Deloitte.

IUIH Evaluation

Evaluation of the Institute for Urban Indigenous Health.

January 2021

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"Rather than giving our people a compass to navigate their way across a fragmented health system across SEQ, we wanted to ensure that we brought all the disparate strands of funding and programs together into a coherent strategy, to ensure that it was easy for Aboriginal and Torres Strait Islander people to access the care that they needed in a manner that addressed their cultural needs as well."

Adrian Carson
CEO, Institute for Urban Indigenous Health

Executive summary.

The Institute for Urban Indigenous Health (IUIH) is a Community Controlled Health Service (CCHS) that leads the planning, development and delivery of health, family and social support services to First Nations people resident within South East Queensland (SEQ). The model is defined by its 'systems' approach to care. The service is a network structure comprising five CCHSs across the SEQ region that together reach 36% of the First Nations population in Queensland. This is compared with the latest available national data which indicate that 26% of First Nations people access community-controlled health services across all major cities. Within this network, IUIH plays three roles in order to improve and integrate urban Indigenous health services. These include: a governing body, a connector to mainstream services – including tertiary care, and service provider. In this report, the former two functions are captured under the term 'backbone' of the IUIH model. The presence of an Indigenous led connected system – one which offers interconnectivity within primary care and then connectivity to tertiary care and even further into community care – has a unique capacity to meet 'whole of person' needs

The health system in Queensland is currently going through a shift, that was accelerated by COVID-19. Some of these reforms include the McGowen governance review, the reform planning group, funding reform, virtual healthcare, and an increased focus across the system on coordination. This in combination with the recently passed legislation focused on equity has shown an increased focus on improving health outcomes for First Nations people. The IUIH System of Care is aligned with a number of these new priorities.

Deloitte was engaged by Queensland Health to evaluate the IUIH model with a specific focus on three programmatic case studies. These programs – operated by IUIH through its network – have been selected as a way to consider the performance of IUIH across its roles as service provider, governor and connector to mainstream services.

The IUIH Value Proposition

The value proposition of the IUIH approach includes – but extends beyond –its service delivery role and into the value created by bringing together a network of CCHSs and coordinating service delivery with mainstream services. It is underpinned by a philosophy of 'no wrong door' and a 'one stop shop' philosophy of care. As a whole, the model seeks to drive value creation for consumers, the health system and the broader economy.

In 2014, a research paper was published by Doran et al which sought to monetise the value of the IUIH regionalised approach to care. The paper considers the monetised value of avoided time in hospital (driven through improved access to primary care), the monetised value of savings to the tertiary system and increased labour market participation. This Deloitte report did not alter or add to this Doran et al (2014) methodology as a cost of illness study was out of scope. However, the calculations were contemporised with current IUIH input figures and tertiary health system costs. These updates found that the return to every dollar invested in IUIH to be $1.54. That is, for every dollar invested in IUIH, a contemporised version of the Doran et al estimates predicts a $1.54 return. The direct value of returns to the health system in Queensland comprised within this model relates to the value of potentially preventable hospitalisations which is estimated to equal $54 million.

The Doran et al (2014) methodology has the potential to over ascribe some benefits to IUIH owing to its top down approach. However, equally, it potentially underestimates benefits garnered through IUIH's regionalised approach to care. Such benefits are best understood at the programmatic level and as such, are best considered through case studies of existing IUIH programs.

Learnings from case studies

While this report did not evaluate the whole IUIH model, in order to gain a deeper understanding of the IUIH model and the critical success factors, three of IUIH's programs were analysed: the IUIH Cataract Pathway, IUIH Connect and Birthing in Our Communities (BiOC)

	Cataract Pathway	IUIH Connect	Birthing in Our Communities (BiOC)
Description of program	IUIH delivers wrap-around 'at the elbow' support for First Nations people from identification to post-operative care at no additional cost to the system	A coordinated and integrated approach to healthcare for First Nations people. The program provides a hospital to community interface and linking patients to culturally appropriate primary care and social support services.	An Indigenous-specific maternal and infant health service that is delivered through a partnership between ATSICHS Brisbane, IUIH and Mater Mothers.
Value and key statistics	Over 350 surgeries have been performed with fewer than 3% failing to attend. IUIH has also shown previously that they can negotiate with private providers to purchase the surgery at $1,471 (in 2015) compared to the current price of $3,881 using Surgery Connect.	IUIH Connect now has a network of 64 referring organisations and 76 connecting organisations. 53% of referrals are received from hospitals and community. The program provides wrap around care to navigate multiple complex systems.	Reduced the preterm birth rate by 50% Increased the number of mothers who receive 5 or more antenatal visits to 90% Reduced the rate of low birth weight to 6% Reduced admissions to neonatal intensive care
Insights	The program has improved equity of access by identifying unmet need who are in the IUIH System of Care The pathway provides a safe entry and exit to acute care where patients feel supported throughout the whole journey improving the patient experience.	The program provides specific additional support and referrals to primary health care/other services in a culturally safe environment The program reduces the readmission rate thereby keeping patients out of the acute hospital system.	BiOC represents a working model of joint care and partnership that is collocated. It also provides an example of a successful relationship between primary and tertiary care. The model also represents a model of shared care for First Nations women
Critical success factors	**Relationships.** IUIH's cataract pathway utilises private hospitals which enables a bulk approach to surgery which enables social support to be provided to patients **Demand profile.** The cataract pathways success is contingent on the type of surgery selected. Cataracts have a high no show rate whilst having an appropriate wait list time.	**Relationships.** IUIH Connect is contingent on successful joined-up referral pathways both in and out **Coordination.** The program coordinates necessary support for the patient including clinical, equipment and education support **Service provision.** Outreach workers assess patients who may require coordination support	**Governance**. BiOC has had strong and shared clinical, corporate and cultural goverance from its inception enabling the shared model of care. **Relationships.** Success for the program came from having dedicated midwives who work both in the hub and in the Mater thereby providing continuity of care throughout pregnancy, birthing and early post-natal period.
Opportunities going forward	There is an opportunity to expand the IUIH approach to other elective surgeries which may have a high no show rate. There is also an opportunity surrounding what type of support/service is purchased.	The intent of IUIH Connect is that it should be a push model with hospitals 'pushing' patients out of the hospital to IUIH, however it currently operates as a pull model with IUIH identifying need and 'pulling' the patients out. This has both policy and purchasing implications.	There is an opportunity to implement this program in other regions where there is a sophisticated CCHS that has established links to an HHS (or a HHS that is willing to partner) and has already established specialist services.

Observations and key considerations for SEQ

IUIH has had demonstrated success within parts of SEQ with access to 36% of the First Nations population through its established network. However, the success of its various programs is contingent on a number of critical success factors. These success factors are listed and discussed below.

Target area considerations: readiness and need

Local leaders. In establishing IUIH, there was a readiness of local regional leadership to embark upon a networked approach to care at the CCHS level. Over time, IUIH has established relationships with key leaders within HHSs who are committed to exploring a partnership approach in order to improve health outcomes. However, this process has taken significant time and has not been without its challenges.

Local service environment. This readiness also relates to not just the relationship between HHSs and CCHSs but also between the different CCHSs in the region. IUIH's success has been as a result of the different CCHSs in the region being committed to a network approach across SEQ. This network approach requires a consistent model of care and data sharing across the region.

The role of greenfield vs brownfield expansion has also been critical when examining IUIH's current programs, their transferability and their success. While the IUIH Connect was originally a Metro North program (therefore a brownfield program although IUIH has expanded the program significantly), BiOC and the cataract pathway were designed internally and developed as proof of concept programs. This enabled IUIH to implement their model of care without any resistance from existing staff about entrenched ways of working. While there have still been issues during the implementation of these programs, the greenfield site approach has made this journey easier. This therefore should be considered for transferability within the SEQ corner.

When considering the transferability of the IUIH model or any of its programs, there must also be an identification of need and ensuring that services will not be duplicated. Whilst improving equity of access and identifying unmet demand is an important aspect of this, transferability must also be considered in terms of where there are large First Nations populations in Queensland.

Service level considerations: identity, connection and funding

Identity and structure. IUIH is a network coordinator, a connector to mainstream services, and a service provider – at times, a provider of last resort. Through their service provision, IUIH often supports member CCHSs in setting up new clinics and running proof of concept programs (e.g. BiOC). The success of the organisation across these three functions is contingent on the strength of its foundations or 'backbone'. These foundational factors include governance (clinical and corporate), the system of care, the networked approach with other health and referral services within the area, data management, brand and leadership. As a result of this strong foundation, IUIH as a model has the capacity to drive value beyond a basic summation of several CCHSs. That is the value of the IUIH system of care is stronger than the sum of its CCHS parts.

IUIH is an amalgam of a number of CCHSs alongside a supporting centralised governance function. This is not simply a structural feature of the model, rather, it is a demonstration of shared values, trust and relationships across a series of organisations which would otherwise operate independently. Indeed, there are very few examples of such a deliberate and region-wide networking of CCHSs to be found across Australia and as such, its existence is considered to be a result of the strength of IUIH's localised leadership and governance.

Connection to service. IUIH further has a strong local presence and connection to mainstream services within the SEQ region. These relationships enable the organisation to support individuals to navigate through the health and community service systems to holistically address their needs. Relationships extend bridging between primary care provided at the CCHS level to mainstream tertiary services and equally bridging to community services – and between tertiary and community services (through IUIH Connect). These relationships are central to the delivery of a large range of program offerings including all three examples highlighted as case studies in this paper.

Connection to community. Just as the success of the IUIH model in SEQ has been contingent on the organisation's connection to the broader health system, it is equally contingent on the organisation's connection with the local community. 36% of the total First Nations population in the SEQ region currently access services through the IUIH network. IUIH performed well at improving equity of access within the community and identifying priority areas that may not be apparent on HHS waiting lists. This identification of priority areas can particularly be seen in the cataract pathway where IUIH has identified patients who may previously not have gone to see an optometrist. Without this intervention, it is unlikely these patients would have made it onto a waitlist. By identifying this unmet need, IUIH has reduced demand on the system since patients can be treated earlier.

Funding streams. The approach and the generation of multiple funding streams is crucial for the operation and success of IUIH in SEQ. Queensland Health currently provides $1.2million per annum for the backbone of IUIH with additional funding provided for the some of the service provision and programs that IUIH operate. IUIH also receive funding from a range of other government departments such as the Australian Government Department of Health, and the Queensland Government Department of Communities. These funding sources in addition to PHN commissioning funding and other grants enable IUIH to continuously deliver their different programs.

However, whilst IUIH receive this funding, their success can be partially attributed to the optimisation of funding sources and generating income through the Medicare Benefits Schedule (MBS) and subsidising programs through funding sources such as the Fred Hollows foundation, revenue from Deadly choices licensing and other self-generated income sources. Through their network IUIH on average generates $387 of annual Medicare income per client which is significantly more than the national Medicare expenditure rate of $174 per patient. IUIH reinvest these additional revenue sources into their programs which may not receive funding to cover all costs.

This optimisation of funding has also reduced the reliance on grants and government funding which has increased the sustainability and viability of IUIH. It has also enabled IUIH to implement new programs which may not initially have received funding (e.g. IUIH Cataract Pathway). However, this has often led to uncertainty surrounding recurrent funding for these programs. This 'profit for purpose' approach has been critical in the success of IUIH as a way of expanding its reach and implementing programs that target specific health needs of First Nations people in SEQ.

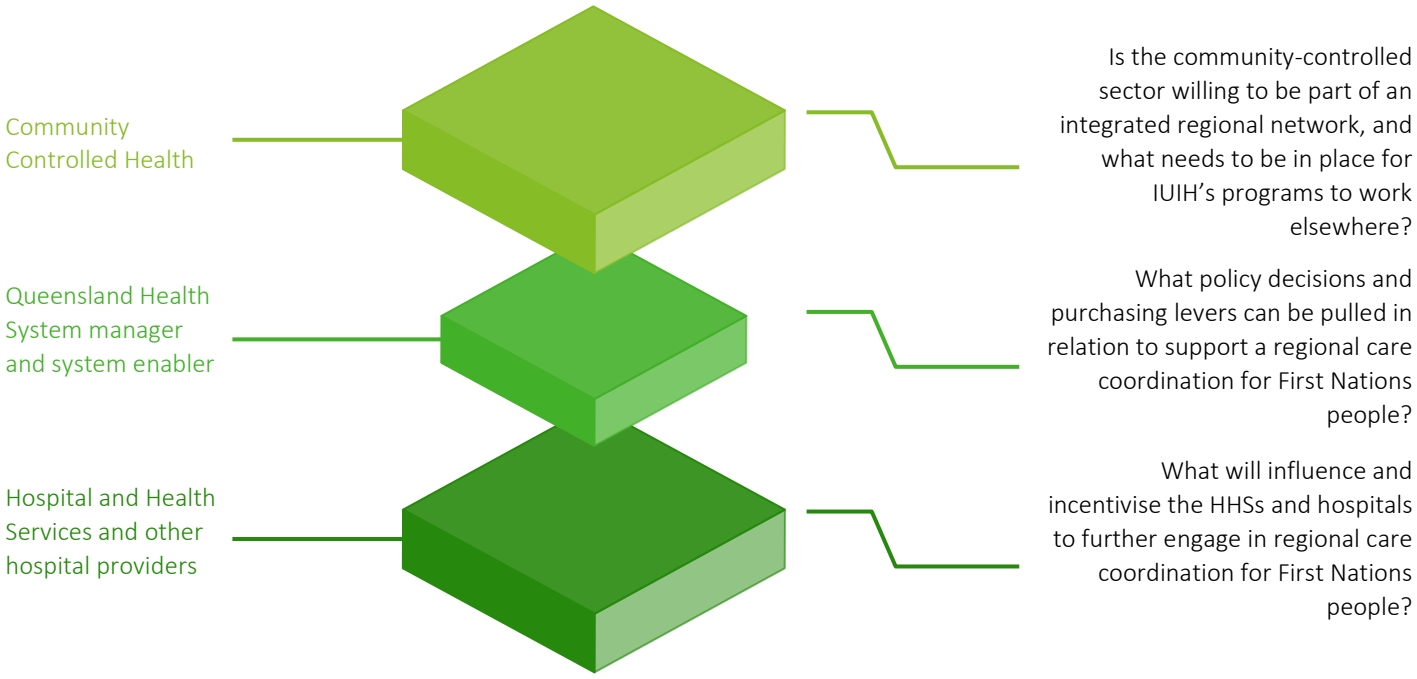
Critical success factors for transferability to other regions

IUIH has had demonstrated success within parts of SEQ, however the success of programs expanding to other regions within Queensland is contingent on a number of critical success factors. Target expansion areas must exhibit a level of need, system readiness and an acceptance of doing things differently. Care coordination for First Nations people is a priority across Queensland, however the implementation of models similar to IUIH need to be tailored for local communities, providers and need.

Equally, the IUIH model is built upon a history of localised network and relationship development. These networks and relationships are guarded through an established organisational backbone of strong leadership, robust governance (clinical and corporate), optimised funding and shared data and ICT infrastructure. Successful transfer of the value of IUIH to other areas cannot be achieved through careless replication, rather, it requires deliberate consideration of critical success factors.

In considering the critical success factors for transferability, there are a number of key stakeholder groups who have different perspectives and decision-making power based on their position (e.g. CCHS, HHS, PHN's, primary providers etc.). These stakeholder groups are important when discussing the future of IUIH going forward. When considering how the IUIH model intersects with the acute system, there are three key stakeholders. These stakeholders and associated questions are shown in Figure E1.

Figure E1: Key stakeholders to consider for transferability



The IUIH approach is defined by a unique set of characteristics each of which are critical to the realisation of successes for the consumer, health system and wider economy. These enablers of success are important to discuss for two reasons. First, they determine the key areas for future investment to drive continued success of the organisation. Second, they signal the factors which need to be in place for replicating success in other programs or indeed, in considering expansion of the model to other areas. These enablers and the importance of these going forward is detailed below.

Target area considerations: readiness and need

Local leaders. Readiness of local regional leadership, including the community-controlled sector, in order to provide a tailored and partnership approach is required to transfer the IUIH model to other regions. Without key leaders within HHSs and CCHSs being willing and committed to exploring a partnership approach in order to improve health outcomes, the implementation of the different programs will not be successful. However, it must be noted that this process should not be rushed and often takes time in order to build trust between the different parties.

Local service environment. This readiness also relates to not just the relationship between HHSs and CCHSs but also between the different CCHSs in the region. Not all regions will have local services with the same willingness or capacity to join in a functional network. Not all regions will have a natural lead organisation or be open to the introduction of a new lead organisation. Some regions may have existing funded services which may view the introduction of such a network as competition.

When considering the transferability of the IUIH model or any of its programs, there must also be an identification of need and ensuring that services will not be duplicated. Whilst improving equity of access and identifying unmet demand is an important aspect of this, transferability must also be considered in terms of where there are large First Nations populations in Queensland.

Service level considerations: identity, connection and funding

Identity and structure. In considering transfer of the organisation to a new region, there is a need to consider what aspects of this foundation (governance, system of care, networked approach, data management, brand and leadership) are readily transferred and what aspects must be built from the ground up – with reference to the local service provider environment and local demand profiles.

