STRENGTHENING THE EVIDENCE BASE FOR ABORIGINAL ALCOHOL AND OTHER DRUG RESIDENTIAL REHABILITATION SERVICES

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Acronyms and terminology

Acronym	Description
ABS	Australian Bureau of Statistics
ADARRN	Aboriginal Drug and Alcohol Residential Rehabilitation Network
AH&MRC	Aboriginal Health & Medical Research Council
AoD	Alcohol and Other Drugs
BCA	Benefit-Cost Analysis
BCR	Benefit-Cost Ratio
BOCSAR	NSW Bureau of Crime Statistics and Research
BTOM	The Brief Treatment Outcome Measure
CBPR	Community-Based Participatory Research
CI	Confidence Interval
Communicare	An integrated electronic health and practice management system used to record client information and report on service delivery
COMS	Client Outcomes Measurement System – an electronic system data collection system developed by NADA in conjunction with service providers
CQI	Continuous Quality Improvement
EAC	Evaluation Advisory Committee
Encircle	The patient information management system used by Namatjira Haven
ED	Emergency Department
EQ-5D	EuroQol-5D – a standardised measure of health-related quality of life for deriving health utilities
IT	Information Technology
K10	Kessler 10 – a brief measure of non-specific psychological distress in the anxiety-depression spectrum
MIMASO	A patient information system with a case management focus developed for drug and alcohol treatment services
NADA	Network of Alcohol and other Drug Agencies
NADAbase	Data repository system maintained by NADA who provide it free to members for client data collection and reporting
NARHDAN	NSW Aboriginal Residential Healing Drug & Alcohol Network
NIAA	National Indigenous Australians Agency
NDARC	National Drug and Alcohol Research Centre
NSW	New South Wales
PDSA	Plan, Do, Study, Act cycles used in continuous quality improvement
PHC	Primary health care
PIMS	Patient Information Management System
PMC	Department of the Prime Minister and Cabinet
PREMS	Patient Reported Experience Measures
PROMS	Patient Reported Outcome Measures
QALY	Quality Adjusted Life Year
SAT	Standardised Assessment Tool

Acronym	Description
SDS	Severity of Dependence Scale – screening tool to assess levels of dependence experienced by users of different types of drugs
UNSW	University of New South Wales
WSIPP	Washington State Institute for Public Policy

EXECUTIVE SUMMARY

Background

This report details the process of working with six Aboriginal residential rehabilitation services in NSW to embed a best-evidence Standardised Assessment Tool (SAT) into their service delivery processes, and the outcomes of using it for service improvement. The services and their geographic location in NSW are:

- Wellington Aboriginal Corporation Health Service (Maayu Mali), Moree
- Namatjira Haven Limited (Namatjira Haven), Alstonville
- Ngaimpe Aboriginal Corporation (The Glen), Chittaway Point
- Orana Haven Aboriginal Corporation (Orana Haven), Gongolgon
- Weigelli Centre Aboriginal Corporation (Weigelli), Woodstock
- The Oolong Aboriginal Corporation (Oolong House), Nowra

The partnership between these six services and the team of researchers, led by Professor Anthony Shakeshaft from the National Drug and Alcohol Centre (NDARC) at the University of NSW (UNSW), was developed and strengthened through previous collaborative research with NSW Aboriginal Residential Healing Drug and Alcohol Network (NARHDAN), and their desire to build an evidence base to ensure optimal outcomes for their clients.

To date, this partnership has undertaken two projects. A report on the first project, titled *Understanding clients, treatment models and evaluation options for the NSW Aboriginal Residential Healing Drug and Alcohol Network (NARHDAN): a community based participatory research approach,* is available online and presents the results of a research partnership between NARHDAN and NDARC (Shakeshaft et al., 2018). This current report presents the results of the second project. Both projects were funded by the National Indigenous Australians Agency (NIAA), and prior to that the Department of the Prime Minister and Cabinet (PMC), whose staff provided expert policy advice and guidance for both projects.

The theoretical framework for working with Aboriginal residential rehabilitation services has been based on the principles of Community-Based Participatory Research (CBPR). The results in this report derive from both qualitative and quantitative methods.

Project aims and planned outcomes

The aims of the project were to:

1. Build the capacity of Aboriginal alcohol and other drug residential rehabilitation services (Aboriginal residential rehabilitation services) to routinely collect valid and reliable client data;
2. Implement a Continuous Quality Improvement (CQI) process to improve the quality of their routinely collected client data, and to sustain those improvements over time;
3. Quantify the economic costs and benefits of their services; and

4. Co-design and implement a refined model of integrated case management and exit planning and identify the experiences of staff in its delivery.

The planned outcomes, specifically in relation to each aim, are summarised in Table 1.

Table 1: Planned project outcomes corresponding with each project aim

Aims	Planned outcomes
1. Build the capacity of services to routinely collect valid and reliable client data.	The extent to which a best-evidence SAT was embedded into the Patient Information Management System (PIMS) for the routine collection of client data in five domains: a) substance use; b) substance dependence; c) mental health; d) quality of life; and e) cultural connectedness.
2. Implement CQI to sustain and enhance improved collection of client data.	The extent to which: a) CQI processes were implemented; b) data dashboards were developed and used to engage staff in data improvement; c) the proportion of clients with an electronically documented assessment increased; and d) persistent barriers to embedding CQI into routine practice were identified.
3. Quantify the economic benefits and costs of Aboriginal residential rehabilitation services.	An estimated benefit-cost ratio.
4. Co-design and implement a refined model of integrated case management and exit planning.	Key outcomes were: a) staff experiences of delivering the refined model; and b) staff perceptions of the key barriers and enablers to preparing clients for exit from an Aboriginal residential rehabilitation service.

Key findings

The key findings of this report are:

1. Refinements to a best-evidence SAT were able to be co-designed between Aboriginal residential rehabilitation services and researchers, and the refinements were able to be integrated into the PIMS of all five services that remained engaged in this project (noting that Oolong House was unable to stay engaged for the duration of the project).

