Evaluation of a renal dialysis model of care for Aboriginal and Torres Strait Islander people in South Australia

Kim Morey, Toni Shearing, Gloria Mejia,
Nikki Clinch, Kim O'Donnell

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AKction
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Contact

For further information, please contact:
Wardliparingga Aboriginal Health Equity Theme
South Australian Health and Medical Research Institute (SAHMRI)
PO Box 11060, Adelaide SA 5001

www.sahmri.com
wardliparingga@sahmri.com
+61 8 8128 4000
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Acknowledgments

Acknowledgment of Country

Kanggawodli (meaning Caring House in Kaurna) is located on the traditional lands of the Kaurna people. The organisations and visitors to Kanggawodli acknowledge the Kaurna people as the Traditional Custodians of where Kanggawodli is located, and pay their respects to Kaurna Ancestors, Elders and to future generations of the Kaurna people. They acknowledge their ongoing spiritual, physical, and emotional connection to their lands and seas.

Acknowledgments for Contribution to the Project

We would like to acknowledge the partner organisations that have worked together to create the pilot project and conduct the project evaluation.

- Aboriginal Kidney Care Together Improving Outcomes Now (AKction)
- Central Northern Adelaide Renal Transplant Services (CNARTS)
- Central Adelaide Local Health Network (CALHN)
- Watto Purrunna Aboriginal Primary Health Care Service, Northern Adelaide Local Health Network (NALHN)
- South Australian Aboriginal Chronic Disease Consortium, South Australian Health and Medical Research Institute

We would like to specifically thank members of the AKction group, Ms Nari Sinclair, and Mr Jared Kartinyeri for their expertise and contribution to the Renal Expert Advisory Group, and the AKction. We would like to thank the Aboriginal health professionals who undertook the qualitative interviews independently for the project, Ms Kellie Owen and Mr Dougie Clinch Jnr.
We would also like to thank the patients and health professionals who took the time to contribute to sharing their experiences of this unique model of care.

Executive Summary

Aboriginal and Torres Strait Islander families, communities and society have thrived across Australia for millennia, for thousands of generations. It has only been in the recent past, that Aboriginal societies' way of life changed and was disrupted in every way. Successive Australian and jurisdictional governments have enacted policies and practices on communities, without the appropriate level of input and engagement of the community they are aiming to service. This combined with historical policies and practices over several decades have seen detrimental impacts on the health and wellbeing of Aboriginal communities. The implementation of these past policies and past practices, have left an intergenerational and lasting impact on Aboriginal communities, and have contributed to the disparities experienced in health and social outcomes amongst Aboriginal people today.

In 2020, the Aboriginal Kidney Care Together – improving outcomes now (AKction) project's community reference group identified the need to investigate opportunities to co-design a community-led response to kidney care in metropolitan Adelaide. This resulted in a partnership between the AKction team, Northern Adelaide Local Health Network (NALHN) and Central Adelaide Local Health Network (CALHN) to co-design a community-based model of kidney care, including dialysis. The rationale for the project aligned to identified community needs, and the strategic aspirations of both local health networks; through their commitments to improve access to their services for the Aboriginal population, establishing culturally welcoming environments, coupled with responding to Aboriginal community needs and priorities.

The evaluation of the community-based model of dialysis care shows that the service achieved a family-centred model of care, responding to the unique needs of Aboriginal people, including people from remote communities, providing culturally responsive and respectful care. This has resulted in increased patient satisfaction and improved experiences for the small cohort of patients, who have been able to access this service. The model has proven to have significant health benefits for patients, who – for various personal and social reasons – were often not able to meet the recommended clinical requirements for dialysis in other settings, and who experienced increased hospitalisation and longer lengths of stay when hospitalised as a direct result. These patients are now increasing their dialysis uptake and improving their overall health and management of their diabetes and other co-morbidities. Patients reported a sense of safety in the Kangawodli environment, in large parts due to improved relationships with their healthcare professionals, and patients felt confident to call on them, if they were unsure or worried about their health, seeking support outside of their dedicated dialysis appointments. The model has increased Aboriginal patients' control over their healthcare, through flexibility of the model and the ability to work with other patients and health care professionals if they experienced competing personal priorities, enabling them to reschedule appointments. This level of control and agency over one's health has well documented social and emotional wellbeing outcomes for people, and patients reported feeling much happier and content at Kanggawodli.

The evaluation has also shown that such healthcare services environments provide the perfect setting for cross cultural learning, and increasing capacity of both non-Aboriginal and Aboriginal health care professionals. Furthermore, the partnerships have also increased patients' access to wrap-around services, comprehensive and opportunistic care, resulting in the identification and timely management of complications, which would have not otherwise been identified and resulted in reduced hospitalisations. This results in positive health outcomes for the patient and reduced demand on an already stretched health care system. The evaluation found that there is a growing demand amongst the community to receive dialysis through Kanggawodli, and the program has already seen increases in the number of days the program is run. The evaluation highlights significant evidence of the success of a model of this kind for both patients, families, health professionals and the health system at large.