Connection to service. Relationships extend bridging between primary care provided at the CCHS level to mainstream tertiary services and equally bridging to community services – and between tertiary and community services. These relationships are central to the delivery of a large range of program offerings including all three examples highlighted as case studies in this paper. Such relationships would need to be forged and strengthened in target expansion areas to replicate the successes of IUIH in SEQ.

Connection to community. The successful transfer of a model such as the IUIH model into other regions will depend on the organisation's relationship to community and its capacity to reach individuals with unmet need. For this reason alone, a carbon replication of the IUIH model without reference to local community needs and relationships would be unlikely to be successful.

Funding streams. The optimisation of funding is critical to increasing the sustainability and viability of an IUIH model. By optimising funding from State, Federal and other income streams, IUIH has been able to expand its reach and implement programs that target specific health needs which may not initially have received funding.

In summary

This paper considered the value of IUIH and potential to expand and transfer the model through a consideration of three IUIH programs. In summary, the paper finds that the IUIH model drives value through its role as a centralised network, connection facilitator of Community Controlled Health Services (CCHSs) within the SEQ region and its role as a service provider.

Case studies

The three different case studies (BiOC, IUIH Connect, Cataract Pathway) all exemplified the importance of the enabling infrastructure of IUIH. The programs have shown improved health outcomes and increased access to health services for First Nations people in SEQ. They also demonstrated the importance of cultural capability and culturally appropriate care. There are numerous opportunities to expand the scope and reach of these programs, with this already beginning in relation to BiOC.

Implications for SEQ

Whilst the ingredients for success in SEQ have been put in place by both IUIH and Queensland, there is further opportunity to consider joint priorities (such as elective surgery). IUIH has access to 36% of the First Nations population through its established network structure, however there are two main elements that need to be considered to ensure IUIH's continued success. There are a number of sustainability considerations around program funding for IUIH's programs, with certain programs having an end date for funding (e.g. IUIH Connect Plus). Some of the programs also currently operate under a pull model rather than a push model for First Nations patients, therefore there is an opportunity to engage with stakeholders to understand to remove barriers and create incentives, in order to become an push model and improve health outcomes for First Nations people in SEQ.

Transferability to other regions

Successful transfer of the IUIH model beyond the SEQ catchment is contingent on a number of environmental and service level factors. At the level of the region of interest, there must be a readiness to engage with a regional model – shared across leadership and community – and, enabling features of the service environment. A simple transfer of the IUIH approach across boundaries is unlikely to be successful as the model is defined by its capacity to respond and address localised need through trust and connection to community and providers.

This study.

The Institute for Urban Indigenous Health (IUIH) is a regional, integrated network of Aboriginal Community Controlled Health Services (CCHSs) that drives the planning, development and delivery of health and wellbeing services, training and employment programs and connection to social support services for First Nations people resident in South East Queensland (SEQ). Care is provided through a network of five CCHSs (four member organisations) and across 22 sites.

IUIH's systemic approach to providing targeted Indigenous care across a region in many ways provides a unique solution to the access barriers faced by First Nations people in accessing care. The IUIH system of care seeks to target the multitude of social determinants of health. Equally, the organisation has remained active in contribution to mainstream policy and seeks to strengthen linkages with mainstream systems rather than duplicate services.

Queensland Health is currently moving to a networked approach to care, with the "Advice on Queensland Health's governance framework" in 2019 recommending that Queensland Health should move to a 'networked' system with those in leadership positions in the devolved governance model taking greater responsibility and accountability for their roles. This move to a network model is promoting integrated care across the system between different organisations.

As Queensland Health considers such models, it is timely to conduct a review of IUIH – as a mature organisation defined by its capacity to provide a networked approach to care.

Scope

The purpose of this paper is to investigate the value of the system of care approach adopted by IUIH in providing care to First Nations people based within a region. Further, the study considers the key enablers of this value and considers the necessary conditions for effective transfer of such a regional approach to other regions outside of SEQ.

Approach

Deloitte has been engaged by Queensland Health to complete this review. The review utilises the following methodologies to address the scope of this study:

- Meta-analysis, research on IUIH. A critical review of papers published considering the value and key enablers of the IUIH system of care model. Where practical, research is updated with current data to allow for a contemporary consideration and interpretation of the findings.
- Literature scan. The IUIH targeted research is considered in conjunction with findings from a targeted literature scan considering the value of the various defining aspects of the IUIH approach. Specifically, the Indigenous-led design of the program, the focus of the program on First Nations definitions and determinants of health (in comparison to mainstream approaches), and, known outcomes relating to the CCHS approach to healthcare.
- Case study research. The value of the IUIH system of care approach is then practically considered from a 'bottom-up' style case study approach. Three case studies are reviewed as part of this paper – the IUIH Cataract Pathway, IUIH Connect and Birthing in our Communities (BiOC). Where practical, data is utilised to demonstrate the value of the IUIH system of care approach as demonstrated within these case studies.

The study was conducted drawing on desktop research and literature, through analysis of available and relevant IUIH service data and with the inputs of key stakeholders through a series of group discussions and a facilitated three-hour workshop.

This paper presents the findings of the review. Specifically, this paper is structured as follows:

- About IUIH. In this chapter, we outline in brief the IUIH model of care and the region which it currently services. A program logic – that is, a theoretical description of how inputs and enablers of IUIH are intended to translate to impact and outcomes – is presented.
- Inputs and enablers. In this chapter we present key inputs and enablers of the IUIH model of care.
- The value of IUIH. In this chapter, we describe – at an organisational level – the evidence of outcomes and impact across the domains of consumer, health system and broader economy. Where appropriate, benefit estimates are contemporised using current data.
- Demonstrating benefits: case studies. Three case studies are used to detail the value of the IUIH system of care approach: IUIH Cataract Pathway, IUIH Connect and BiOC.
- Findings. A summary of key findings from the review.

About IUIH.

IUIH delivers services through a regionally integrated model of comprehensive and culturally appropriate primary care in south east Queensland.

IUIH was established in 2009 as a strategic response to the significant growth and geographic dispersal of Indigenous people within the SEQ region. First Nations people in the SEQ account for 38% of Queensland's, and 10% of Australia's total First Nations population. IUIH was created as the peak body of a regional network of member Aboriginal and Torres Strait Islander Community Controlled Health Services (CCHSs). It was created to drive the development and implementation of transformational change across the region for Indigenous health.

IUIH delivers services through a regionally integrated model of expanded comprehensive primary care services. IUIH in combination with member services provide culturally appropriate care across the regional south east corner regional footprint. The CCHSs who are part of this network include:

Figure 1: IUIH network of clinics

Kalwun Health Service: which provides primary health care services on the Gold Coast. This includes clinics at Coomera, Miami and Bilinga.

Yulu-Burri-Ba Health Service: which services the Bayside region. This includes clinics at Wynnum, Capalaba and Stradbroke Island.

Moreton Aboriginal and Torres Strait Islander Health Service: which is operated by IUIH and provides services on the North side of Brisbane and the Moreton bay area. This includes clinics at Caboolture, Deception Bay, Strathpine, Margate and Morayfield. IUIH also operates a clinic at Goodna.

ATSICHS Brisbane: which services the greater Brisbane area. This includes clinics at Loganlea, Logan (including Logan Mums & Bubs), Northgate, Browns Plains and Woolloongabba

Kambu Medical Service: which provides services for the West Moreton and Lockyer Valley regions. This includes clinics at Booval, Laidley, and Ipswich.

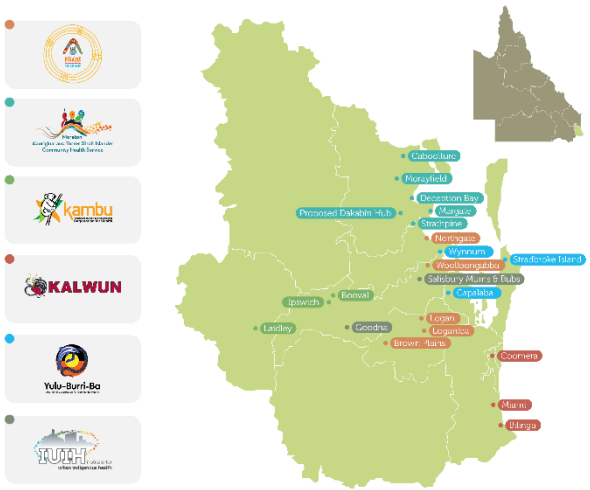
This network approach can be seen in Figure 1 which also demonstrates IUIH's coverage across SEQ. The location of these services is linked to where there is a high proportion of First Nations people therefore reducing the distance patients have to travel to access services. IUIH is now recognised as the largest CCHS (in terms of client base) and one of the largest community health services (including mainstream services) in Australia[1].

[1] Turner, Lyle, et al. "Building a regional health ecosystem: a case study of the Institute of Urban Indigenous Health and its System of Care." *Australian Journal of Primary Health* 25.5 (2019): 424-429.

Regional profile

SEQ is one of the fastest growing areas in Australia with the south-east corner accounting for nearly 90% of Queensland's population growth in 2017-18. SEQ has the largest and fastest growing indigenous community in Australia with it expected by 2031, for this population to exceed 130,000.

Figure 2: IUIH network coverage in South East Queensland

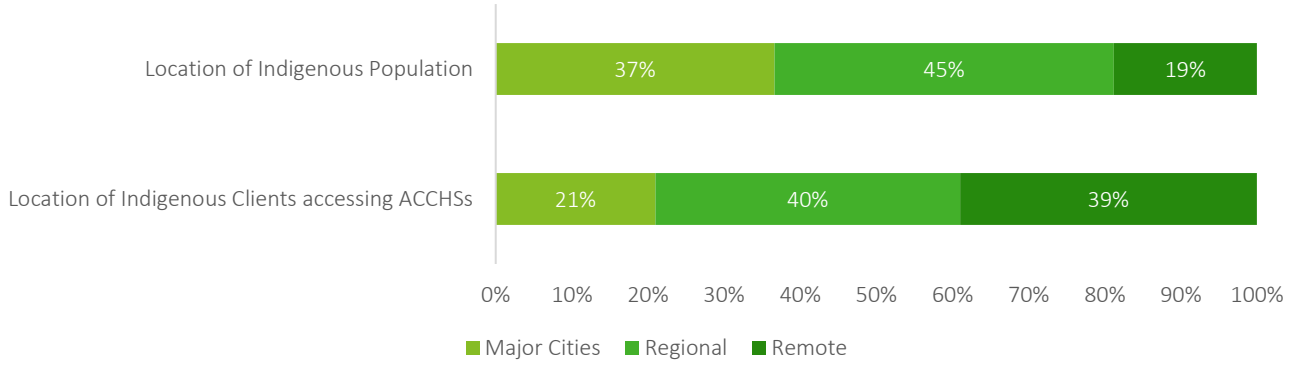


Whilst there is a common misconception that First Nations people in rural and remote areas have worse health outcomes than those in urban areas due to the perceived ease of access, it has been shown that this conception is wrong with the bulk of total First Nations burden of disease (73%) actually occurring in urban areas. The majority (74%) of the health gap between mainstream and First Nations people also occurs in urban areas. Whilst these numbers are national figures, it has been shown that 76% of the total Indigenous burden of disease in Queensland is also in urban areas[2].

The Health Adjusted Life Expectancy (HALE) demonstrates that First Nations Queenslanders living in cities have a HALE Gap that is 1.5 times that of those living in remote areas (11.6-year gap vs 6.7-year gap). This shows that even though there is a view that those in urban areas live in closer proximity to mainstream health services this has not correlated into improved health outcomes which can be attributed to the lack of culturally appropriate care, the cost of healthcare, availability of transport and a range of other factors.

This gap can be partially attributed to the fact that compared to CCHSs in remote areas which reach 97% of their potential population, CCHSs only reach 26% of Indigenous people living in major cities. Whilst it is anticipated that some First Nations people are seeking their healthcare through the mainstream system, it is anticipated that there is a large volume of urban residents not engaging with the system at all and therefore only presenting when they have critical acute conditions. A breakdown of this access can be seen in Figure 3.

Figure 3: Percentage of regular Indigenous clients accessing CCHSs, by location (2015)



This is also significantly below the national average which shows that CCHSs reach 46% of their potential population overall. It was shown that First Nations people living in non-remote areas were more likely to not seek care across all healthcare types (e.g. GPs, dentists, hospital etc.) at a rate of 32% to 22%. The reasoning for not seeking care included the cost (and associated costs), cultural appropriateness, wait times and transport. This lower rate of access combined with the worse health outcomes in urban areas demonstrates that access to culturally appropriate integrated primary health care services is a crucial part of the health pathway for First Nations people in urban areas.

[2] AIHW, 2016. Australian Burden of Disease Study: Impact and causes of illness and death in Aboriginal and Torres Strait Islander people 2011 cited in Report of Nous Review of IUIH

The IUIH System of Care

The IUIH model operates through a networked approach and focuses on not just the physical health of the individual but also the social, emotional and cultural wellbeing of the patient and their community. The IUIH system of care is based on targeting the social determinants of health whilst also simultaneously influencing mainstream policy and strengthening linkages with mainstream service systems.

The system of care was originally influenced by the Urban Indian Health Institute (UIHI) which was a division of the Seattle Indian Health Board. The Institute was leading the way in research and data for urban American Indian and Alaska Native Communities which enabled services to improve the quality of the services delivered and understand the population they served. Based on this, and with initial funding from the Australian government, the initial business case for IUIH set out four strategies in order to achieve equitable health outcomes for urban First Nations people. These four strategies are shown below in Figure 4.

Figure 4: Initial IUIH strategies for achieving equitable health outcomes

SERVICE REACH

Improve primary health care delivery to urban areas that have a high concentration of First Nations people.

ACCESS AND PARTICIPATION RATES

Increase access to health services and participation rates to improve health outcomes.

INCOME GENERATION

Maximise income generation opportunities available through MBS items for reinvestment into additional services.

WORKFORCE DEVELOPMENT

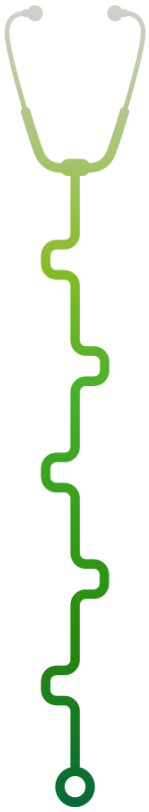
Develop and upskill the health workforce to provide culturally appropriate services.

From 2011, the Queensland Government has contributed $1.2 million per annum towards the core operational costs of IUIH. This was vital for financial viability and enabled the core funding for key operations and personnel during implementation. Through the implementation process, IUIH made a conscious decision to seek a lower throughput model in order to ensure a consistently high quality of clinical care to their patients. However, while they chose a lower throughput model, they also pursued a more commercially efficient model than most CCHSs in order to be sustainable and provide quality services. The pursuit of the 'profit for purpose' model supports the provision of the integrated model across the network. This model also reduces grant dependence, enables the establishment and expansion of programs not funded by government, and supports the drive to create a truly First Nations led and determined service.

The $1.2 million per annum from Queensland Health pays for the core IUIH model which includes functions such as leadership, governance, data, HR/finance systems, and regional coordination (planning, performance etc.). These functions which form the 'backbone' of IUIH are critical in ensuring the IUIH system of care can be delivered.

The introduction of a consistent model of care, systems and processes across the CCHSs within the network was a key element of the IUIH model to enable a regional approach of comprehensive health services. The integrated approach at a local, system and community level enables the "one-stop-shop" approach for clients. IUIH identified the system of care as encompassing seven key elements as shown in Figure 5.

Figure 5: Key features of IUIH's system of care



Data planning and continuous quality improvement – including through ongoing systems analysis with rapid cycles of review against specified targets, feedback, adjustment and incentivising improved clinical and business performance and active tracking of population growth and movement of the First Nations population to ensure services are strategically located close to home and service expansion keeps up with growth and identified need.

Governance structure – which reflects a modern constitution and a mixed Board structure. The governance structure is underpinned by a cultural integrity framework that guides actions at all levels of the organisation.

Network structure – which supports delivery of services regionally through a "one-stop-shop" approach, whereby most services are co-located and providing a single, welcoming environment which eliminates barriers, integrates care and fosters business efficiency.

Clinical governance – through a structured clinical governance framework which embeds processes for governing boards, management and staff, with a standardised toolkit for monitoring clinical quality and safety.

Workforce strategy – including partnerships with universities and other tertiary education providers and in-house training and ongoing skills development that is customised to support the IUIH system of care. IUIH also monitors the configuration of staff at each service in order to meet service need in each identified clinic location.

Community engagement and empowerment – including through evidence-based strategies that actively engage the community, build health literacy and promote health enhancing behaviours – including preventative health care.

Shared IT and ITC systems – including the introduction of a single electronic health information system that supports efficient and effective delivery of care and enables identification of trends and service gaps and informs service planning and improvement.

This system of care in combination with the *IUIH Cultural Integrity Investment Framework* (and in particular *The Ways Statement*) describes the philosophy on which IUIH's organisational, operational and community interactions are based. These frameworks are embedded within all of IUIH's practice, systems and processes, and reinforces the alignment between community and organisational operations.