2. There are clear opportunities to further improve the SAT, namely:
   a. Adding direct measures of the value that clients attach to Aboriginal residential rehabilitation to the SAT, such as Patient Reported Outcome Measures (PROMs) and/or Patient Reported Experience Measures (PREMs). These tools are becoming

commonplace in a range of health services, including Indigenous primary care services.

     b. Optimising the uptake of the SAT by addressing two key barriers that were identified by staff: i) the functional limitations of the PIMS; and ii) the less-than-optimal use of PIMS for routine client assessments using the SAT.

3. The introduction of a co-designed CQI process increased the number of client assessments completed during treatment, and on exit. This finding is consistent with existing research evidence. The key features of the CQI model evaluated in this project were that: i) it had multiple components; and ii) there was clear Indigenous ownership and leadership through the Aboriginal Drug and Alcohol Residential Rehabilitation Network (ADARRN).

4. The staff of services rated the CQI process as highly acceptable, primarily because the CQI facilitators perceived that it had practical value for clients and services, and because they were able to demonstrate that value to their co-staff and their Board of Management.

5. Although the CQI process should be sustainable because it was designed to engage with staff whose role explicitly involved client assessment and data (as opposed to staff who were merely interested in CQI) and because of the motivation provided by positive staff feedback, three key threats to its uptake and sustainability were identified: i) staff misconceptions about the role of CQI; ii) staff turnover and resistance to change; and iii) the limitations of current information technology (IT) systems.

6. The benefit-cost ratio (BCR) for Aboriginal residential rehabilitation services was estimated to be 1.29, which means that every $1.00 invested in these services achieves an estimated $1.29 return. Even under the most conservative assumptions, the BCR effectively reached the break-even threshold (0.99).

7. A refined model of integrated case management and exit planning was co-designed and implemented. Three key barriers to its uptake into routine practice were identified: i) the lack of readily available alcohol and other drugs (AoD) detoxification services; ii) the difficulty of co-ordinating the suite of relevant services required by each client; and iii) addressing the key features likely to support a client's successful and sustained transition back to community, namely access to: safe and stable housing; primary healthcare services; and a supportive social network.

Implications

Implications of the key findings in this report are:

1. A staff member in each service could be nominated as a dedicated CQI facilitator. Establishing a nominated role, as opposed to relying on staff with a particular interest in CQI, would protect the CQI process from future staff turnover. This would be part of an existing role (as opposed to a 'sole CQI facilitator', which is unnecessary).

2. All services could ensure that they have an appropriate PIMS. Specifically, the two Aboriginal residential rehabilitation services in NSW using Communicare could transition to a different

PIMS because Communicare was designed for the information needs of primary health care (PHC) services, rather than dedicated AoD treatment services.

3. A sustainable partnership model between services and researchers could be developed and tested to enhance services' ongoing use of CQI. Given the high acceptability of the CQI process used in this project was primarily attributed to its practical value to services, the research team would need to comprise statisticians and data scientists with skills to manage and analyse real-world data, and produce the data visualisations co-designed between services staff, clients, and researchers. This partnership model seems necessary because of the low likelihood that these specialist research skills could be built and maintained within services that are focused on delivering specialist AoD treatment. Key features of this model could include:

   a. Researchers being responsible for providing an active learning environment to ensure services' staff perceive value in being involved in CQI and build their professional skills and capacity in CQI; and

   b. Developing an automated system for extracting, managing, and analysing data from services' PIMS, based on the principles of Indigenous data sovereignty. The goal is to improve the efficiency with which data are transformed into actionable improvements in client outcomes and service delivery.

4. A highly innovative model of embedding monitoring and evaluation into routine service delivery could be co-designed for, and tested in, Aboriginal residential rehabilitation services. The specific goal of this model would be to achieve continual and incremental improvements in client outcomes and/or the efficiency with which services are delivered. The authors of this report have articulated such a model, in collaboration with colleagues in the United States of America. The model includes better use of services' data, building feedback pathways and collaborative mechanisms to identify and co-design novel improvements, and using qualitative and quantitative methods to evaluate their implementation (process measures) and impact (outcome measures). This model could be feasibility tested using any of the novel improvement options identified in this project, including:

   a. introducing PREMs or PROMs, which would more directly capture the value that clients place on Aboriginal residential rehabilitation services;

   b. developing the capacity to link client data across administrative health and crime datasets, which would capture a wider range of client outcomes post-discharge and identify clients who have poor post-discharge outcomes with a view to tailoring the model of care more effectively to their needs; and

   c. testing innovative modifications to the model of care, such as the model of integrated case management and exit planning examined in Chapter 7, or more effective integration with housing and health services, and social networks.

5. The investment in this NSW-based partnership could be leveraged to a nationally consistent approach across the roughly 35 Aboriginal residential rehabilitation services in Australia. This is highly likely to be feasible given ADARRN, the current research team and NIAA all have a

national outlook. Moreover, the SAT and model of care were specifically designed to be standardised by best-evidence, the core components of which would be tailored by individual services to their own circumstances. This national monitoring and evaluation network would accelerate learning about client outcomes in several ways, such as identifying and examining unwanted variation in client-level, or service-level, outcomes across multiple services, and increasing methodological quality by allowing the inclusion of more services and clients in process and impact evaluations of new innovations in either models of care or clinical service delivery.

1. PROJECT DESCRIPTION

Background and context to the project

Commencing in 2017, a partnership was built between NARHDAN and NDARC, with invaluable support (including funding) from NIAA/PMC. The objective of this partnership was to routinely and incrementally improve outcomes for clients of Aboriginal residential rehabilitation services by increasing the capacity of those services to undertake evaluation, including treatment impact research. A key motivation for forming the partnership was the recognition that this objective would be more effectively realised by working together with as many Aboriginal residential rehabilitation services as possible, rather than by working with each of them independently of each other. The partnership comprises two projects.

PROJECT 1: UNDERSTANDING CLIENTS, TREATMENT MODELS AND EVALUATION OPTIONS

This project focused on developing an innovative, best-evidence treatment model for Aboriginal residential rehabilitation services. This model combined the existing research evidence (derived from a systematic review of the Indigenous residential rehabilitation literature) with the expertise of Aboriginal residential rehabilitation clinicians (Shakeshaft et al., 2018). Its key innovation is that it was designed to be both standardised by best-evidence (its six core components) and tailored to each service (each service had to operationalise the delivery of the core components in accordance with their own circumstances). The six core components are: i) healing through culture and country; ii) therapeutic activity; iii) case management; iv) time-out from substances; v) life-skills; and vi) follow-up support.