Background

Introduction

Aboriginal and Torres Strait Islander peoples come from the oldest living culture in the world and have shown much strength and resilience over the past 234 years, since Europeans arrived in Australia. The historical practices and policies from past governments have contributed to the disparities and unequitable health and social outcomes experienced by Aboriginal and Torres Strait Islander communities in contemporary Australia. The solutions to improving outcomes in health rests with Aboriginal people and are well understood by the community. Hence the importance of co-designing and engaging with Aboriginal people, families, and communities in designing policies, programs and services which respond to the unique needs of Aboriginal people. Presently, Aboriginal and Torres Strait Islander people still experience a much higher burden of chronic disease, including higher rates of chronic kidney disease (CKD) with almost one in five adults showing biomedical signs of CKD in Australia (1).

Sadly, mortality rates for kidney disease are 2.2 times higher in Aboriginal people than non-Indigenous people. Dialysis care is the leading cause of hospitalisation for Aboriginal people at 11 times the rate of non-Indigenous people. Among Aboriginal people with end-stage kidney disease, 87% were reliant on dialysis and only 13% had received a kidney transplant, as of December 2017. In comparison, 49% of non-Indigenous people underwent dialysis and 51% received a kidney transplant (2, 3) . Nearly 60% of all Aboriginal and/or Torres Strait Islander people registered with Central Northern Adelaide Renal Transplant Services (CNARTS) are dislocated from home, Country and Community, compared to 6% for non-Aboriginal patients (4). Consequently, the rates of non-attendance to dialysis and subsequent associated complications are reportedly higher among Aboriginal patients. The healthcare system in Australia is built on Western concepts of health, dominated by biomedical Western evidence. Western systems are driven by tight fiscal environments, efficiencies, and a focus on disease. This is in complete contrast to Aboriginal and Torres Strait Islander knowledge systems, based on collective cultures, connected to people, environment, and cultural values (5). Addressing cultural safety and practices is therefore critical if we are to see real improvements in Aboriginal and Torres Strait Islander healthcare (5). Providing dialysis in a culturally safe environment has been shown to reduce isolation, increase access to patient-centred care and reduce missed dialysis sessions. Alternative models are the key to improving health outcomes for Aboriginal and Torres Strait Islander people in South Australia (5),(6) .

A key finding of the Aboriginal Kidney Care Together Improving Outcomes Now (AKction2) research project, funded by the Medical Research Future, Grant no:2004389, through the University of Adelaide, was the desire of patients and carers to access dialysis services closer to home and/or within a culturally safe and responsive environment. In response, a community-based model of care was developed and piloted at Kanggawodli, an SA Health primary health care and accommodation service, which provides culturally responsive services for Aboriginal patients from country locations requiring tertiary care in metropolitan Adelaide. This dialysis model of care has been developed in partnership with Northern Adelaide Local Health Network (NALHN), Central Adelaide Local Health Network (CALHN) and Aboriginal community members from the Aboriginal Kidney Care Together Improving Outcomes Now (AKction) community reference group. In the first twelve months, the model provided access to two dialysis chairs, operating two sessions per day, three days per week. In the second year, services increased to four sessions per day, six days per week, and as we enter the third year, plans are in place for a third chair to operate six sessions per day, six days per week.

Strategic alignment

The impetus to trial a pilot model of community-based dialysis rests with the commitment of both local health networks (LHNs) to improving Aboriginal and Torres Strait Islander health outcomes and meeting their obligations under the National Safety and Quality Health Standards (NSQHS) User guide for Aboriginal and Torres Strait Islander health (particularly Action: 1.33 'creating culturally welcoming environments and Action: 1.2 'meeting the Aboriginal community's health priority needs') (7). This pilot also supports the LHNs' aspirations and obligations to meet the unique health and cultural needs of their communities. The model aligns to the strategic aspirations of the NALHN Aboriginal Health Framework and Action Plan (8) and CALHN's aspirations of becoming a national leader in the provision of high quality and culturally responsive health care.

Partnerships between LHNS

The Kanggawodli renal dialysis model is a joint initiative across both Northern and Central Adelaide LHNs, resulting in the sharing of resources to implement this pilot model. NALHN provided access to the infrastructure, supported through the Kanggawodli facility, with CALHN providing the clinical workforce support and expertise to support the model's implementation. Additionally, the model has enhanced the partnerships across various disciplines within the public health system, including nephrologists providing specialist services on site, which has been a valuable contribution to the model.

Furthermore, the model was developed and aligned to best practice methods of co-design. Aboriginal community members with a lived experience of kidney disease co-designed both the model and its key elements, directed and informed the evaluation questions in relation to what is important for patients, carers and family members receiving this unique model of care. This approach is aligned the NSQHS Action: 2.13 'Working in partnership'.

In-kind support

The evaluation of this pilot was coordinated by the South Australian Aboriginal Chronic Disease Consortium in partnership with NALHN's Watto Purrunna Aboriginal Primary Health Care Service and in collaboration with AKction, CNARTS and CALHN.

The design and implementation of the evaluation was led by the Renal Evaluation Action Group (REAG), consisting of members from participating organisations and Aboriginal community representatives with lived experience of renal disease.