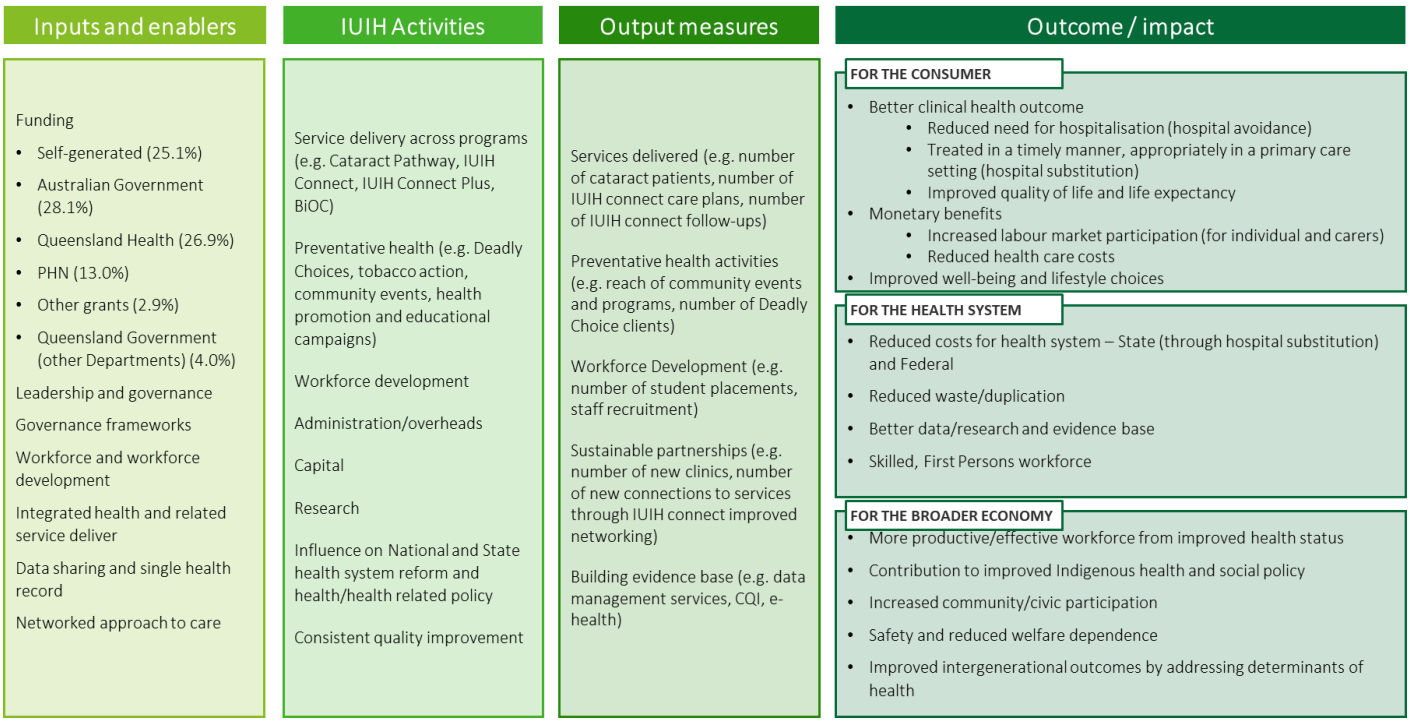
As part of the IUIH System of Care, IUIH also is a regional provider of allied health services which were not previously incorporated within the integrated service system. Having a regional approach enabled an extensive service provision across the network whilst also allowing IUIH to identify opportunities and unmet need across the region and deploy services accordingly. The allied health staff work across nine different disciplines. These allied health services were also expanded through the 'Work it Out' program that supports First Nations people with chronic disease management and rehabilitation by providing education and clinically supervised exercise programs.

Established in 2011 without government funding, 'Deadly Choices' was a preventative health program that focused on empowering First Nations people to make healthy choices for themselves. This brand has since grown nationally with 17 NRL and AFL clubs having licensing agreements enabling the brand to grow nationally. This program demonstrates IUIH's focus on not just providing health services but also empowering First Nations people to take preventative measures for their health leading to better health outcomes.

IUIH program logic

Program logic is a tool that describes and represents how a given program (in this case IUIH) intends to impact social and economic outcomes in a region. A program logic describes the steppingstones between an activity and a desired change which allows a clear framework during evaluation. This can be seen in Figure 6 which provides a logic flow of activities from resources to impact.

Figure 6: IUIH Program Logic

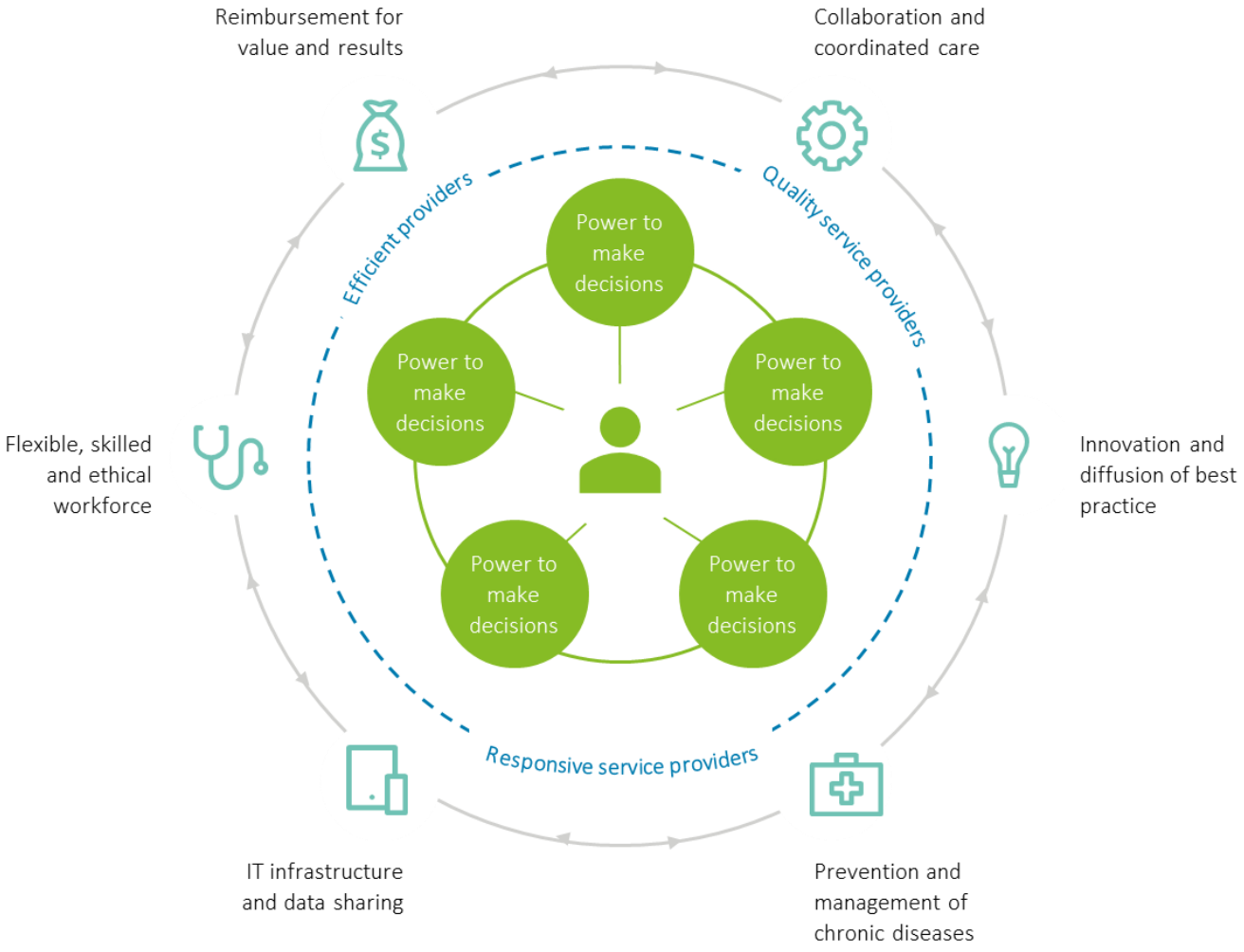


Backbone: the IUIH structure.

IUIH's success has been built and grown over the last decade with inroads made in achieving improved equity of access and equity of outcomes. However, this success has not been easy; in order to achieve this there are a number of key enablers that are critical to the underpinning architecture of IUIH.

The Productivity Commission recently released a report which detailed that healthier Australians will improve the Australian economy through increased participation in the labour market[3]. They pointed to the fact that the current health system, while good in comparison to other economies and international benchmarks is often fragmented. The report identified the ingredients of a well-functioning system with these elements shown in Figure 7.

Figure 7: The ingredients of a well-functioning system

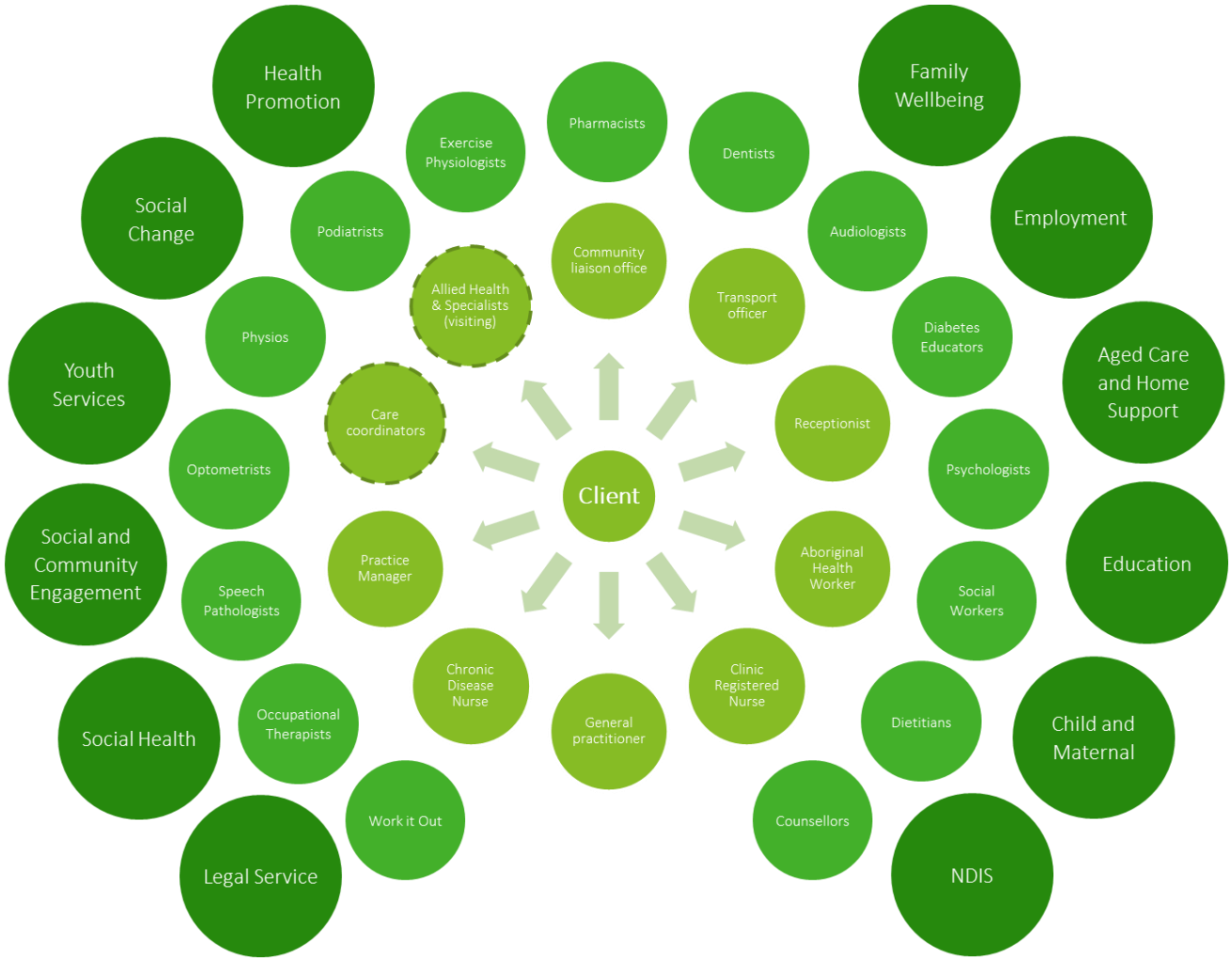


Source: Productivity Commission, Shifting the Dial: 5 Year Productivity Review, Chapter 2

[3] Productivity Commission. "Shifting the Dial: 5-year productivity review." 2017.

As noted by many, the patient experience of care currently has very little focus from the system. This is where IUIH differs with the patient at the centre of everything they do. By having a networked system guided by the cultural framework, IUIH bases all practices and programs around improving the patient experience and providing a "one-stop-shop" and "no-wrong door" for patients. This "no-wrong-door" approach can be seen in Figure 8 which details the range of service types that can be accessed through any entry into the IUIH network.

Figure 8: IUIH's no wrong door approach to care



There are a number of enablers that allow IUIH to deliver such an integrated and successful model of care in South East Queensland. These enablers are important to consider in terms of how IUIH has become so successful in the South East corner and what ingredients are necessary if this model were to be implemented elsewhere.

Leadership and governance

The strength of leadership is an influential factor in shaping organisational culture which flows on through to the delivery of services. The leadership of IUIH, has a direction and commitment to a holistic view of care that includes commitment to improving linkages with other providers, providing culturally appropriate care and achieving system goals such as continuity of care. The leadership across IUIH and member organisations, their providers and community relationships, combined with the Board structure (member organisations nominate a leader from their organisations who are complemented by independent directors with expertise in governance, legal matters and financial administration) allow IUIH to draw upon various networks and relationships to implement innovative new service models that are best practice and culturally appropriate for First Nations people. Strong and empowered Indigenous leadership has also been a fundamental lever in negotiating the government-community relationship in order to implement real change across SEQ.

Clinical and corporate governance framework

To provide cultural integrity throughout all administrative and clinical practices, IUIH has developed a *Cultural Integrity Investment Framework* and *The Ways Statement* which brings an Aboriginal cultural and philosophical world view which IUIH has embedded into its operations. These statements include:

- Work in Ways which acknowledge your own journey and how it influences your Ways
- Order your Ways of Knowing with a new logic of strength and determination
- Respect and value our community's autonomy
- Learn to walk with humility
- Deadly choices are the enactment of agency
- Vibrant and strong families and communities
- Intentional action that challenges and balances systems
- Engage every potential pathway which leads to the positive transformation of lives
- Work with integrity

This framework ensures that cultural standards are embedded into strategy, workforce and operational business. Table 1 details the areas of IUIH's business which have been informed by, and adapted to be consistent with, the Aboriginal philosophy articulated in IUIH's *Cultural Integrity Investment Framework* and *The Ways Statement.*

Table 1: Implementation of Cultural Integrity Framework

Strategic	Operational	Staff
Strategic Plan	Yarnin' Up Modules	Orientation
IUIH System of Care Conference	Individual and Team Check-In Yarning Tool	Presentations
SEQ Regional ATSICCHS Orientation Program	Research Design	Workforce Integrity Gatherings
Family Centred Systems Reorientation	HR Selection Processes	Staff and Management Coaching and Guidance
Human Resources Quality Framework	Manager Self-Evaluation Tool	IUIH Staff Wellness Program
Moral Authority Check-ins	Wayfaring Initiative	Aunty Pamela Mam Awards
	IUIH Caring for Country Guidelines	Team Building Workshops

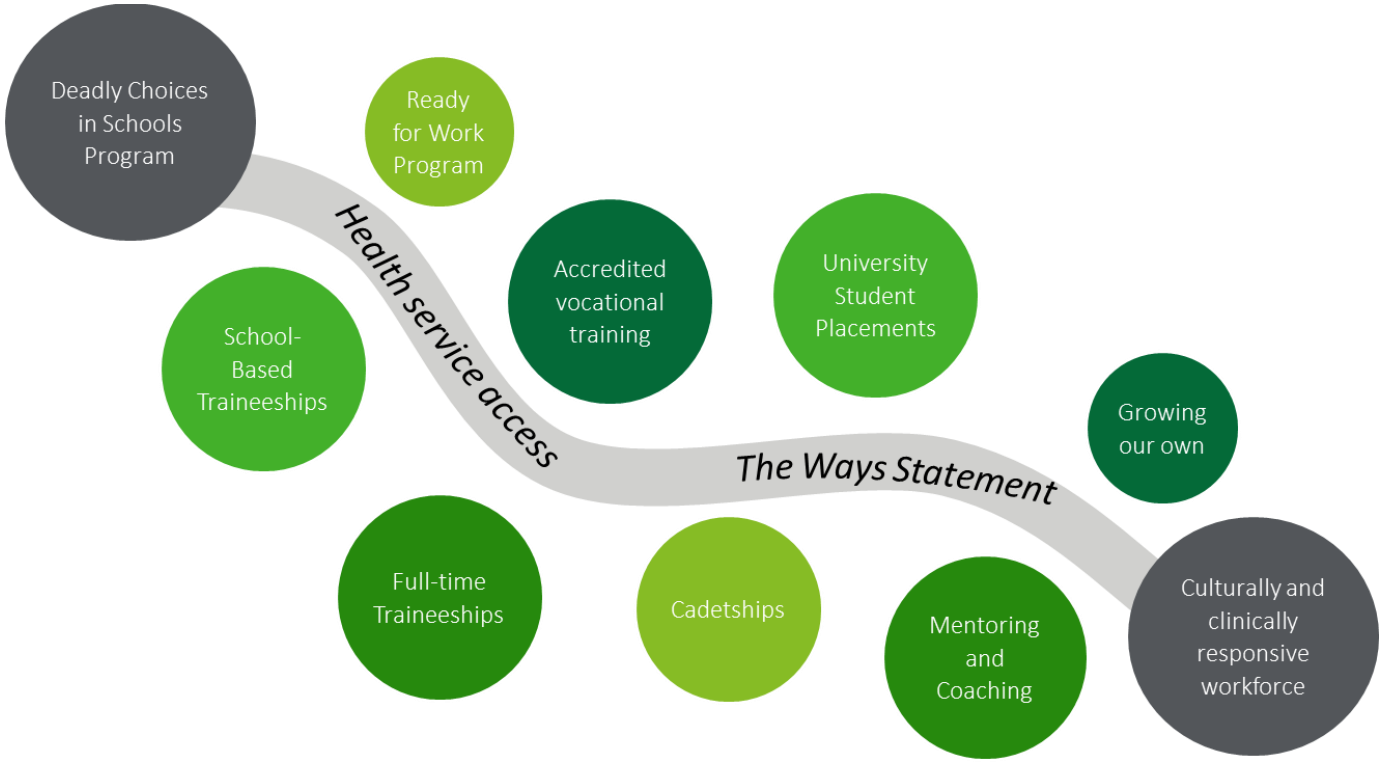
These activities and the focus on embedding cultural integrity and Indigenous ways into its systems and processes are critical success factors in IUIH delivering culturally appropriate care across South East Queensland.