In addition to the development of this model, client data collected by the services were examined to determine the extent to which they could be used to both fulfil services' routine reporting requirements and rigorously assess client outcomes. This analysis found that Aboriginal residential rehabilitation services collect data using different assessment tools, and that the quality and frequency of their data collection could be improved. Consequently, NARHDAN and NDARC worked together to define the aims of Aboriginal residential rehabilitation services and then develop a best-evidence SAT for the routine collection of client data that were highly aligned with those aims, namely: i) improving quality of life; ii) reducing drug and alcohol use; iii) reducing drug and alcohol dependence; iv) strengthening cultural connection; and v) improving mental health.

Finally, the best-evidence treatment model and assessment tool were integrated into an evaluation framework that could be used to estimate the total net benefits and costs of Aboriginal residential rehabilitation services, and to evaluate the impact of future treatment innovations (Shakeshaft et al., 2018).

PROJECT 2: STRENGTHENING THE EVIDENCE BASE FOR ABORIGINAL ALCOHOL AND OTHER DRUG RESIDENTIAL REHABILITATION SERVICES

This report presents the work completed in Project 2 of this partnership, as at November 2022. It commenced in February 2019 with four aims: i) improve services' capacity to routinely collect valid and reliable client data; ii) develop, implement and evaluate a model of continuous quality improvement (CQI) to sustain improved collection of client data; iii) estimate the economic costs and benefits of Aboriginal residential rehabilitation services; and iv) co-design and implement integrated case management and exit planning, and explore staff experiences of its delivery. This report addresses these four aims.

Aims and objectives of this report

AIM 1. TO IMPROVE THE CAPACITY OF SERVICES TO ROUTINELY COLLECT VALID AND RELIABLE CLIENT DATA TO MONITOR AND ASSESS CLIENT INTAKE CHARACTERISTICS AND OUTCOMES

Objectives:

- Refine the SAT developed in collaboration with Aboriginal residential rehabilitation services in Project 1, to ensure that it is aligned with their treatment objectives and is feasible to integrate into their PIMS;
- Integrate the SAT in the PIMS of services and train staff in its routine use; and
- Examine the capabilities of PIMS currently used by Aboriginal residential rehabilitation services to routinely collect and extract client data.

AIM 2. TO DEVELOP, IMPLEMENT AND EVALUATE CQI TO SUSTAIN IMPROVED COLLECTION OF CLIENT DATA

Objectives:

- Examine the process of training and outreach support in CQI for embedding routine data collection and CQI processes; and
- Evaluate the effect of training and outreach support in CQI for improving client outcome assessments.

AIM 3. TO ESTIMATE THE ECONOMIC COSTS AND BENEFITS OF ABORIGINAL RESIDENTIAL REHABILITATION SERVICES

Objectives:

- Establish best-evidence estimates of the economic costs and benefits of Aboriginal residential rehabilitation services in NSW using Benefit-Cost Analysis (BCA);
- Use these estimates to establish a baseline against which the introduction of the CQI process (or any other service innovations) could be compared; and
- Build a BCA model that can be incrementally improved over time.

AIM 4. TO CO-DESIGN AND IMPLEMENT INTEGRATED CASE MANAGEMENT AND EXIT PLANNING, AND EXPLORE STAFF EXPERIENCES OF ITS DELIVERY

Objectives:

- Describe the integrated case management and exit planning refinements to Aboriginal residential rehabilitation services' model of care and a process for implementing them;
- Identify staff experiences of delivering the integrated case management and exit planning refinements; and
- Explore staff perceptions of the key barriers and enablers to preparing clients for their exit from residential rehabilitation and returning to their communities.

Project approvals

The CEOs of participating Aboriginal residential rehabilitation services provided written consent for their service to participate in the project. The project was submitted to the Human Research and Ethics Committee of the Aboriginal Health and Medical Research Council (AH&MRC) for ethics approval on November 26, 2018. Ethical approval was granted by the AH&MRC Ethics Committee (Approval No. 1476/18) on February 21, 2019.

Services participating in the project

The six Aboriginal drug and alcohol residential rehabilitation services operating in early 2019 agreed to participate in the project. Each service is governed by an Aboriginal community-controlled board of management. The names of each service (and of the traditional country on which it is located, and the number of years it has been operating) are: Namatjira Haven (Bundjalung, 43 years); The Glen (Darkinjung, 28 years); Weigelli Centre (Wiradjuri, 26 years); Orana Haven Drug and Alcohol Rehabilitation Centre (Ngemba, 40 years); Oolong House (Dharrawal, 42 years) and Maayu Mali (Kamilaroi, 4 years). All services are in regional or remote locations, between 180 and 650 km from Sydney, NSW. Figure 1 shows the geographic location of each Aboriginal residential rehabilitation service (James et al., 2020, p.27).

Figure 1: Geographic location of Aboriginal residential rehabilitation services

Note. From: 'Understanding the client characteristics of Aboriginal residential alcohol and other drug rehabilitation services in New South Wales, Australia', by James et al., 2020, Addiction Science & Clinical Practice, 15(1), p. 27. doi: 10.1186/s13722-020-00193-8. PMID: 32727625; PMCID: PMC7388208. Creative Commons Attribution License 4.0.

Overview of key services provided in Aboriginal residential rehabilitation

Table 2 provides an overview of the six Aboriginal residential rehabilitation services at the commencement of the project, including the eligibility criteria for entry into each Aboriginal residential rehabilitation service (males/females, aged 18 and older, and couples), treatment options (program length, bed availability, and AoD detox availability) and core treatment components.