REAG Members: Gloria Mejia, Toni Shearing, Brian Farmer, Kim Morey, Belinda Hammond, Jared Kartinyeri, Kim O'Donnell and Nari Sinclair

Ethical consideration

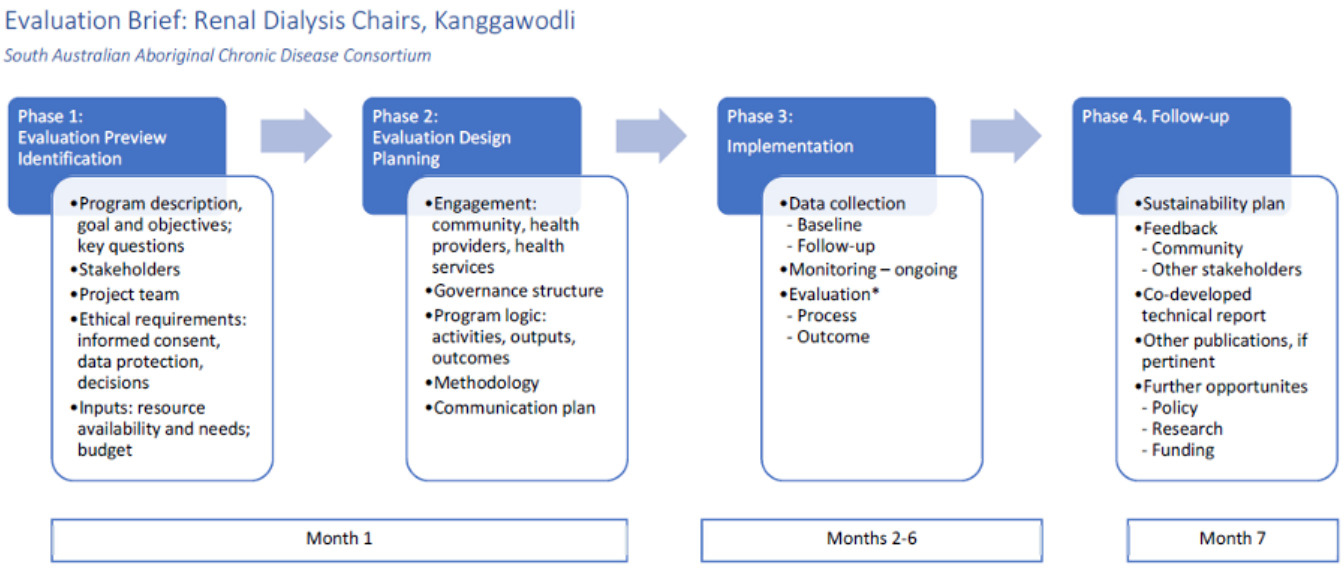
In response to identified requirements of Aboriginal community representatives with lived experience in the AKction research team, the project was initiated between CNARTS and AKction with support from the South Australia Aboriginal Chronic Disease Consortium and NALHN's Watto Purrunna Aboriginal Primary Health Care Service. Members from these partner organisations determined program goals and objectives aligned with, and responding to, the needs identified by Aboriginal community members that requested the implementation of the renal dialysis program. This group assessed the availability of resources and other inputs into the project, including the identification of key stakeholders to be involved in the evaluation of the project and reviewed ethical requirements. Ethics applications were submitted and approved by the Aboriginal Health Research Ethics Committee, NALHN Research Governance Team and the CALHN Executive Research Committee.

Objectives and methods

The objectives of the evaluation were to:

1. Assess the safety, effectiveness and quality of the pilot renal dialysis service based at Kanggawodli
2. Compare patient, provider, and service outcomes before and after implementation of the pilot dialysis model of care
3. Evaluate the social and clinical impact of providing patient centred renal dialysis services closer to home
4. Understand the patient experience of receiving dialysis in a culturally responsive environment
5. Measure the impact of the pilot program on patient compliance and satisfaction of care

The evaluation of this pilot program will contribute to the existing body of evidence on culturally responsive and targeted person-centred care. It will measure the effects of the renal dialysis model of care on Aboriginal people's health outcomes, safe experiences and quality and compliance with recommended end-stage kidney disease treatments.



*Proposed Evaluation Approach

Evaluation Type	Domains of Change				
Process	Governance	Communication	Workforce skills development	Community engagement	Stakeholder participation
Outcome	Patient-/Community-/Provider-reported experiences	Patient-/Community-/Provider-reported outcomes	System measures: quality, effectiveness, safety	Attraction, Retention, Compliance	Costs

Figure 1. Evaluation process: phases and domains

Project methodology

This project was integrated into the governance structure of the SA Aboriginal Chronic Disease Consortium, and the project management was led by the Renal Evaluation Action Group. Figure 1 summarises the evaluation process.

Stakeholders identified during Phase 1 were invited to form part of REAG, including Aboriginal health leaders, community representatives, clinicians, and members from the SA Aboriginal Chronic Disease Consortium, NALHN and AKction. The REAG was convened to lead the activities required to meet the project's objectives and respond to community priorities. REAG developed the evaluation methodology, program logic, including identification of key performance and outcome indicators and potential input and output indicators, and the communication plan. The partnership was formalised through a Memorandum of Understanding between NALHN and CALHN and was instrumental in the designing and planning of the pilot. During planning, minor works were undertaken to infrastructure to enable a feasible pilot of the community-based dialysis program. NALHN undertook these changes rapidly to enable the pilot would run an effective dialysis service. This was a crucial component to the success of the pilot program.

The implementation stage involved collecting data at baseline and during follow-up. Data from patients, providers, and both local health networks were collected by two independent Aboriginal researchers (male and female) through baseline and follow-up interviews. Patients were asked about their satisfaction and experiences with the care received. Providers were asked about their experiences with the model of care and a general measure of the clinical status of patients at baseline and during follow-ups (patients' prognosis and patient progress as per consent from patients). System data collection included a desktop audit of system indicators available through SA Health and followed a pre-and post-implementation design for the analysis of data.