Workforce development

IUIH is committed to workforce development as part of its Cultural Integrity Framework and *The Ways Statement.* By investing in workforce development, IUIH is also contributing significantly towards closing the education and employment gaps. IUIH has 1443 staffing positions across the IUIH network with 55% (794) of these positions being filled by First Nations people. This has made IUIH the largest employer of First Nations people in SEQ.

To develop this workforce, IUIH has an active workforce development strategy which is shown in Figure 9. This workforce strategy includes cadetships to support Indigenous university students and IUIH currently has the largest national Indigenous tertiary student placement program with over 375 annual placements across 22 disciplines and five universities. This holistic and comprehensive approach is integrated into IUIH's primary healthcare model and health promotion strategy. This ensures the future workforce is prepared for the types of work offered by IUIH whilst also developing their professional skills. This strategy also addresses many of the key drivers impacting on job readiness and employment in a systematic way.

Figure 9: IUIH workforce pipeline



IUIH has also leveraged off efficiencies it has gained at a regional level by having a large regional allied health and specialist workforce pool that is funded from multiple funding sources. This pool includes more than 90 staff and is centrally based and services SEQ through an outreach model to all 20 clinics across the region. This pool has enabled cost effective and universal client access to a comprehensive range of disciplines which would otherwise not be possible if managed by the independent CCHSs. This pool has also ensured that there is consistent quality and cultural competency across the network regarding these services thereby upskilling the workforce.

In regard to leadership, IUIH has had stability in its core team since its initiation. Adrian Carson has been the Chief Executive Officer since 2011 and key staff members who developed the clinical model of care have also been there since this time. This stability of leadership has ensured that the direction of IUIH has remained constant since the initial vision and that the cultural framework has been embedded across all levels of the organisation.

Structure of IUIH

IUIH operates as a regional network with each member CCHS retaining its own governance, with the IUIH Board of Directors also providing a layer of regional governance. As the regional lead for this network, IUIH delivers transformational change through planning, development, advocacy, purchasing and implementation of the IUIH System of Care.

During the initial development stages, IUIH understood that the system was fragmented and complex and that the solution to exponentially increase access to comprehensive care lay firstly in the integration of the health system at a regional level, in order to ensure integrated care at a local level.

IUIH created an ecosystem of care and led reforms at a regional level. They also ensured that there was universal, consistent and evidence based single point of care for clients at all the clinics across the IUIH network.

This regional ecosystem has allowed IUIH to harness efficiencies through regionally scaled solutions. IUIH can leverage economies of scale through network wide funds pooling and internal subcontracting arrangements enabling an enhanced purchasing power that has delivered significant savings across the network. This can be seen in establishing a large regional allied health and specialist workforce which is funded through a pool of money established from multiple sources across the network.

> "Rather than giving our people a compass to navigate their way across a fragmented health system across SEQ, we wanted to ensure that we brought all the disparate strands of funding and programs together into a coherent strategy, to ensure that it was easy for Aboriginal and Torres Strait Islander people to access the care that they needed in a manner that addressed their cultural needs as well."
>
> Adrian Carson
> CEO, IUIH

The structure of IUIH therefore enables IUIH to take swift action across the network in implementing changes and responding to challenges. This could be seen during COVID-19 where within 48 hours IUIH activated targeted messages to First Nations people across Queensland through its *Deadly Choices* platform and where it implemented IUIH Connect Plus which reached a large population over a significant geographic area. Without this networked approach and agreement across the member CCHSs this program and change would not have been able to be implemented so quickly.

Relationship with external clinical providers

IUIH has several relationships with clinical providers across SEQ that enable the organisations to implement programs and improve health outcomes for First Nations people. The relationship between IUIH and the HHSs within SEQ (Metro North, Metro South, Gold Coast, West Moreton) have been built over the last 10 years and are a critical success factor in ensuring IUIH's success. Whilst these relationships are often not the easiest, IUIH has persevered in order to deliver programs specifically for First Nations. This is exemplified through the IUIH Connect program where HHSs refer patients to IUIH. This has a multi-fold benefit; for the HHS it moves the patient out of the hospital into a more appropriate care setting, for IUIH patients who may have previously been unaware of the organisation become aware and receive the help they need and for the patient they receive care closer to home. However, whilst this has been successful, systematised referral pathways would improve buy-in at all levels of the HHS improving referral rates which would potentially improve health outcomes.

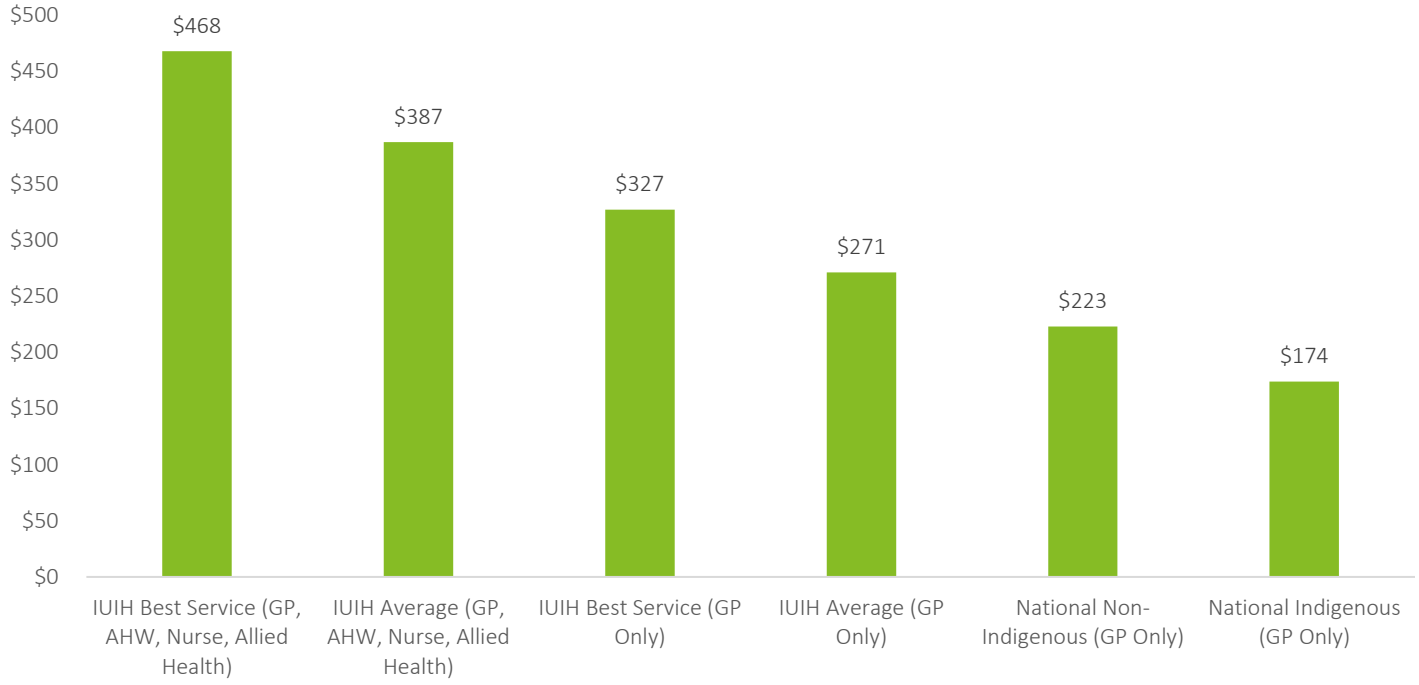
Stronger relationships between HHSs and IUIH would further address fragmentation and enhance service integration across the health continuum. These relationships would mean that some of IUIH's more innovative care models can be implemented within the public health system thereby reaching a larger number of people and improving health equity on a larger scale than if purely operating at a CCHS level. However, it must be noted that the SEQ HHSs are at varying stages in their relationships with the IUIH network. At present, the only State-funded IUIH program connected to all four SEQ HHSs is IUIH Connect Plus.

IUIH also has relationships with private clinical providers, with the relationship with Mater Hospital being of note. These strong relationships have enabled the cataract pathway and the BiOC pathway to move from ideas into reality improving equity of access and outcomes for First Nations people across the region.

Optimal use of funding sources and a profit for purpose approach

As previously mentioned, IUIH has adopted a profit for purpose approach to care and have therefore optimised the revenue they receive from governments, including MBS revenue. On average the IUIH network now generates $387 of annual Medicare income per client with the best clinic generating $468 per client. This is significantly more than the national Medicare expenditure rates which sit at $174 for First Nations people and $223 for non-Indigenous people. This is exemplified in Figure 10.

Figure 10: Per Client Medicare Income, IUIH Network and National



Source: IUIH Medicare income from 2016-17, National Medicare expenditure from 2013-14, AHMAC, 2017

By maximising MBS funding, IUIH has ensured their financial viability, reduced their reliance on grants and has generated a pool of flexible funding that they can use in programs such as IUIH Connect.

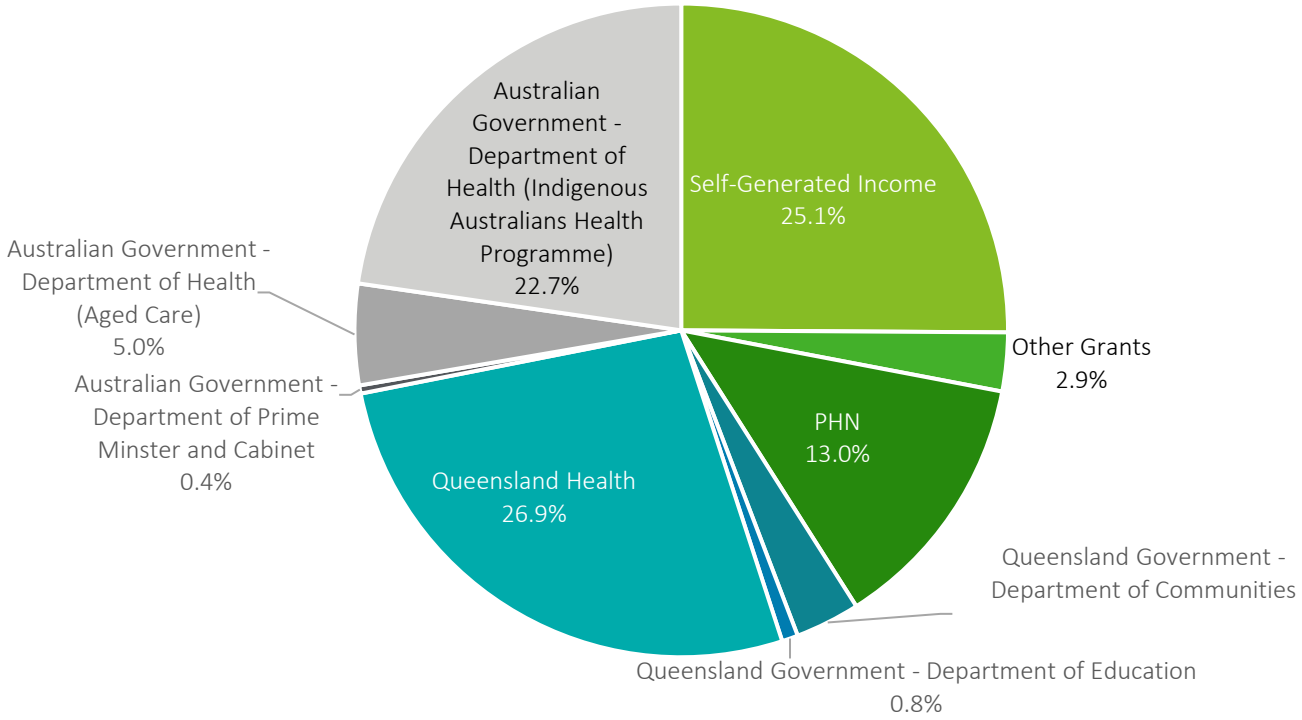
This profit for purpose model has also been adopted in response to the funding deficit for First Nations people. It has been shown that on conservative assumptions, First Nations people have a 2.3 times per capita need than the rest of the population due to the high levels of illness and burden of disease[4]. This is particularly evident in SEQ where the IUIH Network only received $303 per person funding from the Department of Health (Australian Government) compared to the national average of $390 (per person for CCHSs in major cities) and $1,405 for Remote/Very Remote Regions[5].

Therefore, in order to ensure a significant level of funding, IUIH has maximised funding it can get from all sources in order to generate income which can be used for its various programs. A breakdown of the different sources of the funding is shown in Figure 11 which demonstrates that IUIH currently generates 25.1% of its income through its profit for purpose model.

[4] Australian Institute of Health and Welfare. "Australian Burden of Disease Study: impact and causes of illness and death in Aboriginal and Torres Strait Islander people 2011." 2016.

[5] Institute of Urban Indigenous Health. "Building a Regional Health Ecosystem: Closing the Gap Refresh Submission 2018." 2018.

Figure 11: IUIH Source of income, 2017-2018



This funding model across the IUIH network also allows the collation of funding into a single pool which can be used across the network. This enables economies of scale to be leveraged in order to provide more resources at a lower cost point.

As previously mentioned, Queensland Health provides $1.2 million each year which forms IUIH's core funding source. This core funding is used for the IUIH model which includes clinical governance, data management, HR/policy and planning/finance systems and leadership. This core funding does not include money for any clinical services or programs which is additional to this $1.2 million of core funding.

Queensland Health provides additional funding for a number of programs including:

- Core funding for primary health care clinics (6 out of 20 clinics)
- Prison transition services;
- Dental;
- Surgery pathways;
- IUIH Connect;
- Youth, Alcohol and Drugs; and
- BiOC

Data sharing and single health record

The current provision of health services in SEQ is through several organisations which often leads to 'silo working' where services focus on separate aspects of patient care and store the data for this in silos: unlinked records in closed databases. This further deepens the fragmentation in the system since clinicians aren't aware of the full picture of a patient's health due to not being able to access the data.

IUIH recognised this and during the development of the network instituted a single health record software whereby a patient can turn up to any clinic, through any service "door", and with patient consent, the clinician will have access to their full health record.

There are numerous benefits from electronic health record sharing including patient management improvements (especially in the case of long-term chronic conditions). Comprehensive information also enables clinicians to review and communicate regarding medication, ongoing treatment and appointment non-attendances.

IUIH has the same access to the receipt of discharge information as other mainstream providers, however these summaries often are not provided to the primary care provider due to it either not being filled out at time of discharge or the primary care provider not being recorded. This limits the continuity of care since it becomes the patient's responsibility to share the data with their primary care provider, thereby further contributing to system fragmentation.

Wide ranging and nationally recognised prevention programs

A key pillar of IUIH's operations is engaging with First Nations people and encouraging them to access health services. To ensure this was possible an approach that took IUIH into the community, rather than waiting for patients to come to the clinic, was developed. This campaign and education program, called *Deadly Choices* has grown exponentially since then with it now operating across Queensland and Australia through licensing agreements with IUIH.

This approach to preventative health has been shown to work with active client numbers growing and there being a 700% increase in health check take up in SEQ.[6] This growth in health check-ups increases the likelihood of illness being picked up earlier which reduces demand on the acute system whilst also improving health outcomes for the patient. The program has also improved health literacy across the First Nations community and empowers patients to take responsibility for their own health.

Integrated care and a "one-stop-shop" approach to care

In delivering services, IUIH utilises a "one-stop-shop" and "no wrong door" approach to care by offering integrated service offerings. This can be seen through the Cataract Pathway and BiOC where care is delivered in an integrated way and in partnership with tertiary providers.

'Integrated care' is a term that reflects a concern to improve patient experience and achieve greater efficiency and value from health delivery systems. The aim is to address fragmentation in patient service and enable better coordinated and more continues care.