Table 2: Overview of Aboriginal residential rehabilitation services

Key services provided	Aboriginal residential rehabilitation services					
	Namatjira Haven	The Glen	Weigelli	Orana Haven	Oolong House	Maayu Mali
Client Assessments						
Initial assessment[a]	✓	✓	✓	✓	✓	✓
Week 1[b]	✓	✓	✓	✓	✓	✓
Weeks 4-8[c]	✓(week 6)	✓(weeks 4, 8)	✓(week 6)	✓(week 6)	✓(week 6)	✓(weeks 4, 8)
Weeks 12-16[d]	✓	✓	✓	✓	✓	✓
Client Eligibility	Males 18 years +	Males 18 years +	Males, females, couples 18 years +	Males 18 years +	Males	Males, females 18 years +
Treatment options						
Program length (weeks)	12 to 36	12 to 52	12	12 to 52	16+	12
Bed numbers	14-16	20 program 18 transition	18	16-18	21	14 male 4 female
AoD detox	✓(2 beds)	✘	✘	✘	✘	✘
Treatment components						
Healing through culture	✓	✓	✓	✓	✓	✓
Life skills	✓	✓	✓	✓	✓	✓
Therapeutic activities	✓	✓	✓	✓	✓	✓
Time out from substances	✓	✓	✓	✓	✓	✓
Case management	✓	✓	✓	✓	✓	✓
Follow-up support	✓	✓	✓	✓	✓	✓

[a] Initial assessment: Occurs when clients first make contact with service; typically done by phone.

[b] Week 1: Client enters service, undertakes orientation to service and health checks (medical), and a care plan is developed.

[c] Weeks 4-8: Progress review/s and assessment/s typically occur/s during this time.

[d] Week 12: Exit interview and assessment (program completion) at Week 12, except for Oolong House where exit interviews occur in Week 16.

[e] The capacity of services to provide follow-up support varies, as it is dependent upon funding and resources available to support clients after they leave residential treatment. For example, The Glen has a transition 'back to community' program while Weigelli Centre has a dedicated after-care team that provides ongoing support for up to 12-months post-discharge. The other services provide opportunistic follow-up support and care such as relapse prevention and referrals for housing and medical needs.

Note. From: 'Understanding the client characteristics of Aboriginal residential alcohol and other drug rehabilitation services in New South Wales, Australia', by James et al., 2020, Addiction Science & Clinical Practice, 15(1), p. 27. doi: 10.1186/s13722-020-00193-8. PMID: 32727625; PMCID: PMC7388208. Creative Commons Attribution License 4.0.

Program logic model for Aboriginal residential rehabilitation services

As devised in Project 1, and summarised in Table 2, the Aboriginal residential rehabilitation services deliver six core treatment components: i) healing through culture and country; ii) case management; iii) life skills; iv) therapeutic activities; v) time out from substance use; and vi) aftercare support (Shakeshaft et al., 2018). These six treatment components comprise a standardised model of care delivered by Aboriginal residential rehabilitation services in NSW. This means that anyone who accesses an Aboriginal residential rehabilitation service in NSW will have access to the same model of care (these six core treatment components) irrespective of the specific service that they choose to attend. The key differences between services is the way in which these standardised, best-evidence core components are delivered, given their delivery is tailored to the individual circumstances of different service providers (the flexible activities).

Table 3 represents a program logic model that aligns the standardised core treatment components and the flexible activities with the goals and outcomes of Aboriginal residential rehabilitation in NSW. It aims to specify:

- the goals to be achieved by Aboriginal residential rehabilitation treatment (identified as A to G);
- the program that is being delivered (comprising the six best-evidence and standardised core components, an explanation as to why each core component helps to improve treatment outcomes, and the flexible activities designed by each service to operationalise the delivery of the core components); and
- the measures of program delivery and outcomes (identified as A to G to enhance their alignment with the goals to be achieved).

Table 3: Program logic model for Aboriginal residential rehabilitation services

Component	Detail	
Client goals to be achieved	• Successful engagement in an AoD residential treatment. • Reduced substance misuse. • Improved quality of life. • Increased cultural wellbeing. • Improved mental health. • Reduction in recidivism to crime/jail. • Improved physical health.	
Program to be delivered	**Core components**	**How this component works to improve treatment outcomes**
	Healing through culture and country	Reconnecting clients to culture and country via activities and strong relationships.
	Case management	Clients engaged in treatment via positive therapeutic alliance between staff and clients. Referral to external health and social services where needed. Clients' social, psychological and physical needs managed concurrently.
	Life skills	Relearning daily routine and structure to maintain a healthy lifestyle after exit. Learning and developing work-ready and communication skills.
	Therapeutic activities	Increasing client understanding of substance use triggers and personal strategies for reducing it. Educating and empowering clients to make positive changes in their life.
	Time out from substances	Assisting clients to identify and engage in positive alternative activities to substance use.
	After care	Supporting clients to maintain improved health and wellbeing after they leave residential treatment.
	Flexible program activities	These are the actual services and activities that each Aboriginal residential rehabilitation service delivers to its clients to operationalise each core component. Individual Aboriginal residential rehabilitation services decide these activities for themselves based on their level of resources and other circumstances.
Measures of program delivery and outcomes	Processes (exposure and fidelity)	• Number of program activities in which clients engage. • Number of clients who attend program activities each week. • Proportion of planned activities actually delivered.
	Outcomes	a) Acceptability/satisfaction. b) Drug and alcohol use/dependence. c) Quality of Life. d) Connection to culture/family/community (what you know and feel). e) Psychological distress. f) Criminal justice involvement. g) Chronic physical health needs.

2. COMMUNITY BASED PARTICIPATORY METHODOLOGY AND THEORY

This project was implemented using Community-Based Participatory Research (CBPR). It combines quantitative and qualitative evaluation methods. The quantitative and qualitative methods employed are discussed in chapters reporting on the key aims and findings of the project. CBPR is an emerging research approach designed to bridge the gap between theory and practice through community or service provider engagement throughout the research process (Lazarus et al., 2014; Wallerstein & Duran, 2006). At the core of CBPR are social theories that aim to reverse unequal relations of power through broad social, policy and universal changes to improve situations and practices (Tremblay et al., 2018).

CBPR is particularly useful when working with populations that experience disadvantage and marginalisation because it supports the establishment of respectful relationships with these groups, and explicitly advocates the sharing of power and decision making (Israel et al., 2005). From our experience, CBPR is a culturally acceptable methodological approach for undertaking research with Indigenous communities for three key reasons (Munro et al., 2017; Shakeshaft et al., 2018; Snijder et al., 2020). First, it facilitates Indigenous leadership in establishing partnerships with researchers and other key stakeholders to identify issues and generate practical and appropriate strategies to resolve them. Second, it enables researchers' methodological skills and expertise to be combined with the knowledge and expertise of local community stakeholders and service providers. Third, all partners contribute their expertise and share decision-making and ownership, ensuring they are involved in every aspect of the research.