Analysis of the qualitative data was conducted by two researchers, one Aboriginal and one non-Aboriginal, who were not part of the interview team. The data was analysed by the researchers individually in the first instance. Each section was reviewed separately, i.e., patients, service providers, family members and governance. Responses were reviewed individually to identify reoccurring themes. The researchers then shared their individual themes and worked collaboratively to identify and undertake a thematic analysis, where themes were discussed and agreed.

Findings

The findings of the pilot community-based model of dialysis are based on participants views and have been summarised by the evaluators and reported here.

The community-based model of dialysis was developed based on the cultural needs of the patient cohort and was initially trialled over a twelve-month period at Kanggawodli, with the findings from this trial period proved to be extremely positive.

The community-based model of care delivered through Kanggawodli proved to be responsive to the unique needs of its patients. The model provided dialysis in an environment which enabled the patient to interact with other residents during their treatment. Furthermore, the provision of care provided through a service like Kanggawodli resulted in a safe physical environment for Aboriginal patients receiving dialysis. The model provided an opportunity to deliver services in a family-centred approach, aligned to Aboriginal ways of being and knowing. Patients had family members visit and remain on-site whilst they were dialysing, which resulted in an increase in the time they spent receiving dialysis, as well as increased social and emotional wellbeing of patients. This, in turn, improved patients' engagement with health professionals at Kanggawodli and improved their relationships and social connectedness. In contrast, participants reported on their experiences of receiving dialysis services in a hospital setting, which was described as an isolating experience for Aboriginal people, with limited opportunity to establish meaningful relationships with staff, and limited ability to have family support on site.

Results of the evaluation indicated that the Kanggawodli renal dialysis model of care aligns well with Kanggawodli's ethos to create a home away from home environment for Aboriginal patients and their carers, when having to travel to Adelaide for health care; this approach also benefited patients who were receiving community-based dialysis care.

Patient participation in dialysis treatment increased as health service staff were able to provide individualised education, tailored to patients' needs, which increased patients' and carers' understanding and health literacy, and the importance of meeting clinical guidelines for their treatment plans. This empowered patients in self-management of their chronic conditions and provided flexibility in delivering care. Patients were able to negotiate their dialysis timeslots with other patients dialysing at Kanggawodli to suit competing health, social and family needs, which was reported to be difficult in a major hospital dialysis unit and could result in missed and "did not attend" appointments, not only contributing to poorer health outcomes, but having financial and efficiency impacts on LHNs, including CALHN.

Additionally, and perhaps most importantly, patients receiving an increase in their dialysis schedule resulted in improved quality of life of patients, as it enabled service providers to support patients to have planned trips returning to their home community and country. Patients indicated they returned to Adelaide feeling emotionally and physically better, and their spirits lifted by being able to see family and be reconnected to their Country, even if only for short periods of time. These impacts are central to Aboriginal people's concept of social, emotional, cultural, and spiritual wellbeing.

Service provider responses indicated an increased satisfaction for them by being able to provide high quality and culturally responsive care. The model provided a space to develop an understanding of an individual patient's context and their individual requirements, allowing clinicians to tailor care and specific health promotion and education to meet the individual needs of patients. This is often not able to be achieved in a large hospital setting, purely due to demand on resources and staff.

The model included building and maintaining strong partnerships between primary health care services, allied health services and acute clinicians providing wrap-around services and screening, resulting in greater patient experiences and compliance with safety and clinical standards, including meeting the NSQHS Aboriginal health actions (7).

Providers indicated the program created a learning space, where non-Aboriginal clinicians could build on their cultural awareness and responsiveness in a safe space. Several providers reported an increase in their cultural knowledge, that influenced their daily actions, that had not been identified previously.

The identification of other health issues through the provision of wrap-around services, was another positive aspect of the model. These wrap-around services identified other complications for example: diabetic retinopathy, which were unlikely be identified through routine dialysis care, resulting in Aboriginal patients potentially receiving appropriate care much more quickly, and reducing the demand on acute services, particularly hospital avoidance.

Patient-centred culturally responsive care

All patients reported positive experiences when receiving dialysis services at Kanggawodli. This is supported by the qualitative analysis undertaken of patient data which included:

- Improved safety of physical environment (distance, stairs, temperature)
- Improved positive social interaction with other people
- Increased cultural appropriateness of service
- Easier access to the service
- Connection with family

Building relationships and strong connection with the staff, specifically the Aboriginal Health Practitioners (AHPs), encourage patients to increase their time participating on dialysis treatment. The latter is important because it improves clinical outcomes, and overall health and wellbeing of the patient.

Patients felt culturally safe and respected by health care professionals, which provided a unique opportunity to increase health literacy of both patients and their families, increasing their understanding of the impacts of decisions on health outcomes, particularly if shortening treatments. This finding was also supported by health professionals, who felt the service was much more culturally responsive and could meet these requirements to a much higher standard than in the hospital environment.

All patients indicated the environment at Kanggawodli was more comfortable to complete dialysis as they could have family visits, talk with other residents, and staff or have access to television, which comes with additional financial burdens if in hospital. Patents commented that the environment is much more welcoming and less sterile.

