1	8.7	8.5	-0.2
Range	1-22	0-18		1-36	1-27	

4.2.2 Changes in Inpatient Admissions after Support from the KISP

In the six months after support from the KISP, despite a slight increase in the number of inpatient admissions there was a substantial decrease in the number of inpatient days (Table 5). It is days spent admitted that are the biggest contributor to hospital costs, hence this is a significant finding.

Table 5: Changes in Inpatient Admissions Post KISP Support

	6 Months (n=95)			1 Year (n=60)		
	PRE	POST	CHANGE	PRE	POST	CHANGE
Total admissions	817	824	+7	1005	1222	+217
Mean (SD)	8.7(18.5)	13.7(24.6)	+5	17.3(36.9)	26.0(45.3)	+8.7
Range	0-80	0-90		0-147	0-153	
Length of Stay	1231	1033	-198	1346	1551	+205
Mean (SD)	13.1(20.5)	17.2(25.1)	+4.1	23.2(38.7)	33.2(47.1)	+10
Range	0-87			0-161	0-162	

The length of stay for each type of inpatient admission changed substantially in the six months after clients were supported by the KISP, compared to the six months prior (Figure 12). The proportion of inpatient days that were due to emergency admissions decreased from 51 to 36 percent and planned and elective inpatient days increased slightly, potentially reflecting better engagement and more appropriate utilisation of hospital services.

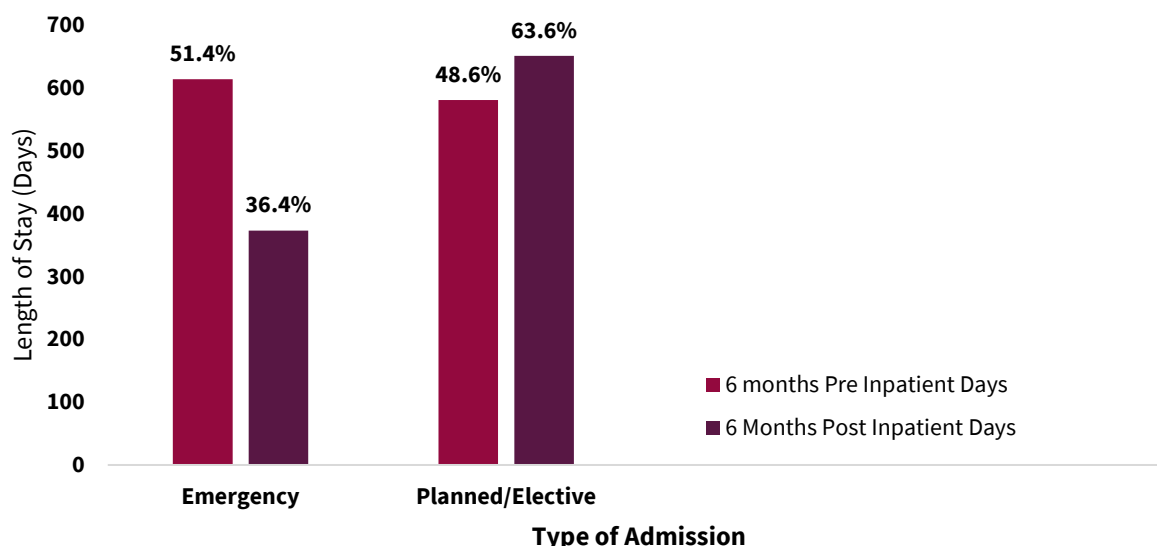


Figure 12: Changes in Inpatient Days by Type of Admission Six Months Pre and Post KISP Support

4.3 Associated Changes in Economic Cost

For clients who had been supported for six months by the KISP, there was an estimated cost saving to the health system associated with the reduction in ED presentations and days admitted as an inpatient (Table 6). For the client group who have been supported for a year there was a slight increase in cost, however as noted above this reflects increased engagement and attendance at planned and elective admissions to better manage complex health conditions.