The process of CBPR typically involves cycles of collaborative action that engage community or service provider participants as co-researchers, educating and empowering them to effect positive changes in their environment (Israel et al., 2005). The CBPR process used in this project combined methods of scientific inquiry with service-level capacity building strategies (Figure 2).
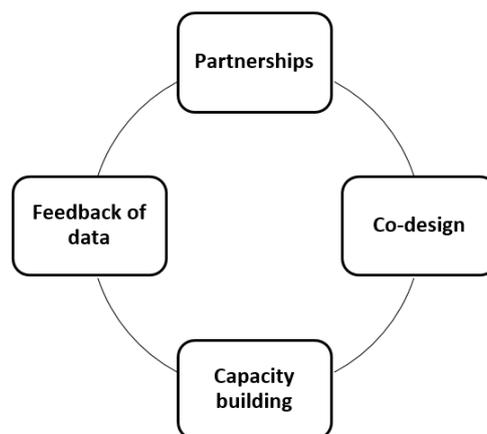
Figure 2: Core components of community-based participatory research process

Partnerships

The project builds on previous research undertaken in partnership between NDARC and NARHDAN, with invaluable support (including funding) from NIAA/PMC. The partnership was developed through meetings and consultations with managers of Aboriginal residential rehabilitation services. The project represents a formalised partnership between ADARRN (formerly NARHDAN), and NDARC, strengthened through the establishment of an Evaluation Advisory Committee (EAC) to oversee and govern the project.

The EAC comprised potential key knowledge brokers and knowledge users, including the CEOs of participating Aboriginal residential rehabilitation services, key members of the research team, and representatives from the NIAA. The EAC met at least three times per year throughout the duration of the project. The role of the EAC, as specified in a partnership agreement at the beginning of the project, was to:

a. Oversee implementation of all project activities.
b. Consult with, and seek advice from, a range of key stakeholders, including: AH&MRC; NSW Aboriginal Drug and Alcohol Network (NADAN); Network of Alcohol and other Drug Agencies (NADA); and Aboriginal residential rehabilitation database developers and IT support personnel.
c. Problem-solve challenges as they arise.
d. Ensure that Aboriginal ethical values (spirit and integrity, cultural continuity, responsibility, reciprocity, respect, and equity) were respected and incorporated throughout the CBPR project.
e. Contribute to the development and writing of this report. Specifically: researchers drafted the report; EAC members provided comments and feedback to early drafts, including on the content and format of the report, and commented on verbal and written feedback from NIAA; researchers revised the report as required; EAC members assisted with the interpretation of agreed key findings contained in the report; and EAC approved the final version of the report.

Co-design

Co-design is meaningful end-user engagement in research across all stages of the research process (Slattery et al., 2020). Managers and staff of Aboriginal residential rehabilitation services worked with the research team to co-design the activities developed as part of this project (e.g. CQI training and support, and integrated case management and exit planning). This co-design process helped researchers to better understand the priorities and needs of service providers and helped the service providers to better understand the requirements of evaluation for program design and implementation. In addition, measurement tools were co-designed so that they would best meet the needs of service providers and their clients, and be culturally appropriate, including the patient assessment tool, CQI templates and data dashboards. They were also co-designed to optimise the feasibility of integrating them into services' existing data collection systems and processes (e.g.

utilising their existing electronic PIMS as much as possible). This ensured that any innovations used locally available resources wherever possible and were built on the existing knowledge and skills of staff and managers.

Capacity building

Training and support for embedding research into routine systems and processes was provided to managers and staff of the participating Aboriginal residential rehabilitation services to augment their existing knowledge and skills. Managers received support to help them embed the co-designed patient assessment tool into their PIMS and extract their required data as easily as possible. As a key component of this project, at least one staff member in each service with a role in PIMS/data collection was nominated by the services as the designated CQI expert. These experts participated in specialist CQI training and received outreach support to help them interpret and use their data, to coordinate the implementation of CQI in their service, and to build their capacity to manage and improve their CQI system over time. In undertaking the BCA component of the project, managers received training and support from a health economist in how to cost the resources and activities of their service using a standardised costing template.

Feedback of data

Data were routinely extracted from Aboriginal residential rehabilitation services and analysed by the research team. Analysed data were presented to managers and CQI facilitators using data dashboards for collaborative interpretation, and to obtain their feedback and input into further data analyses. Notes recorded during data presentation sessions were used to directly inform modifications and improvements. Data dashboards summarising the frequency and quality of client outcome data collection in each service were developed every three months for each service to highlight the strengths and limitations of their data quality, and to inform the development of new strategies for improving the availability of data for the economic analysis.

3. EVALUATION FRAMEWORK

Figure 3 delineates the evaluation framework proposed to guide the approach to answering the four aims of this project: i) improve the capacity of services to routinely collect valid and reliable client data; ii) develop, implement and evaluate CQI to sustain improved collection of client data; iii) estimate the economic costs and benefits of Aboriginal residential rehabilitation services; and iv) co-design and implement integrated case management and exit planning, and explore staff experiences of its delivery. The framework was adapted from a comprehensive evaluation framework previously developed with managers of Aboriginal residential rehabilitation services to facilitate rigorous real-world evaluations of their programs and services (Shakeshaft et al., 2018). In adapting the framework, process, outcome, and economic indicators relevant to the evaluation components of this project were identified, along with data sources for their measurement.

- Process indicators provide a picture of the implementation of the programs and services being evaluated. They quantify the extent to which innovations to the Aboriginal residential rehabilitation services' model of care are implemented and delivered as planned. These indicators were critical for distinguishing implementation issues from program design issues.

- Outcome indicators provide a measure of the extent to which Aboriginal residential rehabilitation services are effective in achieving specific outcomes for the programs and services being evaluated. These outcomes could be at the level of individual patients (e.g. whether a program innovation significantly increases clients' self-reported quality of life) or at the service level (e.g. a program innovation incrementally reduces program costs with no reduction in client outcomes).