"It means a lot being able to have family keep me company and yarn to them. Makes me feel great just having other Aboriginal people around to yarn to and say hello, makes me happy" ~ patient quote

"Stay with family. Sitting here yarning, laughing, thinking, watching, make me happy inside" ~ patient quote

"At Kanggawodli my family are here, we are all together but only my brother is here with his wife who is dialysing at QEH" ~ patient quote

Improved patient experiences

Patients appreciated the inclusion of cultural aspects into their care. Their responses reflected an increase in social and emotional wellbeing and feeling culturally safe which in turn encouraged patients to complete their dialysis sessions. Cultural needs were considered and incorporated into their care, including the use of traditional artwork and native plants within the service environment, access to traditional foods and experiencing local Aboriginal culture.

"They buy Kangaroo tails for me to cook, I just love that" ~ patient quote

"Good. Out to Port Adelaide Art Gallery. All of us together, happy, talking, family connects" ~ patient quote

"The dialysis service here has been well executed, and I believe that it greatly benefits the residents. It reduces stress for them and is a great, friendly environment" ~ provider quote

"Services are easier to navigate in this environment, patients do not get lost here, whereas in hospital people are always getting lost and sometimes miss their appointments" ~ provider quote

The evidence is clear that when Aboriginal people have greater control, mastery and increased self-determination, it improves people's mental health and social and emotional wellbeing (9) and this has been the experience for patients receiving their care through this pilot model. Results of the evaluation indicate the number of dialysis treatments missed per week have significantly reduced, the model is not only improving patients' renal health, through clearing toxins, wastes and extra fluid and maintaining patients' blood pressure, these health improvements can be measured through increased time spent on dialysis treatment, ultimately having an impact on patient's overall health and wellbeing, combined with reducing hospitalisation and reducing risks of mortality.

Service provider experiences

Providers were asked to rate the effectiveness and quality of the Renal Dialysis Program at Kanggawodli. All providers agreed the service met or exceeded best-practice standards across a variety of areas including:

- Nutritional options for patients
- Access to clinical services such as specialists and medications
- Access to other services within Watto Purrunna Aboriginal Primary Health Care Services
- Access to other services outside of Watto Purrunna Aboriginal Primary Health Care Services
- Social and emotional wellbeing of patients
- Flexibility of dialysis treatment
- Empowerment and quality of life
- Rapport and communication between health providers and patients

Several providers believed that the service model provides the flexibility to provide patient-centred care that is not always possible in a hospital setting. Delivering care in a community setting provided an environment more focused on individual needs and care which is not always achievable in an acute setting.

"The set-up at Kanggawodli allows you to focus all attention on the patients you are caring for. As a clinician, I feel I have greater opportunity to get to know each individual and can work according to clinical guidelines" ~ provider quote

"Less time focused, more time here to engage with patients. The environment is set up to be more friendly for patients, less people in general and easier to engage" ~ provider quote

"As a long-term health professional providing renal services, I have never seen the benefits of a new model of care so quickly came to fruition with both patients and staff' ~ provider quote

Patient participation in dialysis treatment

Data collected on four Aboriginal patients over a previous six-month period indicated a total number of 298 treatments were scheduled, in which 15 dialysis sessions were lost and 32 sessions were shortened for these four patients. Furthermore, before implementation of the model, there was regular non-attendance to dialysis which resulted in an increase of these patients being admitted to hospital out of hours as a direct result of complications due to missed dialysis treatments.

Patient Story – Case Study

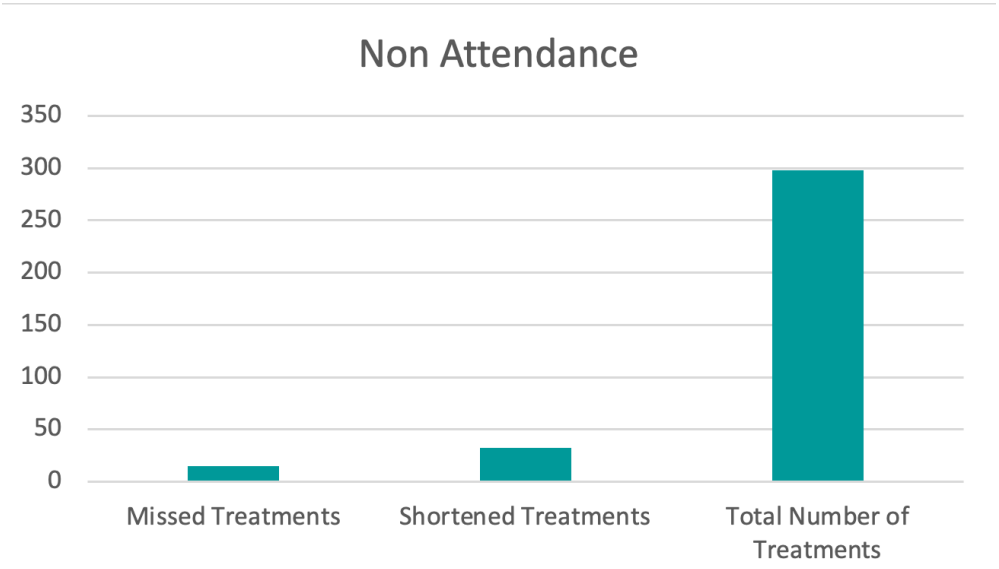
A 67-year-old Pitjantjatjara woman has been residing in Adelaide since 2018 due to dialysis requirements. As English is a second language, she would prefer to be back on Country but is not clinically stable enough for a permanent chair in a satellite unit. This woman has been dialysing in Royal Adelaide Hospital dialysis unit with co-morbidities and complex issues. An audit of the patients record indicated the following concerns for a three-month period.
Issues which commonly impacted her dialysis treatment were.