There is evidence that service integration improves clinical outcomes[7]. One of the key success factors identified was having integrated teams to deliver care. A "one-stop-shop" approach has been shown to improve public health for patients with there being an opportunity to screen for other health problems and consumers appreciating a holistic approach to care which is more sympathetic to real life. A "one-stop-shop" approach also provides continuity of care and reduces the rate of a referral to a second service[8]. By IUIH offering this approach, patients are able to access the majority of care they need in a single, trusted, culturally secure location. This improves equity of access for patients whilst also improving patient satisfaction since they do not have to deal with the fragmented silos of the health system.

Summary

The value of IUIH to the system, the consumer and the wider economy is contingent on the enablers detailed above. These allow IUIH to deliver integrated, comprehensive and culturally appropriate care across the South East Queensland region. When comparing the IUIH enablers to Figure 7, it shows that IUIH have all the ingredients of a well-functioning health system plus more. This shows the value of IUH to the system and why it is such a respected model.

[6] Institute of Urban Indigenous Health. "Building a Regional Health Ecosystem: Closing the Gap Refresh Submission 2018." 2018.

[7] Ham, Chris and Debra De Silva. "Integrating Care and Transforming Community Services: What works? Where next?" 2009.

[8] French, R S, et al. "One Stop shop versus collaborative integration: what is the best way of delivering sexual health services?" *Sexually transmitted infections* 83.2 (2006): 202-6.

Valuing the IUIH approach.

36% of the total First Nations population in the SEQ region currently accesses services through the IUIH network. This saturation rate particularly during a time of growth is significant and demonstrates the impact of the IUIH network.

The IUIH system of care is characterised by the benefits associated with the provision of care designed to accord with the Indigenous definition of health. This is a benefit shared across all appropriately specified Aboriginal Community Controlled Health Services. The IUIH system of care approach further enables benefits through its regionalised approach which emphases a 'no wrong door' philosophy of care. The presence of a connected system – one which offers interconnectivity within primary care and then connectivity to tertiary care and even further into community care – has a unique capacity to meet 'whole of person' needs.

In this chapter, the value of IUIH is considered through three lenses – the consumer, the health system and the broader economy.

Reach

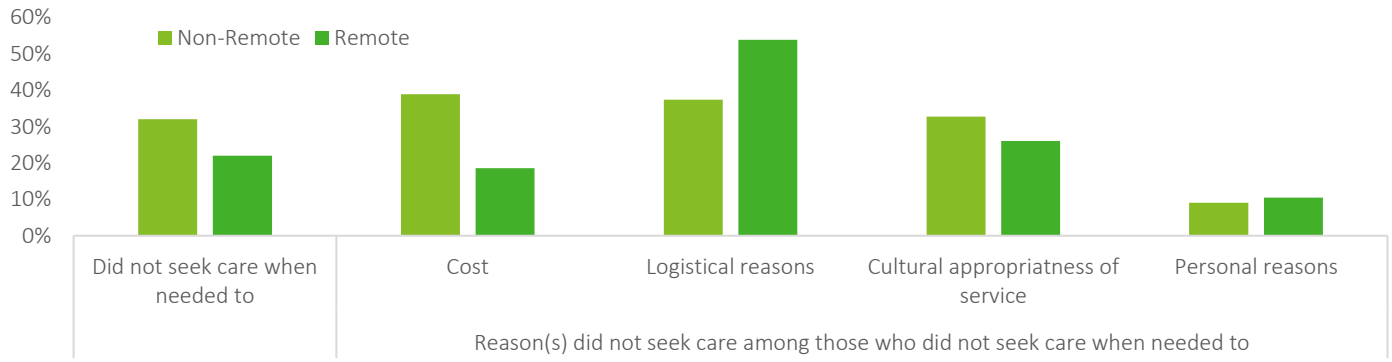
Before discussing value, it is instructive to consider the current reach of the IUIH network.

Research indicates that the IUIH network client base now reaches 36% of the total First Nations population in the SEQ region which is a significant improvement from the 16% when IUIH was established in 2009. This saturation rate is double the national rate for major cities and given the rapid growth in the region during this period (57%) is shown to be even more significant[9].

Consumer

Access to primary care is arguably one of the strongest predictors of health status within a community. The concept of access is complex – an interplay of both demand and supply side determinants – spanning awareness, availability, affordability, acceptability and appropriateness. Access to primary care among First Nations people continues to be well below the rate of access experienced by non-Indigenous Australians.[10]

Figure 12: Proportion of Indigenous Australians who did not access health services when needed, and why, by remoteness



Source: Aboriginal and Torres Strait Islander Health Performance Framework (HPF) Report 2017

The benefits to an individual of appropriate interaction with primary healthcare sits across multiple categories:

[9] Nous group. "History and Performance: charting the way forward." 2019.

[10] Davy, C., Harfield, S., McArthur, A. *et al.* Access to primary health care services for Indigenous Peoples: A framework synthesis. *Int J Equity Health* **15,** 163 (2016); AIHW (2016) 'Indigenous Australians access to Health Services" accessed online: https://www.aihw.gov.au/getmedia/01d88043-31ba-424a-a682-98673783072e/ah16-6-6-indigenous-australians-access-health-services.pdf.aspx, last accessed 25.11.2020; Panaretto et al (2014) 'Aboriginal community controlled health services: leading the way in primary care" *Medical Journal of Australia*, 200(11), pp 649-652

- **Clinical.** Naturally, there are clinical returns to improved access to primary care. These relate to an increase in access to preventative care (e.g. improved lifestyle factors or vaccination), early detection (screening and assessment) and successful management of acute and chronic conditions within the community.
- **Monetary.** There can be monetary payoffs for individuals from reduced healthcare costs, reduced reliance on family or community care and the potential for improved workforce participation.
- **Well-being.** Finally, there are less tangible, but equally important payoffs to individual and community well-being. Well-being is a whole of person concept, encompassing but spanning beyond physical health alone, rather, referring to feelings of belonging, civic participation, safety and mental health.

Potentially Preventable Hospitalisations (PPH) is a widely accepted measure of the clinical benefits as a result of improved access to primary health care. They are a measure of hospitalisations within a population that could have been avoided in a hypothetical scenario where appropriate care – preventative or management – was provided in a timely manner within the community. To the individual, they are a measure of avoidable morbidity. Where the number of PPH reduces within a community, it is interpreted as resulting from – all else constant – increased access to primary care. PPH are adopted as a measure of population access to quality and affordable primary and community health care across numerous developed economies, including Australia, Canada, England and the United States.[11]

Doran et al (2014) estimate reduced PPH relating to chronic care clients attending IUIH clinics by assuming a reduction in hospitalisation rates for this client base to the rate experienced within non-Indigenous populations. An updated measure of this calculation is provided in Table 2. The assumption of reduced hospitalisation to non-Indigenous rates is consistent with methodologies adopted in comparable analyses.[12]

Table 2: Economic value of avoided time in hospital

Chronic Disease	PPH avoided due to IUIH	Weighted average length of stay	Total days not in hospital	Value of avoided time in hospital
Cancer	-103	9.69	- 996	-$341,531
Diabetes	104	4.43	463	$158,610
Respiratory	575	1.99	1,143	$391,935
CVD	93	10.74	996	$341,488
Mental health	560	25.74	14,413	$4,940,597
Renal disease	6,287	4.79	30,114	$10,322,428
Total	**7,516**		**46,133**	**$15,813,529**

Notably, while Doran's approach is focused on the value derived from access to a CCHS model of care as opposed to a mainstream primary care service, it does not further consider the benefits of the regional networked approach of IUIH. It can be reasonably anticipated that the value of PPH under such a regionalised approach may be higher – owing to increased connectivity of services within a local area and higher levels of connection to mainstream tertiary services. To the extent that the additional value of this networked model is not considered, the rate of PPH avoided owing to the investment in IUIH is underestimated.

Doran et al (2014) extend this methodology to calculate the valuation of time avoided in hospital. While an average wage estimate utilised, this is a commonly accepted methodology for measuring both the labour and leisure value of that time. Updating this analysis, we calculate that the estimated value of avoided time in hospital due to IUIH activities is $15,813,529 in 2018-19.

As noted previously, improvements in health outcomes flowing from improved access simply measure one dimension of benefit that is known to be experienced by individuals who enjoy improved access to care. Even within clinical care, PPH represents a reduction in morbidity. This reduction in morbidity translates to health system savings but equally an increased survival rate and

[11] Katteri et al (2012) 'Potentially Avoidable Hospitalisations in Australia: causes for hospitalisations and primary healthcare interventions: *Primary Health Care Research and Information Service, Adelaide* ; Ansari, Z (2007) 'The concept and usefulness of ambulatory care sensitive conditions as indicators of quality and access to primary healthcare', *Australian Journal of Primary Health,* 13(3), pp 91-110; Ansari, Z (et al) (2012) Patient characteristics associated with hospitalisations for ambulatory care sensitive conditions in Victoria, Australia', *BMC Health Services* 12, pp 475

[12] See for example MacRae et al (2012) Overview of Australian Indigenous health status, *Moutn Lawly: Australian Indigenous Health InfoNet*

potentially improved quality of life. Health economists value improvements in quality of life utilising disability adjusted weighted life years – a monetisation of the highly intangible measure of living better as well as living longer.

The interpretation of these estimates, therefore, must be adopted in the context that they are only illustrative of part of a much broader consumer benefit profile.

Health system

The corollary of avoided time in hospital is the savings experienced within the health system. A patient who is treated in the far cheaper, primary care setting – while their condition is less complex – is less expensive than the same patient treated later, and with increased complexity in a hospital setting. Continuing the update of the methodology employed by Doran et al (2014) further, we utilise weighted average cost per separation to estimate the value of avoided hospitalisation presented in Table 3 to the Queensland Health system.

Table 3: Potentially preventable hospitalisations for IUIH clients, 2017-18

Chronic Disease	Hospital separations per 1,000	Expected hospital separations	Expected hospital separations due to IUIH	PPH avoided due to IUIH	Weighted average cost per separation	Value of PPH
Cancer	11	405	508	-103	$13,598	-$1,398,187
Diabetes	5	174	69	104	$6,621	$691,520
Respiratory	34	1,271	696	575	$4,104	$2,358,323
CVD	20	731	638	93	$8,384	$777,650
Mental health	25	935	375	560	$12,403	$6,945,422
Renal disease	211	7,794	1,507	6,287	$7,208	$45,314,315
Total	**306**	**11,310**	**3,795**	**7,516**	**$52,318**	**$54,689,044**

In a system defined by the scarcity of resources, this economic cost-saving represents an expense that can be reallocated to a higher value purpose than servicing care that could be appropriately addressed with lower cost interventions.

An additional measure of efficiency driven by the provision and large-scale uptake of IUIH as a primary care model is reduction of 'waste' or 'duplication' in the system. When patients do not access care in a timely manner, they have a higher propensity to present to a system later and sicker. This is in part captured by the calculation of avoidable hospitalisations. Additionally, however, they are also more likely to present to a system multiple times. This is best illustrated through a case study – we present this calculation in the chapter titled "Demonstrating Benefits" specifically with reference to the IUIH Cataract pathway.

A less cited, but critical contribution of IUIH to the strength of the health system serving First Nations people is its contribution to data, research and knowledge systems. IUIH has invested heavily in data management and analytical systems, driving the development of an evidence base relating to the prevalence and treatment of chronic disease in First Nations people in SEQ. As demonstrated in Deloitte's recent research for the Lowijta Institute, Menzies Health and Reconciliation Australia, there is substantive return to investment in the collation and analysis of evidence relating to Indigenous health matters.[13] These benefits span improved research awareness and generation, improved quality of research and ultimately, improved research outcomes that translate to culturally safe and comprehensive health care design. The contribution of organisations such as IUIH to the quality of available data is particularly salient owing to the paucity and gaps in such data available at the State and National level. Investment in quality data is an enabler of improvements to both the local SEQ health service environment and – more broadly – the design of Indigenous health care across Australian health systems.

Labour force and broader economy

IUIH also has a role in the dissemination of this evidence and knowledge through dedicated teaching centres for Indigenous healthcare. Working with education and training providers, in 2019-20, despite the challenges of COVID-19, IUIH placed 375 university students from 22 disciplines and five universities with IUIH affiliated health services. IUIH has also employed 3 full time Indigenous trainees to work across a range of settings and train as Allied Health Assistants. This brings the proportion of students

[13] See for example 'Deloitte Access Economics (2015), 'The Social and Economic Contribution of the Menzies School of Health Research', accessed online: https://www2.deloitte.com/au/en/pages/economics/articles/economics-social-economic-contribution-menzies-school-health-research-2015.html;

that have gained employment within the network after completing a traineeship to 60%. IUIH also supported 69 students enrolled in a Certificate III in Individual Support, Early Childhood Education Support or Business, and 12 Indigenous young people to complete a "Ready for Work Program" of which 50% transitioned into traineeships, employment or accredited training. In addition to the potential for such initiatives to impact labour market incomes, they further contribute to the development of culturally appropriate and aware health system employees capable of working effectively in both the CCHS sector and the broader health system. This serves to disseminate knowledge of the delivery and design of appropriate care beyond the network of IUIH alone.

IUIH is a substantial employer of individuals who identify as Aboriginal and/or Torres Strait Islander descent. In 2019-20, a total of 655 staff were employed by IUIH, 49.2% of whom identified as Aboriginal and/or Torres Strait Islander descent. Across the regional IUIH Network, 1,443 people are employed of whom around 55% identify as Indigenous. In 2017, Deloitte Access Economics estimated the economic return to closing the gap in Indigenous employment. The report found that the impact of increasing Indigenous employment outcomes drives greater national wealth, stronger government budgets through the relationship between employment and life-expectancy, wellness and productivity.

Doran (2014) estimated that the multiplier effect of employment generated by IUIH could be conservatively estimated to be 0.25. The multiplier effect relates to the additional economic value generated through every dollar of additional income made through employment (driven by increased spending). At face value, this multiplier appears slightly inflated and would need to be justified further on the basis that it reflects an influx of employment to the region from other regions. Nonetheless, for the purpose of contemporising the analysis, applying this to $43.0 million spent by IUIH in 2018-19, the on flow of this expenditure could be estimated to be an additional $10.8 million.

Doran (2014) draws together the combined value of avoided time in hospital, value of PPH and the multiplier effect of employment to estimate the benefit of IUIH as $33,228,812 in 2012-13. Updating this calculation with our updated estimates, we estimate the 2018-19 value of benefits to be $131,005,072. Compared against the 2018-19 operating cost of IUIH $84,944,000 we calculate the benefit/cost ratio of Doran to be updated to 1.54 for the current operation of IUIH. This is comparable to the benefit to cost ratio of 1.43 estimated in 2014.

The interpretation of this benefit to cost ratio is that for every dollar invested in IUIH, there is a $1.54 return. For the reasons noted through this chapter, it is likely that this estimate is highly conservative noting that it does not account for the quality of life impact of the IUIH model or consider the additional benefits attributable to its system approach to care.

Further, the impact of improved employment, health and well-being outcomes has the potential to drive broader economic benefits both across the economy and between generations. Improvements in health status at a population level are related in literature to improved housing outcomes, improved education outcomes, increased civic participation, reduced probability of early parenthood, reduced mental health episodes, reduced recidivism and reduced drug and alcohol dependence. Further, research indicates that by addressing the determinants of health, health care models can effectively drive change in intergenerational disadvantage.[14]

While the relationship between these positive outcomes and improved access to care – including within Indigenous populations has been studied, there are yet to be studies to draw this connection directly to the networked model of IUIH. Indeed, it could be argued that such benefits would be amplified owing to the targeted and systemic model of care adopted by IUIH.

[14] See for example. AIHW (2019) Aboriginal and Torres Strait Islander Solen Generations and descendants, accessed online: file:///C:/Users/ssrikanthan/Downloads/AIHW-REPORT-Stolen-Generations-and-descendants.pdf; Healing Foundation (2014) Prospective Cost Benefit Analysis of Healing Centres, accessed online: https://healingfoundation.org.au/app/uploads/2017/01/CBA-final-SINGLES-for-screen.pdf; Calma, T "Social Determinants and the health of Indigenous peoples in Australia – a human rights based approach", accessed online: https://humanrights.gov.au/about/news/speeches/social-determinants-and-health-indigenous-peoples-australia-human-rights-based

Program case studies.

IUIH has several hallmark programs that demonstrate an intersection between the Queensland Health tertiary system and primary care. These programs improve the continuity of care for First Nations patients increasing the likelihood of improved health outcomes.

IUIH has a number of landmark programs and models that provide integrated care to First Nations people in SEQ. These programs operate under a "one-stop-shop" approach where patients only need to attend one clinic in order to receive the care that otherwise would be provided by multiple providers across the system. This improves continuity of care for the patient and increases the likelihood of patients completing their care pathways. Each of the three programs that have been looked at focus on a different aspect of health. IUIH Connect is a coordination program that provides an interface between tertiary and community care. The cataract pathway provides at-the-elbow wraparound support for patients who need cataract surgery, and the Birthing in Our Communities (BiOC) program provides a culturally appropriate maternal birth service. IUIH also provide a dental service which is currently being evaluated through a separate process.

IUIH Connect

IUIH Connect delivers a coordinated and integrated approach to healthcare for First Nations people. IUIH took over the program in 2013 from Metro North HHS where it operated in one clinic (dialysis) in one hospital. From that point the program has exponentially grown to a network of 64 referring organisations and 76 connecting organisations which coordinate healthcare across health service interfaces and across sectors in Brisbane.