- Economic indicators include estimates of the value of resources used to deliver an Aboriginal residential rehabilitation service, compared to the value of the resources those services save or create (i.e. the benefits). Determining these values allows them to be expressed as a BCR which quantifies the estimated return on investment for Aboriginal residential rehabilitation service.

Potential evaluation questions

- Can the capacity of services to routinely collect high quality client data be improved?
- Can a CQI process sustain the collection of high-quality client data?
- What are the costs and benefits of Aboriginal residential rehabilitation services?

Demonstrated impact

- Aboriginal residential rehabilitation services and other funding agencies and stakeholders.
- Broader community.

Data analysis

- Quantitative data: pre-post- analysis of internal assessment and program level data, modelling of external and secondary data.
- Qualitative data: thematic analysis of interviews with staff and clients.
- Benefit-Cost Ratio = Benefits – Costs + Savings.

Results and findings

Effectiveness and acceptability of CQI for improving the quality of client assessment data?

BCR of Aboriginal residential rehabilitation services (i.e. do the benefits outweigh the cost)?

Process

- Number and type of CQI intervention components and the level of their implementation in services.
- Experiences and perceptions of staff and clients.

Outcome

- Assess changes in clients' substance use dependence, mental health and quality of life.
- Estimate changes in client outcomes related to crime, mental health, healthcare resource use, mortality and employment.

Economic

- Quantify the cost of delivering treatment.
- Quantify the direct benefits of treatment.
- Estimate the BCR of treatment.

Evaluation

Data sources		
Internal baseline and follow-up data	**Internal program-level data.**	**External and secondary data**
Assessment data from clients: - SDS. - K10. - EQ-5D. - Qualitative interviews with clients and staff.	- Client assessments. - Client demographics. - Financial and administrative records.	- NSW Bureau of Crime Statistics and Research data. - National survey data.

Figure 3: Evaluation framework

4. AIM 1: IMPROVE THE CAPACITY OF SERVICES TO ROUTINELY COLLECT VALID AND RELIABLE CLIENT DATA TO MONITOR AND ASSESS CLIENT INTAKE CHARACTERISTICS AND OUTCOMES

Introduction and aims

Although the acceptability of Aboriginal residential rehabilitation services is well established, the evidence base for their effectiveness is limited: a systematic review of published evaluations of Indigenous residential rehabilitation services in Australia, the United States, Canada and New Zealand did not find any rigorous evaluations published between 2000 and 2016 (James et al., 2017). One way to increase the number and quality of evaluations in Aboriginal residential rehabilitation services is for researchers and service providers to collaborate on embedding best-evidence measures necessary for undertaking rigorous evaluations into the routine delivery of these services, so that program delivery and evaluation can occur simultaneously.

Embedding best-evidence measures into the routine data collection processes of services would improve the accuracy with which client risk factors are identified, enabling organisations to improve their efforts to modify services and programs to the specific needs of their clients. It would also facilitate the repeated application of valid and reliable measures which is necessary to rigorously monitor and assess client outcomes over time. To improve the capacity of Aboriginal residential rehabilitation services to routinely collect valid and reliable client outcome data, the SAT developed in previous research with these services was refined and then embedded into their electronic PIMS (Shakeshaft et al., 2018). During the embedding process, the capabilities and limitations of PIMS used by services to routinely collect and extract client outcome data were identified.

This chapter will:

1. Describe the refinements made to the SAT to improve its acceptability to Aboriginal residential rehabilitation services;
2. Describe the process of embedding the SAT in Aboriginal residential rehabilitation services; and
3. Identify the capabilities and limitations of PIMS for collecting and extracting client data.

Methods

REFINING THE SAT

Researchers and managers of Aboriginal residential rehabilitation services collaborated to refine the SAT and reach final agreement on its outcome domains, measures and routine administration. The final SAT (Appendix 1) comprises evidence-based measures across five domains of client outcomes: i) drug and alcohol use; ii) drug and alcohol dependence; iii) psychological health; iv) quality of life; and v) cultural connection. To reduce the data collection burden on services, and minimise any duplication of data, measurement instruments were aligned with those in the Client Outcome Measures (COMs) questionnaire developed by NADA, given four of the six Aboriginal residential rehabilitation services in this study were already using these COMs. The COMs include measures of: drug and alcohol use (frequency and quantity in previous 28 days); drug and alcohol dependence (Severity of Dependence Scale [SDS]); psychological distress (The Kessler 10 [K10]); and quality of life (WHO qol-8) (Deady, 2009). The validity of the K10 (Schlesinger et al., 2007) and acceptability of the SDS (Bohanna et al., 2012) has been established in Aboriginal and Torres Strait Islander communities. Two additional outcome measures were included in the SAT:

1. **The EuroQol-5D-5L (EQ-5D).** This five-item scale was included as a health-related quality of life measure. The tool allows the health state of a patient to be quantified (i.e. a health utility to be derived) for use in economic evaluation and there is some evidence it is a valid measure of health-related quality of life for Aboriginal and Torres Strait Islander populations (Ribeiro Santiago et al., 2021).

2. **Questions on cultural connection.** Given there was no readily available measures of cultural connection that had sufficient face validity for use in Aboriginal residential rehabilitation services, three questions on cultural connection were identified and agreed at the request of ADARRN. Their inclusion was considered critical given the highest priority core component of the model of care for Aboriginal residential rehabilitation services was connection to culture and Aboriginal people (Shakeshaft et al., 2018). The inclusion of measures of cultural connection also reflected an Indigenous perspective of health, in which culture and connection is integral to health and wellbeing (Verbunt et al., 2021) and healing and recovery from substance misuse (Munro et al., 2017).

The final version of the SAT was aligned with the goals of Aboriginal residential rehabilitation services to reduce substance use and dependence (measured by the SDS), improve mental health (measured by the K10), improve quality of life and physical health (measured by the EQ-5D) and strengthen cultural wellbeing (measured by three questions on cultural connection). Table 4 provides a summary of the outcome domains and their related measurement instrument included in the SAT. Managers of services agreed for the SAT to be administered to clients, as a minimum, at intake, mid-program and/or exit.