- Frequent complaints of cramp, headache, nausea, and dizziness during dialysis resulting in client coming off machine early and significant reduction in her dialysis treatment times. During this period client only completed 11/34 sessions.
- Often presented agitated and irritable and would refuse assessment which impeded clinical staff ability to correctly assess her.
- On many occasions became distressed and angry to the point of threatening her own safety and that of clinical staff while on the machine.
- Frequent transfers to ED for emergency assessment.
- A total of five dialysis sessions missed in this period

In August 2020, this woman commenced treatment at Kanggawodli. In the period from August to October 2020 there was significant improvement in several areas including:

- No complaints for agitation, cramp, headache, or nausea which impacted treatment duration.
- Nil agitation upon presentation to dialysis and full assessments enabled.
- Reduction of IBW from 60kg to 54kg and reduction in peripheral oedema.
- Only one missed treatment due to important art exhibition at APY Gallery.
- Client completed 28/30 sessions during this period and total dialysis session times increased from three hours maximum to regular four-hour sessions at patient's request as this made her 'feel better'.

During her time at Kanggawodli, she was able to access the GP, optometrist, ophthalmologist, podiatry, and the renal consultant on-site with support from the Aboriginal Health Practitioner. This led to other issues being identified such as the identification and treatment of cataracts. She has also been able to receive a new four-wheel walker through the service delivery at Kanggawodli.



The Kanggawodli dialysis enabled flexibility for individual dialysis treatments. This schedule was developed to improve participation in dialysis sessions for patients who had been identified as high risk and/or failing to meet their recommended clinical time on dialysis. If a patient was unable to attend their session, the model was designed to enable flexibility to suit individual needs.

After the first successful twelve months, sessions were increased to six days per week, doubling the capacity of dialysis treatments undertaken at Kanggawodli. Four-hour sessions are held twice per day resulting in full dialysis treatment each session for individual consumer.

All clinicians and health professionals interviewed clearly identified there was an increase in participation with patients meeting their minimum dialysis requirements due to the flexibility of the service including the ability engage with family and other residents while receiving treatment and to watch television.

"Having the unit at Kanggawodli allows patients far easier access to dialysis. In general, I feel that attendance in other services is also improving as patients become more educated about the potential consequences of missing sessions" ~ provider quote

"Increased health literacy with patients well informed about the risk factors for example: a healthy diet, impacts of sugary drinks, and being well equipped and having the ability to educate the next generation" ~ provider quote

"We've seen reduced numbers of people missing dialysis, seen much better engagement, and a lot of other problems being picked up and managed earlier, as well as much better engagement and with management of all of those problems being picked up" ~ provider quote

Reduced hospitalisation due to missed dialysis treatment

In the study group, hospital admissions in the six months prior to dialysis at Kanggawodli accounted for 35 occupied hospital bed days, which could be directly attributable to non-attendance to or shortening of dialysis. In the six months post commencing dialysis at Kanggawodli, occupied hospital bed days in the same group were significantly lower. 10 bed days could be attributed to either complications of dialysis, e.g. un-resolved hypertension or presenting with cardiac type chest pain requiring assessment at a tertiary hospital site.

Patient Story – Case Study

"A patient from a very remote community commenced dialysis in Adelaide in 2017. Patient really wanted a transplant to be able to return to their remote community. Had difficulty attending regular dialysis and other appointments due to transient housing and having no transport. Patient moved to Kanggawodli for accommodation and dialysis in 2020. The patient has been able to attend all appointments necessary and has not missed a dialysis session since. The patient has now been placed on transplant list in April 2022, gained independent housing & continued to present for dialysis at Kanggawodli with no missed sessions or appointments. Subsequently received a transplant this year September 2022 and is being supported for one-month post-transplant by Kanggawodli. Once well enough the patient will be able to return their remote community." *from patient case notes

Workforce skills and development - strengthened capacity of health professionals to deliver culturally responsive care

Operating under a cross-disciplinary staffing model of Clinical Nurse and Aboriginal Health Practitioner (AHP), staff retention and recruitment processes presented challenges. However, a cross-cultural Aboriginal and non-Aboriginal workforce supporting dialysis treatment was beneficial for building cultural capacity and two-way learning for Aboriginal Health Practitioners to learn to administer dialysis treatment, and to enhance the cultural capabilities of the non-Aboriginal health professional/nurse. Non-Aboriginal acute staff increased their understanding of the social and cultural determinants of health and this model improved their relationships with Aboriginal health providers, patients and increased their understanding of the multiple and complex challenges for patients and families, having to leave their communities to receive healthcare.

All patients interviewed had positive interactions with the AHP, with some indicating a stronger connection with the AHP by naming them in their interview.

> "Get to talk more like myself and be understood" ~ consumer response to receiving treatment from an AHP

Several providers shared their experience working in a community-based dialysis program. Non-Aboriginal clinicians felt their individual cultural awareness and knowledge increased by having the opportunity to work alongside Aboriginal and Torres Strait Islander patients and clinicians. One provider acknowledged the impact of working in this program was more beneficial to their individual practice than any training course they had previously attended.