The program is currently predominantly run in the Metro North and Metro South catchments, however during COVID-19, IUIH expanded this reach to include West Moreton and Gold Coast HHS. It should be noted though that these two new HHS catchments are still in their infancy, and will require HHS buy-in and systematised referral pathways from HHS facilities to be successful going forward.

The IUIH Connect program is focused on three main areas:

- Hospital to community interface: where IUIH work with the patient and/or family and the hospital staff to ensure a safe hospital discharge to home
- Transition care: linking patients to culturally appropriate primary care and social support services respecting patient choice. IUIH also 'hold' clients and provide patient management whilst connections are established with downstream services.
- Partnerships and initiatives: working with other services and health organisations to improve health outcomes, reduce avoidable admission and increase access to care. These include partnerships with Better Cardiac Care at the Princess Alexandra Hospital (Metro South HHS) an after-hours pharmacy access and a range of other partnerships. .

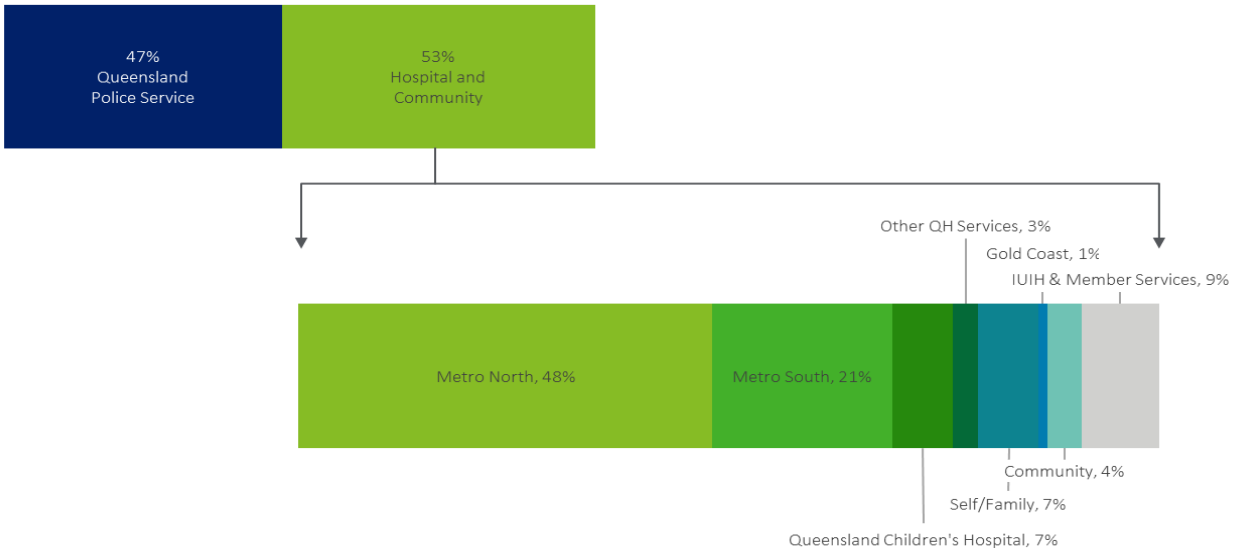
This care is provided through an 1800 number which is operated 7 days a week from 7am to 7pm. There are five types of services provided to clients including:

Figure 13: IUIH Connect services

These services enable IUIH Connect to develop a comprehensive assessment and transition plan and then support the patient to establish connections to the services that would be most beneficial for their circumstance.

IUIH Connect has been growing exponentially, since 2016 there have been a total of 4,287 IUIH Connect referrals received. This includes nearly 50% of referrals being received from Queensland Police Service (QPS)[15]. Out of the other 50%, 48% are received from Metro North and 21% from Metro South. This and the other referral sources can be seen in Figure 14. This make up is expected to change in the future considering the expansion of the program to Gold Coast HHS and West Moreton in 2020.

Figure 14: IUIH Connect referrals by source



This wide range of referring organisations demonstrates the value of IUIH Connect to patients and demonstrates the recognition of the program from an organisational perspective. This large number of referrals from the QPS can be attributed to an agreement where IUIH receive referrals into connecting services such as core primary health care, mental health, Alcohol and Drug and other clinical services. IUIH also assists members that may require social support. However, it is noted that the percentage of referrals from HHSs should be higher due to this being the focus of the program.

In order to deliver these services, IUIH Connect operates through a flexible funding model which enables IUIH to provide financial assistance for patient to access medical specialist appointments, medication and medical equipment that is not available through other funding schemes (e.g. shower chairs, items not on the PBS, medical footwear). IUIH Connect is a service that has no source of revenue, with there being no client fees or charges. Therefore, in order to pay for this program, IUIH leverages on existing funding and government grants (such as the $1.4 million for 12 months provided by Queensland Health during COVID-19 for IUIH Connect Plus to be established) and their economies of scale to reduce the average cost per patient. This is shown in Table 4 which demonstrates that as the client numbers increase per year the average cost decreases.

Table 4: Average cost per IUIH Connect patient[16]

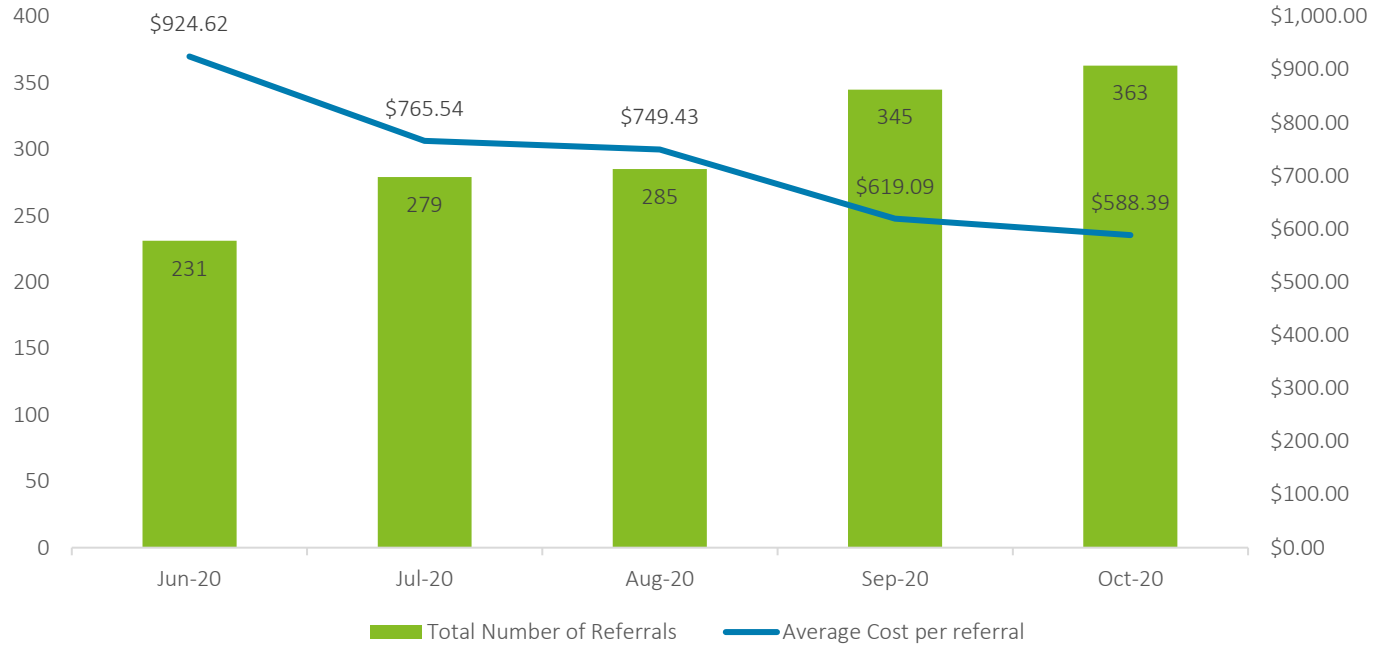
Number of clients per year	Average Total Cost per client	Average fixed cost per client	Average variable cost per client
1920 (160 per month)	$1334.91	$825.67	$509.24
2880 (240 per month)	$889.90	$550.45	$339.49
3636 (303 per month)	$704.90	$436.00	$268.90

[15] Duke, Sarah. "IUIH Connect Plus." 2020.

[16] Iibid

The cost of the program has also decreased since its inception due to the increased volume within the same budget. This can be seen in Figure 15 which shows how since June 2020 the numbers of referrals have increased whilst also leading to a reduced cost per referral.

Figure 15: Number and cost of IUIH Connect referrals



The impact of IUIH Connect

The impact of IUIH Connect to First Nations people in SEQ has been notable especially in relation to quality, and efficiency for patients. This can be seen through the increasing number of organisations who both refer to IUIH Connect and who act as connectors to the program.

IUIH Connect also act as a bridge between tertiary and community care. It has long been agreed that improving care for patients with complex needs requires integration of health and social care services with this being particularly important as patients transition from one site to another. Without this bridge, there may be a delay in hospital discharge or repeated hospital readmissions[17]. Therefore, by acting as this bridge and ensuring that patients both have a transition plan and connected with to the appropriate level of care it reduces the chance of readmissions. This alleviates stress on the acute health system.

Culturally appropriate care can improve health outcomes and quality of care due to patients feeling more engaged and respected during the process of care. Therefore, by IUIH Connect acting as a conduit, patients are ensured that they will be connected with culturally appropriate care that works for the patient. This enables them to receive the care they need in order to improve the health outcome of the individual. This access to culturally appropriate care also enables patients to complete pathways of care (who may previously have not) thereby realising the benefit of their acute stay.

The true impact of IUIH Connect can be seen through the case studies below.

[17] Kuluski, Kerry, et al. "Community Care for People with Complex Care Needs: Bridging the Gap between Health and Social Care." *International Journal of Integrated Care* 17.4 (2017).

Case Study 1: Fiona

Fiona is a 57-year-old Aboriginal woman with Type 2 diabetes, who was admitted to hospital with severe cellulitis complicating an infected blister on her right foot. Her blood sugars were also unstable at the time of admission.

Fiona had moved to Brisbane a year ago to be with her son, who subsequently died of pancreatic cancer. She had made a decision not to relocate back to Cairns after her son's death, and was living alone in the Moreton Bay region, a suburb away from her daughter-in-law and grandchildren.

After 3 days in hospital, it was decided that Fiona could go home later that afternoon.

With IUIH Connect

At the point of discharge, the Nurse Unit Manager made contact with IUIH Connect on the 1800 number, with permission from the client. An IUIH Connect intake officer logged the call, noted the key details, and assigned the case an urgent rating given the client was due to be discharged later that day. A Nurse Care Coordinator (NCC) picked up the case and made arrangements to visit with an IUIH Connect Outreach Worker (OW).

The NCC and OW visited the ward, met with Fiona and spent an hour having a good yarn with her about where she's from, her family, the supports she has and if she has any worries going home. With her permission, they also gathered information from the nurse looking after her that day to find out what had happened while she was in hospital, what medications she was on, and about the plan so far for discharge. They also talked with the treating Registrar about her treatment plan.

The following details the issues identified, and the action taken by the IUIH Connect team to support Fiona's transition care:

ISSUE	ACTION
No access to transport and very limited social and family supports	Transport was provided by the IUIH Connect OW from hospital to home. Fiona was provided with 3 taxi vouchers from the IUIH Connect Flexible Funding pool to have on hand in the event of needing more urgent transport to appointments, etc. in the coming few weeks.
No regular primary care provider – has seen multiple mainstream GPs since moving to Brisbane a year ago	Contact made with the CCHS clinic, which is the closest AMS to Fiona, with arrangements made for a joint home visit with the CCHS CCSS (Care Coordination and Supplementary Services) nurse, IUIH Connect NCC and OW 2 days after discharge. The IUIH Connect NCC provided in-home visits twice daily to assist with BSL monitoring and dressings before the new, more permanent care team were able to transition in.
No access to equipment for monitoring diabetes at home	BSL monitor, test strips, and lancets supplied using IUIH Connect Flexible Fund stock, initial education provided by IUIH Connect NCC in use of the equipment with observation and reinforcement at subsequent sessions with the CCSS nurse. Fiona was assisted to enrol with the National Diabetes Service Scheme (NDSS).
Polypharmacy – now on 9 medications (15 tablets daily); hadn't been managing these prior to admission; started on 2 additional tablets as inpatient	IUIH Connect NCC contacted the IUIH Pharmacist visiting the CCHS clinic. The list of medications was provided by the IUIH Pharmacist to the local retail partner pharmacy, and arrangements made for medications to be packed into Dose Administration Aid (DAA). The OW collected the medications, which were able to be delivered to Fiona at her initial home visit. Scripts were subsequently faxed by the GP to the pharmacy to support ongoing filling of the DAA. Pharmacist liaised with the CCHS GP, to arrange referral for a Home Medicines Review, conducted by the Pharmacist at Fiona's home one week after discharge. Two medications were able to be rationalised into a single combination tablet, and 2 medications were ceased / no longer required – reducing the total from 15 individual tablets in a day to 8.
Poor footcare leading to complications which resulted in this current admission	Gait aid was supplied to Fiona from the IUIH Connect Flexible Fund stock to assist her to mobilise safely at home while still recovering. The IUIH Connect NCC arranged for Fiona to be added to the IUIH Visiting podiatrist's urgent list at the CCHS Clinic; arrangements were made for Fiona to access medical footwear supplied through the CCSS Flexible funding scheme, and for frequent ongoing podiatry review given high risk feet.

Lives alone; Unstable rental accommodation – currently facing eviction after repeatedly defaulting on rental payments; struggling to manage activities of daily living (ADLs) including cleaning, garden maintenance, shopping and cooking for herself	The IUIH Connect OW made temporary arrangements using the IUIH Connect Flexible funding pool for pre-packaged meals to be provided for Fiona for the first 3 days after discharge, while more permanent assistance could be arranged. IUIH Connect NCC made contact with the IUIH Legal Service. After a detailed phone consultation with Fiona, the Legal Service was able to provide a letter for Fiona to the landlord, reminding them of their responsibilities in maintaining a safe and secure property (which it was not) for the tenant, and seeking negotiation to overturn the decision to pursue eviction – with evidence that Fiona was being supported to keep up her end of the arrangement. The eviction was halted. The IUIH Connect NCC – a trained RAS (Regional Assessment Service) assessor – was able to initiate the process to secure access for Fiona to My Aged Care, and made contact with the IUIH Home Support (Aged Care) team who arranged for provision of ongoing in-home supports including meals, garden maintenance and cleaning services. Fiona also joined twice weekly respite services to have regular contact and take part in activities with other Aboriginal elders in the region.
Appointment booked in hospital outpatients for follow up with the Endocrinologist	IUIH Connect NCC checked The Viewer after Fiona had been discharged and noticed an appointment had been made for hospital Outpatient follow up with the Endocrinology team. After discussion with the CCHS GP and with Fiona, it was agreed the primary health care team would review Fiona's progress and if Endocrinology referral was needed, would refer to the IUIH CCHS clinic visiting Endocrinologist. The appointment with the hospital was cancelled.

Without IUIH Connect

Without IUIH Connect, Fiona would have been discharged back to her home. Due to Fiona having limited family and social support, she would have had limited access to transport, with any access she would have being prohibitively expensive. Fiona also doesn't have a regular GP therefore there would be limited care continuity post-discharge which may have resulted in readmission.

Case Study 2: Jenny

Jenny is a 9-year-old girl who had a planned admission to hospital for limb surgery.

Jenny lives with her mum, a single mother also looking after 2 other children aged 5 and 3 years. The family have moved around South East Queensland a number of times over the last few years, as the marriage broke down and subsequently with insecure housing arrangements requiring regular relocation.

With IUIH Connect

The IUIH Connect service was contacted by the hospital with a message that Jenny was to be discharged the next day and required a specialised wheelchair as she would not be able to bear weight for a period of time after the surgery.

The following details the issues identified, and the action taken by the IUIH Connect team to support Jenny and her family:

ISSUE	ACTION
Lack of access to essential equipment required for safe discharge and after-care	IUIH Connect NCC Flexible Funding Pool was used to urgently secure lease of the specialised wheelchair from a private supplier.
Transport assistance required to get home from hospital, and back for subsequent outpatient appts.	IUIH Connect NCC contacted the IUIH Transport Service, who provided wheelchair-accessible transport for the family to return home from hospital. Vouchers were provided for the family to access a wheelchair-accessible taxi for follow up appointments at the hospital post-discharge.
Lack of regular primary health care provider	The family were accessing a mainstream GP provider in the area they were now living in and were happy with the GP they were seeing but had struggled to attend regular appointments as a result of lack of access to transport and difficulty keeping track of appointments. The IUIH NCC provided a warm handover to the IUIH CTG Outreach Worker, who was able to offer regular ongoing assistance when needed to the mainstream GP service, and assistance with reminders for follow up / appointments.
Lack of access to ongoing allied health supports	The IUIH Connect NCC introduced the family to the IUIH CCSS Nurse supporting clients accessing mainstream GP providers. The child was enrolled in CCSS, and supplementary service funds were identified to assist for the short term with access to private, specialised Paediatric allied health therapists. The IUIH Connect NCC made contact with the IUIH NDIS Access Pathway team, who connected with the family to assist with the application for NDIS funding to provide ongoing required disability supports.
Disconnect between specialist team at the hospital and primary care providers	At the end of the first week following discharge, IUIH Connect NCC coordinated arrangements for a case conference, which included Jenny and family, the Specialist team at the hospital, the mainstream GP, CCSS nurse, CTG Outreach Worker, and the private allied health providers. Jenny and her mum were at home with the CCSS nurse and CTG outreach worker, while the other providers were on video-conference.
Financial and Housing instability	The IUIH Connect Social Worker supported Jenny's mum with education and advice regarding her options for social supports, and subsequent review with Centrelink to secure access to additional payments. Jenny was linked up with a community-based housing provider with a long-standing close working relationship with the IUIH Connect team to assist the family to access stable / long term public housing.