Table 4: Outcome domains and related measurement instruments in the SAT

Outcome domain	Measurement instrument
1. Alcohol and drug use (Deady, 2009)	The Brief Treatment Outcome Measure (BTOM): measures number of days of drug or alcohol use (separately for each drug type) in the previous 30 days.
2. Alcohol and drug dependence (Gossop et al., 1995)	SDS: 5-item tool for assessing the severity of drug dependence. Scores range from 1 to 15, with higher scores reflecting greater dependence. A score greater than 3 indicates clinically meaningful dependence.
3. Mental health (Andrews & Slade, 2001)	K10: a 10-item scale to measure psychological distress in the most recent four-week period. Scores range from 10 to 50 and are grouped into four risk categories: i) 10-19 (likely to be well); ii) 20-24 (a mild disorder is likely); 25-29 (a moderate disorder is likely); and ≥ 30 (a severe disorder is likely).
4. Cultural connection	A 3-item tool developed in partnership with ADARRN to measure clients' perceptions of their connection to Aboriginal people, culture, community and country.
5. Quality of life (Ribeiro Santiago et al., 2021)	EQ-5D: measures generic quality of life in 5 dimensions: mobility; self-care; usual activities; pain/discomfort; and anxiety/depression. Each dimension has 5 levels: no problems; slight problems; moderate problems; severe problems; and extreme problems. Clients indicate their perceived level of quality of life for each dimension, and responses are analysed using an algorithm that generates a number between 0 and 1 to describing their overall state of health (0 is death and 1 is optimal health).

EMBEDDING THE SAT INTO ABORIGINAL RESIDENTIAL REHABILITATION SERVICES

In 2018, managers and staff of Aboriginal residential rehabilitation services received practical and technical support from the research team to embed the SAT into client assessment processes using their PIMS, including set-up and troubleshooting. Five out of the six Aboriginal residential rehabilitation services embedded the SAT into their client assessment processes.

There was, however, variation across services in the extent to which the SAT was embedded into their PIMS. Table 5 summarises the embedding of SAT measures into Aboriginal residential rehabilitation services. A paper-based version of the SAT was provided to Aboriginal residential rehabilitation services that did not have a PIMS or elected not to use their PIMS due to its limitations.

Table 5: Embedding of the SAT in Aboriginal residential rehabilitation services

Service	Embedding of Outcome Measures				
	AoD use	SDS	K10	EQ-5D	Cultural connection
Namatjira Haven	PIMS	PIMS	PIMS	PIMS	PIMS
The Glen	Paper *NADAbase	Paper *NADAbase	Paper *NADAbase	✘	✘
Weigelli	PIMS	PIMS	PIMS	PIMS	PIMS
Orana Haven	PIMS	PIMS	PIMS	PIMS	PIMS
Maayu Mali	Paper *NADAbase	Paper *NADAbase	Paper *NADAbase	Paper	Paper
Oolong House	Paper	Paper	Paper	Paper	Paper

*NADAbase is not technically a PIMS but a data repository system maintained by NADA who provide it free to members for client data collection and reporting.

THE CAPABILITIES AND LIMITATIONS OF PIMS

The variation in embedding the SAT in Aboriginal residential rehabilitation services, and in its subsequent use by staff, was primarily due to differences in the functional capabilities and limitations of their respective PIMS. For each type of PIMS used in the different Aboriginal residential rehabilitation services, Table 6 identifies its capabilities and limitations, and the impact of those capabilities and limitations for embedding the SAT into routine service delivery.

Table 6: PIMS capabilities and limitations and their impact for embedding SAT into routine practice

PIMS type	Capabilities and limitations	Impact for embedding SAT into routine practice
Communicare	- Designed for PHC services. - Interface is not user friendly and is a barrier to engaging clients in the collection of outcome data. - Creating clinical items aligned with the treatment objectives of Aboriginal residential rehabilitation services is difficult, cumbersome, time consuming and requires a relatively high level of IT skills. - Report templates are not aligned with the reporting requirements of Aboriginal residential rehabilitation services.	- Paper version of SAT is administered to clients then later entered into relevant clinical items in Communicare. - Data are stored in multiple locations. - Data extraction requires external technical support.
NADAbase	Not a PIMS, but a data repository database for service members of NADA.	- Paper version of SAT is administered to clients then later entered into NADAbase. - Data extraction only by the managers of services.
Encircle	A PIMS specifically designed for Namatjira Haven by an individual developer.	- SAT embedded into Encircle enabling client assessment data to be directly entered into Encircle by clinical staff. - Data are extracted by the data manager.
Paper-based	Paper-based version of the SAT is administered to clients and entered into Microsoft Excel spreadsheet.	- Data are collected and recorded on an *ad-hoc* basis. - Time lag from SAT completion with clients to data entry. - Susceptible to data entry errors.

Key Findings

The objective of this component of the project was to increase the capacity of Aboriginal residential rehabilitation services to routinely collect high quality client data which, in turn, would enhance the ability of services to monitor and assess client intake characteristics and outcomes. The key findings were:

1. The SAT was successfully refined to ensure that four of the seven client goals that Aboriginal residential rehabilitation services aim to achieve with their clients (see Table 5) were assessed using high-quality measures:
   a. Reduced substance misuse (BTOM and the SDS);
   b. Improved quality of life (EQ-5D);
   c. Increased cultural well-being (3-item cultural connection measure); and
   d. Improved mental health (K10).

   Of the three client goals for which a measure was not yet able to be specified:
   e. Successful engagement would be readily assessed using a treatment acceptability or client satisfaction tool, although there may not be a suitable Indigenous-specific measure, such as a PROM or PREM.
   f. Recidivism to crime/jail would need to be measured post-discharge. Given services are not funded to provide routine follow-up after discharge, exploring the possibility of linking clients' residential rehabilitation data to criminal justice datasets should be explored.
   g. Improved physical health could be assessed by more routine utilisation of PHC services while clients are engaged in residential rehabilitation and, similarly to crime, linking clients' residential rehabilitation data to health databases, such as emergency departments (ED) and hospital inpatient datasets, should be explored.

2. The SAT was successfully embedded into five of the six Aboriginal residential rehabilitation services. The only service that did not embed the SAT during the period of this project was Oolong House, which was not possible due to their inability to continue in the project. Nevertheless, the SAT could readily be implemented into the routine service delivery processes of Oolong House when they are able to re-engage with ADARRN.