> "My learning curve has been vertical, from a cultural perspective. Since being here, I would say my understanding of cultural requirements and needs has come on 1000-fold. I have done all the cultural learning courses, but it doesn't prepare you for what you're actually learning in this environment" ~ provider quote

The environment enabled service providers to build trusting relationships with their patients. Patients were empowered in the process and began reaching out for advice and support from the health professionals, which reflects the strong relationships that were built.

One provider commented on the two-way learning, that occurred naturally while working in this program. Providers were able to share knowledge and skills with one another to increase the overall knowledge and skills of the team providing care.

> "Very much enjoy working with Aboriginal health professionals, learn lots of culturally related information to improve my practice (and vice versa I hope)" ~ provider quote

Safe environment to train AHP to support community-based dialysis.

The implementation of the Kanggawodli Renal Dialysis Model required an initial period of training for the AHPs, but once this was completed AHPs were deployed to Kanggawodli to consolidate their learning in this unique environment. Their support for patients and the non-Aboriginal health care staff was invaluable, leading to strong working and social relationships within the service. Increasing the understanding of the scope of the AHP role, which is often poorly understood by health professionals, the model has provided not only invaluable knowledge of the AHP role, but also the scope of practice and cultural knowledge to providing comprehensive care to Aboriginal patients.

Future training of AHP's

The model created an ideal environment for future training opportunities for AHPs in a relaxed and safe environment, and in an Aboriginal space. Future work could include the development of a formalised training model, which recognises the significant contribution of AHPs, and becomes an AHP-led model of care for dialysis treatment and care whilst supporting an increased workforce. South Australia could lead the nation in the expansion of a model of this nature and train AHP's to support a state-wide and national expansion into the future.

Growing demand for community-based models

The success of this pilot model of care from an Aboriginal community perspective increased the community's expectations of what is possible for people living with end stage renal disease, in experiencing dialysis treatment in a culturally safe and welcoming environment. In turn, fostering community demand for a model of this nature has created opportunities for this type of model to be offered closer to home for Aboriginal people. This aligns with findings from Kidney Australia's consultations in 2020, identifying a need to ensure Aboriginal health professionals are trained to be able to provide dialysis services closer to home, with a significant demand and increasing need identified in regional and remote parts of SA (6).

Several providers and patients indicated there was an increase in requests to dialyse at Kanggawodli by other Aboriginal and/or Torres Strait Islander patients not currently involved in the program. When regular patients are unable to travel to Adelaide for their planned dialysis, other patients are given the opportunity to dialyse at Kanggawodli instead of the hospital. There is currently a waitlist of patients who have expressed a wish to dialyse at Kanggawodli. The success of the model provides an evidence base to support expansion of this model with a trained Aboriginal workforce to regional areas with high Aboriginal populations such as Port Augusta and Ceduna.

Service partnerships

The partnership between NALHN and CALHN was identified as an important part of success of this service contributing to increased efficiencies between the LHNs including reduced costs and productivities as well as building on the strengths of each LHN with NALHN's culturally responsive space and infrastructure through Kanggawodli with access to wrap-around services and CALHN's specialised services and referral pathways. This pilot model has built relationships between Kanggawodli staff and other LHN staff, particularly dialysis providers, and has significantly increased flexibility for clients through patient centred care. It has increased the cultural responsiveness examples including increased knowledge of and access to interpreter services for Aboriginal people with English being their second language, tailoring health literacy and education to the patient's context, mitigating misinformation, which often occurs when information is provided in written form and not well understood, combined with being presented in English.

Wrap-around services

Watto Purrunna Aboriginal Primary Health Care Services provide regular in-house services to Kanggawodli residents, including access to social and emotional wellbeing staff, Diabetes Nurse Educators, Dietitians, Podiatrists and General Practitioners services. Watto Purrunna provide opportunistic screening to all residents and this was extended to the patients in the Renal Dialysis Program. Providing services onsite increased people's access to services for which they would normally need to travel to other locations. This includes nephrology clinics and social and emotional wellbeing services which are provided on-site on a regular basis. This allows for the early detection and management of other health issues that would otherwise go untreated. Evidence of this was reported by providers and saw an increase in healthcare appointments, specifically with the nephrologist being run onsite on a regular basis, which provides increased access for patients and reduced the barrier of having to navigate transport.

Continuum of care – communication

During the pilot period it was noted that communication between primary, acute, and allied health services was greatly improved leading to early identification of potential issues and early referral and intervention as required. For example, a consumer in workup for transplant was referred to a Diabetes Nurse Educator and seen within 48 hours. Assistance to attend transplant work-up appointments ensured that one consumer completed the work-up in six months, which would routinely take up to two years to complete. The positive effects of this collaboration continue to be felt within the consumer group.

Efficiencies and cost savings

When comparing the financial impact to the health system in the six month period prior to dialysis being available at Kanggawodli two main trends were noted. Costs associated with the patient's receiving dialysis at Kanggawodli with SA Ambulance Services and/or the Royal Flying Doctor Service (RFDS) amounted to approximately $23,000 and occupied hospital bed days amounted to approximately $105,000 totalling $128,000. Comparing this to the first six months of the pilot period, SAAS/RFDS costs reduced to approximately $5,000 and occupied hospital bed days costs reduced to $30,000, resulting in savings of approximately $93,000. This does not include savings in transportation costs associated in attended dialysis appointments. In addition, baseline information on non-attendance to dialysis indicated that 14 hospital presentations were required during the six months period prior to the new model of care.