Table 6: Economic Costs Associated with Changes in Hospital Service Utilisation after KISP Support

	Presentations/ Days	Unit Price*	Aggregate Cost Change	Cost per Person
Six Months Post Support (n=95)				
Changes in ED Presentations	-173	\$688	-\$11,9024	-\$1,253
Changes in Inpatient Days	-198	\$2012	-\$398,376	-\$4,193
TOTAL			-\$517,400	-\$5446
One Year Post Support (n=60)				
Aggregate ED Presentations	-73	\$688	-\$50,224	-\$837
Aggregate Inpatient Days	+205	\$2012	+\$412,460	+\$6,874
TOTAL			+\$362,236	+\$6,037

4.4 Primary Care Utilisation

A core element of the KISP is to support clients to engage with primary care. There have been some challenges in this area, particularly when clients frequently move between different areas, with over three quarters of KISP clients accessing more than one primary health care provider, including WWJ, KWHB and Sunrise.

Despite this, there has been an increase in engagement with primary health care for KISP clients, including social and emotional support services, drug and alcohol counselling, and treatment of chronic health conditions. For the 105 KISP clients for whom primary care data is available, there was a reduction in the proportion of clients who were accessing the ED more frequently than their primary care provider from 59% in the year prior to only 9% after support from the KISP.

4.5 Alcohol and Drug Rehabilitation

Due to the limited access to residential alcohol treatment beds in the Katherine region, the KISP has only been able to offer a limited number of clients access to this much needed service. At the time of this first evaluation report, there had been 4 KISP clients enrolled in the AOD rehabilitation program at Venndale.

5 CONCLUSION AND RECOMMENDATIONS

The KISP has helped to fill a substantial gap in services for people experiencing complex life circumstances who frequently present to Katherine Hospital ED. As a pilot program, it was anticipated that KISP processes would evolve and be refined over time, and this has occurred. The delivery model of KISP has evolved over time also. Earlier evaluation work undertaken by Menzies University, identified a number of areas for attention to improve the effectiveness of KISP going forward, and some of these are summarised below:

Some insights from key informant interviews and partner survey undertaken by Menzies School of Health Research in 2018²²

- The KISP has evolved and been refined across the course of the pilot and there is a need to further develop a shared in-depth understanding of the KISP model and pathways across all partner organisations
- Key community-based support services identified that they had received clients as a result of KISP referrals, however a more comprehensive system of tracking referrals and client engagement with community-based services would allow for a more complete picture of clients' service use and facilitate greater information sharing between services.
- There are opportunities for more Katherine Hospital staff to become engaged with the KISP and therefore generate increased referrals from ED.

A number of other opportunities to strengthen the KISP for future service delivery going forward have been identified by Katherine Hospital staff and other community members involved in the KISP project, and these are summarized below:

5.1 Strengthening of Referral Pathway

Strengthening the referral pathways to KISP from Katherine Hospital ED is a key priority. While key senior clinicians have been supportive of the KISP, overall there remains a lack of awareness of the KISP and eligibility criteria across all ED staff. There has been a drop off in hospital referrals over the last 3 months while one of the original hospital champions of KISP has been away, and this highlights the critical need to elevate awareness of and referrals to KISP across the hospital more broadly. One suggestion has been that an Aboriginal Liaison Officer could be integrated into the KISP team and based within the ED to help facilitate increased referrals. This approach, whereby a case-worker is based full-time in ED and links clients to community-based case management support has been utilised in other jurisdictions.¹⁸ In another ED based program in Perth, WA called Choices²³ an Aboriginal peer worker has been employed to work in the ED setting as a conduit for connecting people to the service that can then provide community follow up and case management support.

There is also an opportunity to refine the eligibility criteria to broaden the type of clients referred to the KISP. Clients enrolled to date have typically had complex medical problems, as they are usually enrolled when the medical team admits them into hospital. There has been some missed opportunity for the ED to refer clients to KISP that are not so complex medically, but nonetheless have a few specific social determined challenges that could potentially be addressed with brief interventions to reduce repeated ED re-attendance.

Going forward, there is merit in exploring opportunities for KISP referrals from outside the hospital setting, such as The Hub or Night Patrol.

5.2 Integration of Collective Impact Framework

The breadth of organisations and sectors involved in KISP is a unique strength, but bringing so many different groups to work together on a project like KISP is not without its challenges. The collaborative nature of the KISP reference group and CCMG provides a unique opportunity to advocate for and demonstrate the benefits of working across sectors to achieve improved shared outcomes for clients. The development of a KISP collaborative framework, including training and support in collaborative impact models, could assist in strengthening this impact and help with the sustainability of the project. By having a shared common understanding of the KISP model and pathways and collective ownership of KISP, there is more of a buffer to withstand organisational changes and staff turnover.