Without IUIH Connect

Without IUIH Connect Jenny would not have had immediate access to a specialist wheelchair which would have prevented her from moving around (leaving her bedbound). Jenny would also not have had access to transport to and from the hospital which could have potentially led to multiple 'failure to attends'. Jenny would also have had reduced continuity of care as a result of not having a regular GP or access to allied health support.

Challenges

Whilst IUIH has been successful in providing a bridge between tertiary care and primary care for First Nations people, the program has had its challenges in terms of achieving buy-in from the HHSs to refer patients to IUIH Connect. This has resulted in IUIH Connect operating as a 'pull' model with IUIH having to actively seek out clients within the hospital who may benefit from the service. This contrasts to the ideal 'push' model where HHSs and providers push patients to IUIH Connect in order to provide that bridge of care.

There are also currently funding challenges within IUIH Connect. Queensland Health currently funds the program for coverage across the Metro North region (in line with the original commitment for the Metro North Care Connect that IUIH took over). IUIH has since expanded this service to the Metro South region at their own expense without additional funding. The recent funding boost that IUIH received in light of COVID-19 (which enabled the rapid expansion across South East Queensland) is also time limited with funding due to end at 30 June 2021. This funding enabled IUIH to allocate additional resources to the program, however due to limited buy-in at all levels from the HHSs, the referrals have not significantly increased from these new catchment areas.

Opportunities

Whilst the additional funding detailed above has enabled IUIH Connect to expand to urban SEQ, the buy-in at all levels from HHSs has not increased. However, there is an opportunity going forward to increase the profile of IUIH Connect across the region at the HHS level, which would shift the model from a 'pull model' to a 'push model'. This would potentially ease the burden on the HHS from frequent attendees or those who are low acuity where care could be more appropriately managed in an alternate setting. This model also has the potential to be expanded to other regions with research showing that northern Queensland is a 'hot spot' for PPH with rates at least 50% higher than the state average in every year for a decade[18].

Queensland Health currently contributes $1.1million per annum to regional care coordination. This funding, which was initially provided to Metro North, was moved to IUIH in 2011. This funding supports the provision of the service in Metro North. If IUIH Connect was to be established in another regional area, the following costings would be required at a minimum for the program:

Table 5: IUIH costs for expansion

Resources required	Funding required
IUIH Connect Manager	$100,000
Salary on costs	$15,000
Travel and regional support	$30,000
Communication and Marketing	$30,000
Total Initial Costs	**$175,000**
Regional care connect manager	$100,000
Care coordinators (Registered nurses/social workers) (x3)	$255,000
Outreach workers (x2)	$130,000
Salary on costs	$72,750
Vehicles (x6)	$90,000
IT, communications, office supplies	$25,000
Rent	$50,000
Program costs	$40,000
Brokerage funds	$35,000
Total cost per site	**$797,750**
Total Cost	**$972,750**

This is noting that IUIH contributes considerable resources to support the implementation of the program that may not be reflected in the price listed in Table 5. There are also a number of efficiencies that IUIH generates through its size including the centralised administration, the flexible funding pool, and IUIH's bulk purchasing capacity.

[18] Harriss, Linton R., et al. "Preventable hospitalisations in regional Queensland: potential for primary health?" *Australian Health Review* 43 (2019): 371-381.

IUIH Cataract pathway

Loss of vision has a substantial impact on the overall health and wellbeing of First Nations people, potentially contributing to reduced quality of life due to reduced opportunities for work, education and social engagement. Whilst Indigenous children have a lower incidence of poor vision compared to other Australian children, the prevalence of impairment increases significantly with age. First Nations people over the age of 40 have nearly 3 times the rate of vision loss as other Australians.

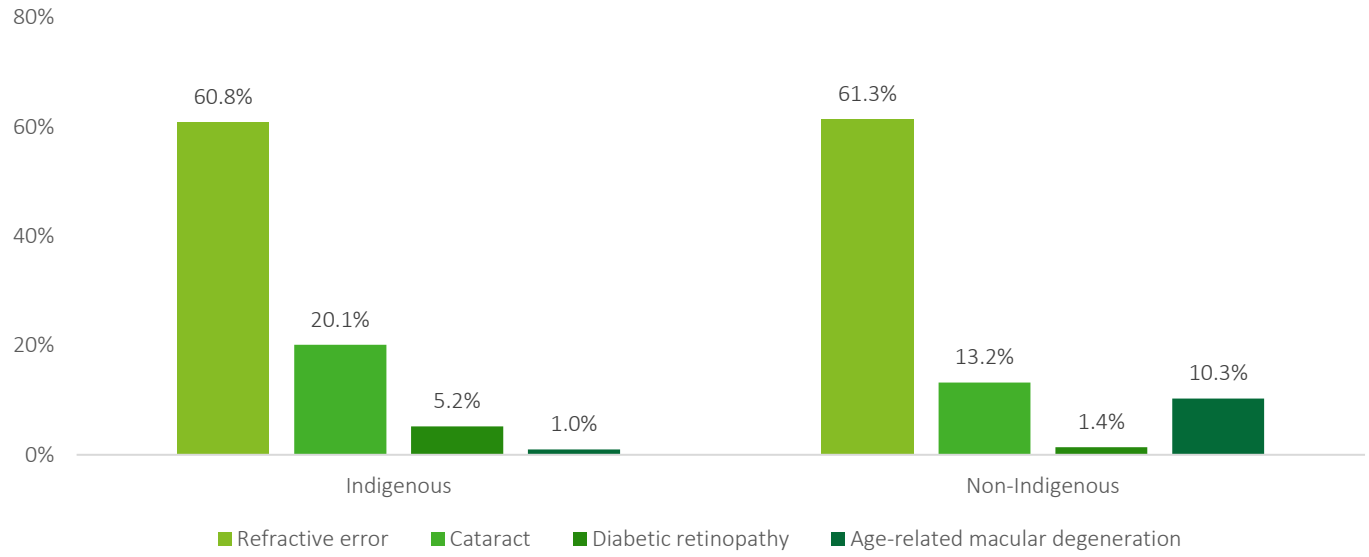
There are several complex factors that have led to poorer eye health for First Nations people and a lower use of eye health services. These include:

- Accessibility and availability of eye health services (e.g. cost, location, transport, delivery and outreach services)
- Medical factors such as high blood pressure, diabetes, obesity, and malnutrition
- Environmental conditions such as access to nutritional food, dust and UV exposure
- Hygiene practices and living conditions such as overcrowding, housing conditions, face washing, sanitation facilities
- Health behaviours including diet, alcohol and tobacco use; and
- Socioeconomic status

These complex factors combined with the complexity of the eye health pathway often results in patients not completing treatment.

The National Eye Health Survey in 2016 showed that the 3 main causes of vision loss for Indigenous Australians aged 40 and over were refractive error (61%), cataracts (20%) and diabetic retinopathy (5.2%). This is compared with non-Indigenous Australians aged 50 and over in Figure 16 which demonstrates that the rate of cataracts and therefore the demand for cataract surgery is significantly higher for First Nations people.

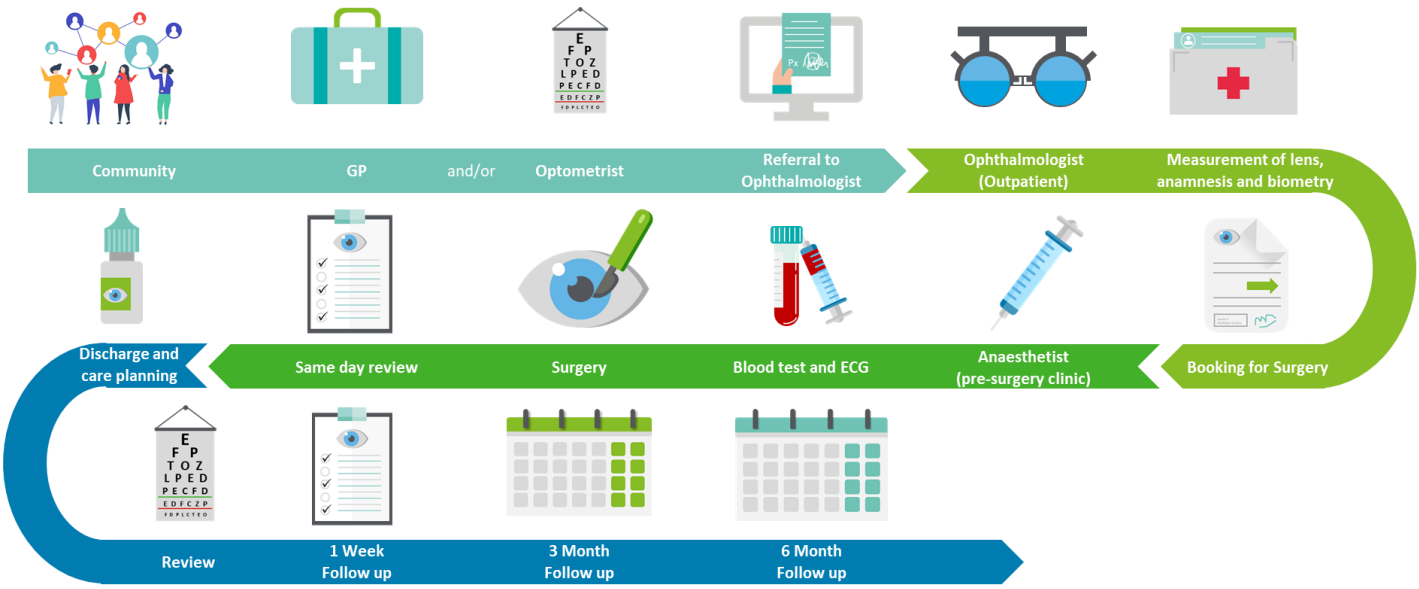
Figure 16: Main causes of vision loss, by Indigenous Status, 2016[19]



As aforementioned, the value of IUIH is providing support to patients through the navigation of the health system, with the eye system being particularly complex due to the number of providers within the cataract pathway. Figure 17 demonstrates an expected mainstream pathway whilst also highlighting the number of providers within the pathway which could lead to patients not completing the treatment due to it being too difficult.

[19] Australian Institute of Health and Welfare, Indigenous Eye Health Measures 2020

Figure 17: Expected mainstream cataract surgery pathway



However, as noted before Figure 17 refers to an expected mainstream pathway which often isn't accurate. For First Nations people in particular, there are a number of pain points during this pathway which can lead to them falling out of the pathway. The most significant pain points for this pathway are detailed below:

GP

GP Visit: Whilst 80% of people identify as having a regular GP, there is still a large proportion of people who can't see their GP when they want and a number of people who don't have a regular GP[20]. This results in illnesses and conditions not being picked up which often means that conditions worsen resulting in further pressure on the acute system later. The patient may also have low health literacy levels reducing the likelihood of them going to a GP or raising the issue with their GP.

Referral to Ophthalmologist

Referral to ophthalmologist: Patients can often feel disenfranchised at this point due to there being little visibility over what the referral looks like and how long the referral process may take. For First Nations people the median wait list time is 144 days (with non-indigenous having a median wait time of 233 days)[21]. This unknown wait time to see a specialist often leads to patients not completing the pathway, as a result of patients not wanting to wait that long.

Ophthalmologist (Outpatient)

Ophthalmologist: Patients may not attend the ophthalmologist appointment due to issues with transport or not being notified about the appointment. There is often little administrative follow up and there is inefficiency related with the rebooking of appointments which can further disenfranchise patients. This also has a cost to the system both for administrative rework and the time that the ophthalmologist is not seeing patients which increases wait times.

Measurement of lens, anamnesis and biometry

Measurement of lens, anamnesis and biometry: The follow up sessions before booking a surgery (e.g. measurement of lens etc.) also present a pain point to the system since they require repeated attendance to either an outpatient clinic or the hospital which can be daunting for some resulting in drop outs of the pathway. This also applies to the

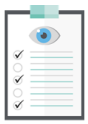
[20] Royal Australian College of General Practitioners. "General Practice: Health of the Nation 2017." 2017.

[21] Queensland Health Ophthalmology Data, supplied by the Healthcare Purchasing and System Performance Branch

anaesthetist visit and the blood tests prior to the surgery since they represent repeated visits to the hospital/outpatient clinic that people may not attend.

Surgery

Surgery: After another significant waitlist (depending on the category this can range in days however the median wait for the Indigenous population is 78 days from outpatient appointment to surgery), the patient then needs to turn up to the hospital which has a number of barriers associated with it (including transport). The consent process can also be daunting to many due to limited preparation of this process.



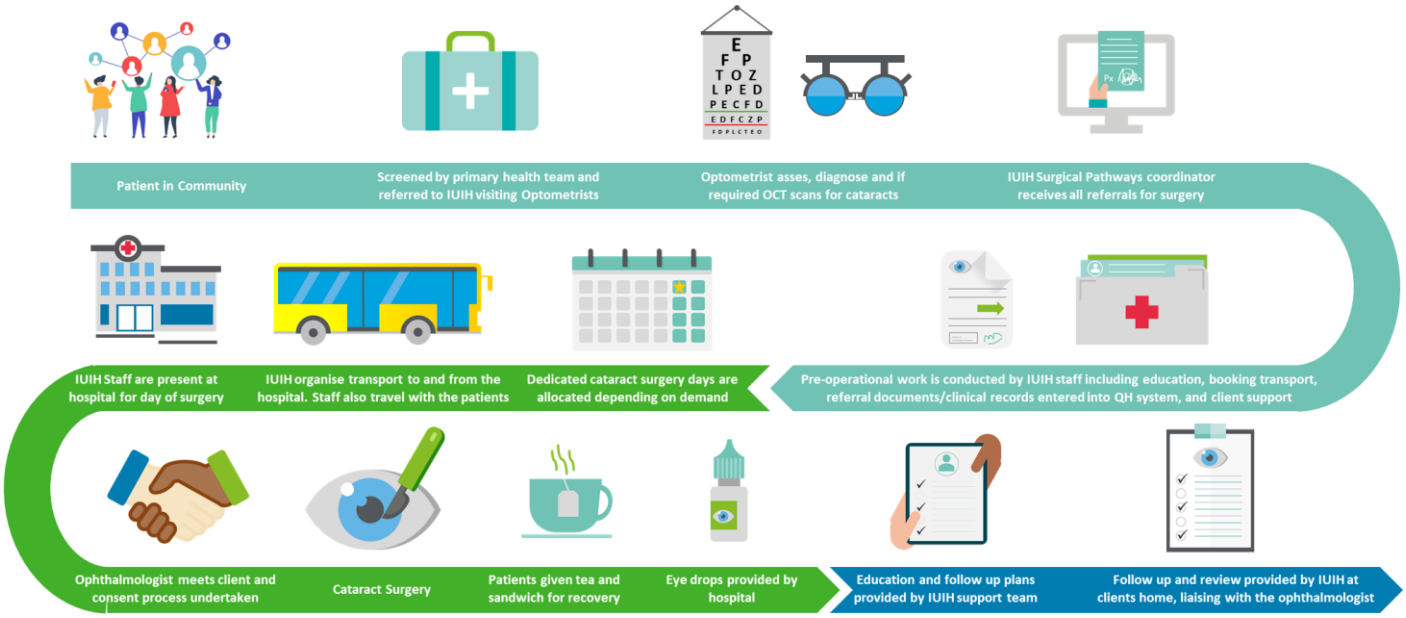
Discharge and follow up

Discharge and follow up: After surgery patients often are unaware of the care plan going forward, and this is often not communicated to GPs due to the fragmented system. Therefore, there may be problems after the surgery in terms of attendance to follow up appointments and no active handover to primary care.

The expected mainstream pathway as depicted above demonstrates how many different providers, waitlists and pre/post appointments are involved within the pathway which often leads to incompleteness of the pathway.

In order to reduce this incompleteness of treatment for First Nations people in SEQ, IUIH developed a comprehensive eye program with a specialised cataract surgery pathway. To deliver this pathway, IUIH invested in establishing and growing an inhouse team of optometrists and optical assistants, securing of visiting ophthalmology clinics and development of systems for tracking clients referred for eye surgery. Based on this the IUIH Cataract Surgery Pathway is depicted in Figure 18.