In contrast, during the six-month trial period, there were cost savings estimated at $93,000 which takes into consideration reduction of SA Ambulance callouts and occupied bed days.

Therefore, the Kanggawodli model reduced the average length of stay for patients who ended up being hospitalised. It is important to note this is for four (4) patients over six-month period.

The cost of transplantation compared to dialysis and associated service provision is $80,000 per year compared to kidney transplantation cost of $60,000.

Unintended consequences

The model provided the opportunity to increase wrap-around services to those patients receiving their dialysis at Kanggawodli. Greater engagement with primary health care services led to fewer hospital presentations and a reduced workload for renal specialists at acute centres. Onsite Dietitian, Diabetes Nurse Educator, Podiatrist, Social Worker, GP services, including increased access to ophthalmology, audiology and dental services available through community partnerships. One such collaboration led to the discovery of cataracts and early intervention by the ophthalmology department at the Royal Adelaide Hospital. Systemic gaps identified through wrap-around services, and through increased referral and follow-up care contributed to a reduction in hospitalisation and improved hospital avoidance and admission. With Kanggawodli providing stable accommodation, combined with opportunistic screening provided patients with access to services they otherwise would not have engaged. Often these health needs would not be picked up through standard dialysis appointments and may not have been picked up for long periods of time, potentially resulting in lengthy hospitalisations, however, through this model, specific complications and health issues were being actively managed and treated.

Patients received a wider range of services to support them in managing their type 2 diabetes and other co-morbidities, for example: podiatry services, ophthalmology, diabetic nurse educators and dietitian support. One consumer successfully returned to Country on two occasions to visit family. Multiple patients have been able to have treatment at Kanggawodli while waiting accommodation in the metropolitan area.

The model also saw reduced costs associated with SA Ambulance callouts, and reduced number of presentations to hospitals for this patient cohort.

Patients on transplant list

Two patients were assessed for transplant in a small space of time, with one being accepted onto the transplant waiting list and the other finalising some investigations. Three other patients completed much of their workup for transplant assessment while waiting for dialysis chairs in their home community to be available. The time from referral to acceptance for these patients was greatly reduced due to the support and assistance provided by Kanggawodli.

Reformation of dialysis schedule

Patients designed their own dialysis schedule to help meet their social and community needs. For example, several patients are well known artists and regularly attended the APY Gallery. Being able to have a dialysis schedule helped meet their needs to attend the gallery to paint, attend exhibitions and other community engagements, and increased their control over their lives resulting in positive effects on their mental health and wellbeing.

Recognition of success

The Kangawoodli model has already received acknowledgement of its success in the short time it has been operating. There have been several accolades received including:

- Finalist Excellence in Aboriginal Health Care Award in the NALHN Staff Awards
- Finalist Excellence in Innovation in Aboriginal Health Award in the SA Health Awards
- Profile article on ABC News (10)

Dialysis trial focusing on culture boosts health options for Indigenous patients

By Patrick Martin

Posted Thu 26 Nov 2020 at 5:44am

Donald 'Bluey' Roberts had been undergoing dialysis treatment in Adelaide. *(ABC News: Patrick Martin)*

Next Steps

Evaluation follow up

REAG will continue to meet post-implementation to ensure there are mechanisms to provide feedback on project outcomes to the community and other key stakeholders. The REAG will work towards supporting the development of a sustainability plan based on the learnings of the project; advocate across the system and contribute to publications, including scientific manuscripts to ensure the findings of the pilot model are contributing to the body of evidence. The REAG will identifying potential future research and funding opportunities to support and inform policy decisions.

Recommendations:

The evaluation has produced a series of recommendations for future consideration by both NALHN and CALHN, and the broader Health system.

The recommendations are as follows:

1. The model should be supported by both CALHN and NALHN to ensure its ongoing sustainability
2. A business case should be led NALHN and CALHN and developed in partnership with the Senior Officers Group in Aboriginal Health to support the expansion of Kanggawodli to meet growing community demand for the model.

    - The business case should consider:
        - Increase hours of dialysis service to meet demand
        - Increase the trained Aboriginal workforce to meet the demand and maintain cultural integrity of the program by (a minimum of 2 male and female AHPs to maintain and expand model)
        - Establish and identify AHPs to join a training pool to increase the number of AHPs who are trained in dialysis.
        - Increase the capacity of renal nursing staff to support expansion of the mode (a minimum of 4)
        - Develop a training model for other AHP's outside of CALHN and NALHN to support services closer to home for patients

3. Advocate and support Country LHNs and ACCHO services in the expansion of a community-based dialysis model of care into regional centres such as Port Augusta and Ceduna.
4. NALHN and CALHN to work in collaboration with the Aboriginal Health Equity Theme, SAHMRI and University of Adelaide to progress a funding proposal to develop the Aboriginal Health Practitioner training model, and to formally implement and evaluate across South Australia. Similar to the Diabetes Workforce model being led by Associate Professor Odette Pearson.

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For more information

Website: www.aboriginalhealthconsortium.org
Facebook: facebook.com/SAAboriginalChronicDiseaseConsortium/
Email: theconsortium@sahmri.com
Phone: 08 8128 4893