5.3 Strengthen Data Collection and Communication

There are opportunities for KISP to strengthen data collection for future service delivery and evaluation of impact, particularly related to referrals, accommodation and service linkages to enable a more detailed mapping of the impact of KISP and collaboration between the organisations involved. This is not unique to KISP and is a challenge that other programs seeking to cut across multiple organisations and sector silos face. As a pilot project however, it is particularly critical to build a robust evidence base to track health and other outcomes, as increasingly, government funding for programs and services is contingent upon outcomes measurement and demonstration of impact. The feasibility of a 'real-time' database to provide live information to KISP partners on changes in clients' health, social and living circumstances merits exploration, and learnings from the current work to develop a 'By Name list' of people experiencing homelessness in Perth and Adelaide would be useful in this regard.

5.4 Develop Protocols to Address Vicarious Trauma amongst KISP Staff

Trauma informed care has gained momentum in Australia in recent years, and has been pivotal in reminding health and other services of the critical need to be sensitive to the past experiences of people accessing their service. Greater awareness of trauma and its impacts has also brought into the spotlight the need to be attentive to the risks of vicarious trauma for health and other professionals working with vulnerable population groups. This is very pertinent to KISP, where staff from all of the organisations involved are working with clients with complex health and psycho-social needs, and life-limiting illnesses are not uncommon.

5.5 Advocate on Broader Issues that Impact Clients' Wellbeing

Whilst many of the broader issues that impact on the wellbeing of KISP clients are outside of the immediate scope of the KISP to fully resolve, organisations involved in the KISP have an important role in advocating for wide-spread whole of community change. Issues of particular relevance to the KISP include advocating for new models of housing in Katherine (crisis, temporary and permanent), improved access to transport (including access to public transport and innovate/collaborative options to assist people to return home after they are discharged from hospital), expanded hours of operation for The Hub to assist people who are homeless and expansion of alcohol rehabilitation programs with more accessible and equitable models.

5.6 Explore Innovative Approaches to Alcohol and Other Drug Treatment

Given the substantial shortage of residential alcohol and other drug treatment in the Katherine Region there are opportunities for KISP to advocate for alternative access points to drug and alcohol treatment, for example, utilising emergency accommodation options as a 'step-in' to treatment. There is potential for there to be dedicated beds at Venndale for KISP clients, in addition to the four beds available through VTAC. This would expand the capacity of KISP to respond to clients' needs for alcohol and other drug rehabilitation.

5.7 Future research and evaluation

As the KISP continues to develop, expansion in the scope of data collected and longer follow-up data will be important, to demonstrate that any early impacts on health outcomes or hospital use have been sustained. There is a planned analysis at the 24-month post program commencement to better understand the longer term impact of the program.

5.8 Conclusion

With escalating pressure on governments to reduce demand on acute hospital care and to avert widening health inequalities, particularly those experienced by Aboriginal Australians, KISP is an innovative program that brings together a breadth of health and community services committed to improving health and wellbeing outcomes for people in the Katherine region. As reflected in this report, the KISP is providing essential support to people experiencing complex health and psychosocial challenges who have often been caught in a frequently revolving hospital door. Prior to the KISP, clients had a pattern of escalating ED attendances and lengthy inpatient stays with low levels of engagement with primary care services. The participation in the CCMG by multiple community-based organisations enables the needs of KISP clients to be understood and comprehensive case management support provided to improve client outcomes. After becoming engaged with the KISP, a higher proportion of clients were utilising primary care services more often than ED and, in the six months after support from KISP, both ED attendances and days admitted as an inpatient reduced compared to the six months prior to support. There are opportunities to further strengthen the KISP as it continues to develop and expand beyond the pilot phase, with strengthening and refining of the referral pathway and data collection procedures identified as focus areas. The collaborative and integrated approach taken by KISP has led to substantial improvements in outcomes for some of the most vulnerable people in the Katherine region, and learnings from the pilot to date will help to strengthen its reach and impact going forward.

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Support Program