Figure 18: IUIH Cataract Pathway



As Figure 18 shows, the IUIH approach is a much more streamlined approach with more care provided in the community reducing the likelihood of patients not completing the pathway. The IUIH pathway also provides wraparound at-the-elbow support for patients increasing the likelihood of patients completing the pathway due to the support. The pathway also increases equity of access since patients are supported throughout the entire pathway in a culturally appropriate way, and through addressing barriers arising from socioeconomic disadvantage including lack of access to transport and gaps in health knowledge and literacy. Over 350 cataract surgeries (as shown in Table 6) have been performed through this pathway with fewer than 3% failing to attend, and only a small number requiring either an overnight stay or readmission. There has also only been a small number who have had complications or complexities which require ophthalmology follow up post-discharge. This also benefits the wider health system since patients are being taken out of the hospital system thereby freeing up the ophthalmologists to treat other patients.

Table 6: IUIH Cataract Surgery pathway patients

Year	Eye surgeries	Comments
2015-16	46	Peninsular Private Hospital
2016-17	120	Mater Springfield Pathway established
2017-18	47	
2018-19	55	Activity paused whilst funding/pathway secured
2019-20	87	Interruption due to COVID-19 and while pathway funding was interrupted and re-secured. Surgery recommenced in June
Total	***355***	

The wait times for cataract surgery through this pathway have also been significantly reduced due to IUIH having dedicated surgical days. This in combination with patients not having to see a specialist in an outpatient clinic has reduced the significant wait times that are associated with the cataract pathway. This has an impact on patient satisfaction with high attendance (and re-attendance for surgery on the second eye if needed) which improves patients' relationship with the health system. This wait time difference can be seen in Table 7.

Table 7: Mainstream and IUIH wait time comparison (Jun 2019)

	Mainstream non-Indigenous	Mainstream Indigenous	IUIH
Median wait time to see Ophthalmologist (Days)	153	144	n/a
Median Waiting time for Surgery (Days)	91	78	50-55
Average Waiting Time for Surgery (Days)	126	121	60-70

However, whilst Table 7 demonstrates that the IUIH wait time is shorter compared to the mainstream pathway, the breakdown of this should also be considered. The IUIH pathway has a patient seeing an optometrist who refers directly into the surgery pathway, rather than seeing an ophthalmologist. The wait time to see the optometrist is around 60 days which is significantly less than the wait time to see an ophthalmologist in the mainstream pathway. However, due to having dedicated surgery days, IUIH currently runs the pathway in a way where once there is a significant number of cases (approx. 30-35), they book a surgery day at the Mater Springfield. This is on average every 90 days. Therefore, the wait times have variance within that average since some patients may be waiting considerably longer than others (however still within clinically recommended times).

A substantial benefit of the IUIH Cataract pathway is identifying latent demand within the community. Latent demand refers to a need which exists within a population but is difficult to quantify because it does not even appear on waitlists. Latent demand occurs when there are issues of access to services such that individuals with need are not identified and/or referred to appropriate treatment pathways in the first place. IUIH addresses latent demand through the provision of accessible primary care services. Such services play a role in detecting eye health problems and referring patients to more specialised care.

One way in which IUIH addresses this demand is through the promotion of the Indigenous specific health assessment items listed on the Medicare Benefits Schedule (MBS). All First Nations people regardless of age are eligible for these checks. As part of its standardised practice, IUIH optimises claiming of MBS benefits for patients to sustainably support service growth. This includes increasing the number of health checks across the network with Table 8 below demonstrating how the IUIH cohort is exceeding national and long-term implementation plan targets.

Table 8: Comparison of IUIH and national nKPI results for Health Checks (Medicare Item 715)

Health Check (MBS Item 715)	IUIH Network Average (December 2017)	National CTG Implementation Plan 2023 Target	National Median	National Top 25%
25-54 years	76%	63%	48%	58%
55+	80%	74%	48%	58%

These health checks help IUIH to identify patients who might benefit from seeing an optometrist (exemplifying the "no-wrong-door" approach) who then may be referred onto the Cataract Pathway. This identification of latent demand is a crucial part of increasing equity of access to those who may not be seeing other health providers.

Challenges

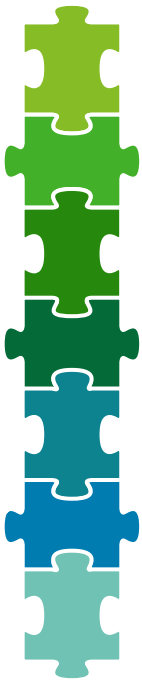
There have been a number of challenges associated with the Cataract pathway since its inception due to IUIH having limited purchasing power. As evidenced above, IUIH has significant coordination power and processes that ensure latent demand is increased and patients are provided coordination support throughout the entire pathway. However, the current model requires IUIH to have an understanding rather than a formalised arrangement with Metro South HHS that fast tracks patients through the wait list to surgery. This has meant that there has been issues with funding being suddenly stopped.

Opportunities

There are numerous opportunities for the Cataract Pathway in relation to First Nations people from a policy perspective. The IUIH Model has shown the advantages of improving equity of access and providing wraparound support. The early identification of latent demand has also improved health outcomes for First Nations people whilst also potentially reducing the demand on the hospital system since patients are identified earlier. There is an opportunity for this program to be applied to other types of quick procedural surgeries improving health outcomes on a wider scale.

There is also an opportunity for the IUIH cataract pathway in relation to price. Currently, Queensland Health purchases the IUIH cataract pathway at the price paid for Surgery Connect. This price, which currently flows to Metro South HHS is a bundled payment for the entire cataract pathway (pre-surgery, surgery, and post-surgery). IUIH is not separately paid for the wrap around services it provides to reduce access barriers for First Nations people. In the past, drawing on in-kind support from organisations such as Fred Hollows, from private surgery providers willing to bulk bill and from its own internal resources, IUIH has delivered comparable services for a price of $1,471 (in 2015). The current surgery connect price paid by Queensland Health is $3,881.69.

This price differential gives rise to questions of whether opportunities exist for Queensland Health to support IUIH to exercise greater independence in service design and price setting. Of note, however, a number of factors must be taken into consideration when directly comparing these prices:



Indexation: The IUIH price refers to the price negotiated with Healthscope in 2015 for services. This price may not still be accurate in 2020.

Subsidisation: The IUIH price contains subsidisation of a number of services by both IUIH itself and from the Fred Hollows foundation. These services given in kind reduce the price of the cataract surgery.

Wraparound support: The IUIH price currently does not include the wraparound 'at the elbow support' that is so crucial for the coordination of the cataract pathway for First Nations people. These services are currently provided in kind by IUIH to improve health outcomes.

Buying power: One of the reasons why the IUIH price is lower relates to buying power; in 2015 IUIH used Commonwealth Department of Health Australian Eye and Ear Surgery Support (EESS) funding via CheckUp to purchase surgery.

Quality and risk: whilst IUIH could potentially negotiate a lower price than the current Surgery Connect price, checks surrounding clinical quality and risk would have to be considered.

Policy considerations: the IUIH cataract pathway currently bypasses the specialist outpatient waitlist and the surgery waitlist. Therefore, waitlists for First Nations people need to be considered from a policy perspective going forward.

Equity of access: As highlighted before, one of the major strengths of the IUIH cataract pathway is the early identification of patients and the identification of latent demand. This has improved the equity of access for First Nations people.

Birthing in our Communities (BiOC)

For decades there has been a global movement led by Indigenous people to return birthing services to Indigenous communities. However, during this period, Australia did not experience this progressive movement with the contrary happening in terms of maternity services being closed and centralised[22]. This disproportionally impacted Indigenous women particularly in rural and remote communities. There has been regular requests for the return of Birthing on Country with a review in 2009 defining Birthing on Country services as *"maternity services designed and delivered for Indigenous women that encompass some or all of the following elements: are community based and governed, allow for incorporation of traditional practice; involve a connection with land and country; incorporate a holistic definition of health; value Indigenous and non-Indigenous ways of knowing and learning; risk assessment and service delivery; are culturally competent and are developed by, or with, Indigenous people"* .

In 2013, the Birthing in Our Community Service (BiOC) was established by IUIH, in response to an evaluation of an Indigenous-specific antenatal clinic where it was recommended that the health service partner with an CCCS in order to have a concerted effort to improve cultural competence across the maternity journey and birthing outcomes for Indigenous families. IUIH partnered with ATSICHS Brisbane and the Mater Mothers Hospital to design the Indigenous maternal infant health service. There are several components to the BiOC program as shown in Figure 19.

Figure 19: Birthing in Our Community Services

The BiOC service built on many established skills, services and networks of the Mater, ATSICHS Brisbane and IUIH in order to develop an integrated and culturally appropriate model of care that comprehensively addresses the maternal and social issues that sustain the gap. As part of the BiOC model there are also a number of agreed core elements which include:

- Executive commitment through a Memorandum of Understanding or Statement of Commitment
- Aboriginal and Torres Strait Islander Community Control: with the level of community control being locally determined based on the capacity of the partnering organisations with the goal being majority control of the resources by the community-controlled entity).
- A dedicated BiOC service manager: employed by the community-controlled partner who provides overarching service coordination.
- Birthing Facility and Specialist Obstetric Service: Intrapartum care is provided in the hospital birthing facility. Eligible women are those primarily in the catchment of the birthing facility (e.g. Mater). BiOC also operates as an 'all-risk' model with any

[22] Kildea, Sue, et al. "Reducing preterm birth amongst Aboriginal and Torres Strait Islander babies: A prospective cohort study, Brisbane, Australia." *The Lancet* (2019).

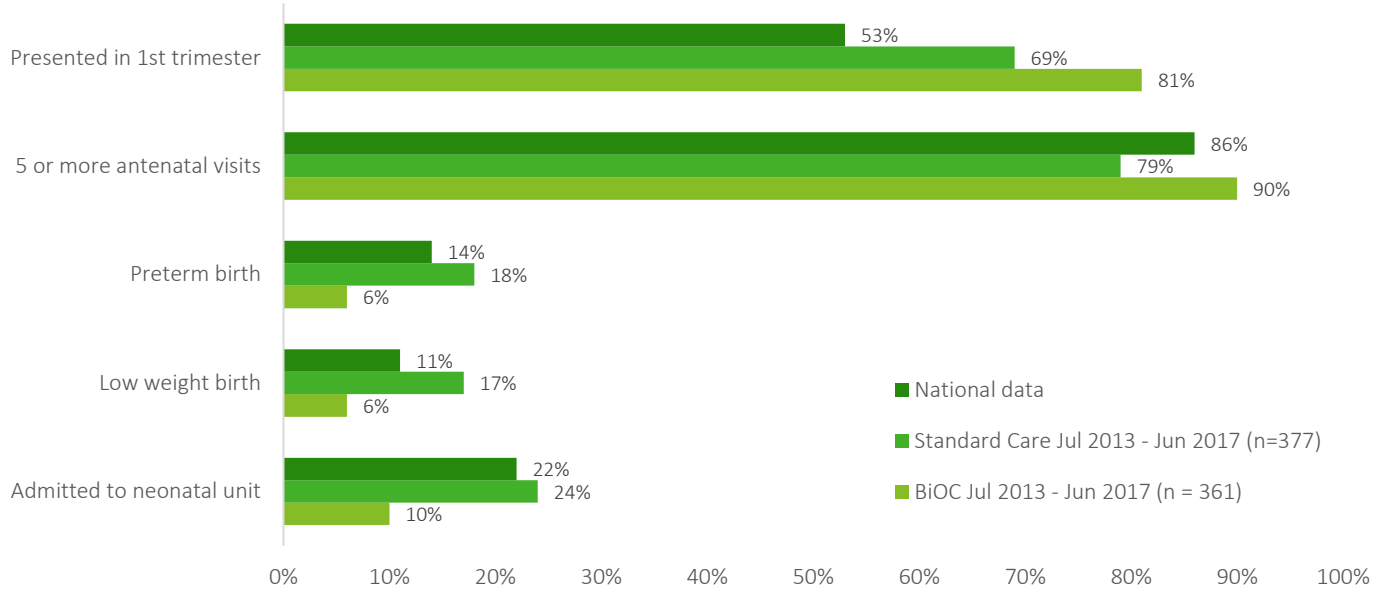
women who meets the eligibility criteria (location and being pregnant with an Indigenous child) being able to access the service. Those with higher risk pregnancies also have access to specialist obstetric and other hospital-based services.

- Community based hub: access to a culturally safe, close to community and community led comprehensive primary health care and maternity service. The hub is operated by the CCHS partner with access to hospital systems and databases. The hub offers a 'one stop shop' approach to service delivery.
- Continuity of midwifery carer: patients have a known midwife during pregnancy, birth and early parenting linked to the tertiary service with specialist support when required. The caseload ratio for First Nations women should be 30-32 women per FTE due to the higher intensity of care and case management required, and the level of care coordination required across multiple providers.
- Continuity of Family Support Worker: patients have access to a family support worker who is employed by the CCHS. The worker works with the patient's primary midwife to connect, engage and retain families in the program. They also gather psychosocial information, establish a comprehensive family plan and support the patient to access the breadth of required service and support.
- Investment in building and strengthening a culturally capable workforce: For the First Nations workforce this includes resources and creating opportunities to access professional pathways in training as well as vocationally prepared roles. All staff undergo full orientation for all partnership organisations, and a formalised program of ongoing clinical and cultural supervision is mandated in order to support the integrated and multidisciplinary team.

Impact on health outcomes

The BiOC program has shown significant improvements in many maternal and infant health outcomes including reductions in preterm births, caesarean sections, smoking in pregnancy, low birth weights and babies admitted to neonatal surgery. These improvements have almost closed the gap in comparison with mainstream preterm birth rates and have halved the rate compared to national Indigenous rates for some indicators. This can be seen in Figure 20.

Figure 20: Antenatal and Neonatal Health Outcomes - National, Standard Care and BiOC 2013-17



The types of results demonstrated in Figure 20 are unprecedented in Australia and have made a significant impact in Closing the gap targets around child mortality. Preterm births account for a substantial proportion of Indigenous infant deaths and are responsible for approximately 40% of the child mortality gap. By reducing this rate by 50%, the value of the program is significant and results have showed that reducing preterm births is possible through targeting Indigenous women early for antenatal care and providing continuity of a culturally safe carer within a holistic service with high levels of community investment.

The high presentations during the 1st trimester suggest that the BiOC program is popular with First Nations people and therefore drives early and continued engagement by patients. Prenatal and postnatal support is also critical in ensuring that there is no delayed identification and treatment of conditions that could have consequences in the latter years of a child's development and potentially throughout the rest of their lives.

Key enablers

There are a number of key enablers that have ensured that the BiOC program is successful in the south of Brisbane. These enablers include:

Indigenous governance and partnership steering committee

The service is governed by a partnership Steering committee underpinned by a Memorandum of Understanding (MOU) and Statement of Commitment which clearly articulated shared goals and commitment. There was also strong Indigenous leadership in driving the design, development and implementation of the service. This included a bimonthly multi-agency Steering Committee during the first few years of the program in order to ensure its success. IUIH is now the major funds holder of the service, and it has purchased additional midwifery services from the hospital, employ the service manager and operate the community-based hub facility.

Caseload midwifery

A midwife is available to patients throughout pregnancy, birth and up to six weeks postnatally by a known midwife and back up midwives if the primary midwife is off duty. Antenatal care is also delivered according to the patient's preference. This could be either at the home, at the community-based hub or in the hospital for women with complex needs or who live outside of the designated home visiting area. The program currently has 8 FTE midwives with 4 FTE originally being redeployed from existing Mater services and the second 4FTE being contracted from Mater by IUIH using QH BiOC funding.

Indigenous workforce strategy

By having an Indigenous Workforce Strategy, the program provides a culturally competent and responsive maternity workforce whilst also addressing key social determinants of health (Education, income and career development) for Indigenous women. Dedicated resources are allocated in order to support Indigenous midwifery trainees and staff are actively recruited whilst also being provided with regular clinical and cultural supervision.

Indigenous-controlled community-based hub

The BiOC program is delivered out of the IUIH Mums and Bubs Hub in Salisbury on the southside of Brisbane. The hub serves as a base for the service and offers midwifery group practice, support from First Nations Family Support workers, transport services to access care and intensive support for women to quit smoking. The hub also runs weekly community days where women participate in arts and crafts, receive peer support and advice on food preparation. This enables a cultural connection in a social setting supporting the patients both mentally, socially and culturally.

Integrated family services

Like most of IUIH's offerings, the BiOC service offers a "one-stop-shop" approach to maternity services with multidisciplinary providers providing a full range of primary maternity and infant healthcare and access to paediatric specialist and allied health therapy services.

Challenges

Whilst the BiOC program has been successful in reducing the rate of pre-term births for patients who use its services, the implementation and then translating to other sites has not been without its challenges. The initial implementation of the program required significant intensive and ongoing negotiation and collaboration between the partners to bridge significant differences between mainstream and CCHS operating philosophies and practices, despite high level commitment to a shared vision for birthing services. The partners persevered through these challenges and now have a working model, however it has been noted that success accelerated after the establishment of a community based and operated hub (in Salisbury), insertion of Indigenous management of day to day operations of the service, and fund holding by IUIH enabling the opportunity to purchase midwifery services from the Mater with the midwives working within the community based BiOC hub. This model enabled the community and partnership approach which was the initial aim of the program. IUIH has also faced a number of challenges when transferring the BiOC program to other sites (BiOC Logan and BiOC North) with these sites being connected to the HHS (Metro South and Metro North respectively) rather than a private provider such as Mater. The majority of these challenges have related to the joint governance model, and the differing organisational practices that IUIH has in relation to the BiOC program.

Appendix.

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