3. The analysis of the capabilities and limitations of the services' existing PIMS identified that Encircle appears to be suitable for routine collection and extraction of client data, and would allow relatively efficient updating of the SAT. Two services, however, have adopted a new residential rehabilitation specific PIMS called MIMASO, which also appears to be highly suitable for routine data collection with sufficient flexibility to accommodate updates to the SAT.

Consequently, two services (excluding Oolong House) are currently using Communicare which, as summarised in Table 6, presents significant challenges for the routine use of the SAT. The specific challenges of Communicare include the difficulty of adding and/or modifying items, and that the process of entering client data into Communicare is slow and cumbersome. Indeed, in this project, the only way that this issue was addressed was by developing a paper-based version of the SAT that staff used to assess clients, and then manually transferring the information into Communicare. Although this process was sufficient for this study it is unlikely to be sustainable over time. These two services should explore their options for adopting MIMASO or Encircle, of which MIMASO may be preferable because it is less specific to the needs of one service.

Important learnings and implications

Important learnings from the key findings of refining the SAT and embedding it in Aboriginal residential rehabilitation services are as follows.

1. Key Finding 1: The SAT was successfully refined to ensure that four of the seven client goals that Aboriginal residential rehabilitation services aim to achieve with their clients were assessed using high-quality measures. Important learnings associated with this finding were:
   a. Having access to complete datasets from the Aboriginal residential rehabilitation services for data analysis, in close to real-time, would facilitate the integration of program delivery and evaluation which would, in turn, simultaneously improve client outcomes and more rapidly improve the evidence base for Aboriginal residential rehabilitation services, which has been shown to be lacking in a systematic review (James et al., 2017).

2. Key Finding 2: The SAT was successfully embedded into five of the six Aboriginal residential rehabilitation services. The important learning associated with this finding is:
   a. To optimise the systematic and routine uptake of SAT in those services in which it was successfully embedded, research evidence suggests that technology enhancement, capacity building activities, and data quality assessment and feedback are needed (Lemma et al., 2020).

3. Key Finding 3: The analysis of the capabilities and limitations of the services' existing PIMS identified that Encircle appears to be suitable for routine collection and extraction of client data, and would allow relatively efficient updating of the SAT. Two services, however, have adopted a new residential rehabilitation specific PIMS called MIMASO. The important learning associated with this finding was:
   a. MIMASO appears to be highly suitable for routine data collection with sufficient flexibility to accommodate updates to the SAT.

The main implication from the key findings of refining the SAT and embedding it in Aboriginal residential rehabilitation services is that having established a best-evidence SAT and identified the most appropriate PIMS to facilitate the use of the SAT, the next step is to ensure that the SAT and

the PIMS are used systematically and routinely to both meet the administrative reporting requirements of services and improve client outcomes.

Next steps

The next chapter in this report describes the implementation of a CQI intervention, comprising capacity building activities and data quality assessment and feedback. It will also evaluate the impact of the CQI process on the uptake of the SAT into routine practice in the participating Aboriginal residential rehabilitation services.

5. AIM 2: IMPLEMENTATION OF CQI TRAINING AND SUPPORT, AND AN EVALUATION OF ITS IMPACT

Introduction and aims

The refinement of the SAT and its integration into the routine assessment processes of Aboriginal residential rehabilitation services (Chapter 4) provided staff in these services with access to a co-designed, culturally acceptable, best-evidence tool for the routine assessment and monitoring of clients. Improving routine and systematic delivery of the SAT by staff in Aboriginal residential rehabilitation services was the next logical step in building the capacity of Aboriginal residential rehabilitations to routinely collect valid and reliable data for assessing client characteristics, monitoring their outcomes, and evaluating the impact of innovations in their treatment model. CQI in health care is "a structured organisational process for involving people in planning and executing a continuous flow of improvement to provide quality health care that meets or exceeds expectations" (Sollecito & Johnson, 2013). CQI has been widely used by Indigenous PHC services in Australia and there is a national policy framework to support its implementation across the Indigenous PHC sector (Lowitja Institute, 2015). CQI has a participatory action approach, with a focus on customer service, that aligns with the principles and values of Australia's Indigenous people (Gardner et al., 2018). The typical CQI cycle is shown in Figure 4.

Figure 4: Continuous Quality Improvement Cycle

Studies examining the effectiveness of CQI in Indigenous PHC services report promising improvements in data collection, service systems and selected patient outcomes (Sibthorpe et al., 2018). On the strength of this evidence, a CQI training and support intervention was implemented in Aboriginal residential rehabilitation services as a strategy to optimise their systematic and routine use of the SAT, with the overall aim of improving the quality of client assessment data.

The aims of this chapter are to:

1. describe the CQI model and the process of its implementation in Aboriginal residential rehabilitation services;
2. evaluate the effectiveness of the CQI model for improving client data in Aboriginal residential rehabilitation services; and
3. explore the acceptability of CQI facilitators in Aboriginal residential rehabilitation services.

Methods

STUDY DESIGN

The CQI model was implemented and evaluated using a randomised step-wedge design (Hawkins et al., 2007). The services were grouped into pairs, based on their geographical proximity, and each pair of services was randomly assigned to commence implementing CQI at two-monthly intervals: Service Group 1 (Orana Haven and Weigelli); Service Group 2 (Namatjira Haven and Maayu Mali); and Service Group 3 (The Glen and Oolong House). Implementation of CQI in The Glen Service Group 3 was delayed by one month due to flooding in the area where the service is located. Consistent with a step-wedge evaluation, this design comprised a pre-implementation phase from which baseline data were sourced (minimum 17 months), a 12-month CQI implementation phase and a 12-month post-implementation phase. The phases of the study, and the timing of the implementation of the CQI model in each service group, are shown in Figure 5.

THE CQI MODEL

The CQI model comprised two core components identified as essential for embedding CQI in Indigenous PHC services (Lowitja Institute, 2015): i) local leadership and facilitation; and ii) training and tailored support.

1. Local leadership and service-based CQI facilitators

High-level engagement and leadership for change within an organisation is crucial for successfully implementing CQI at all levels (Bailie et al., 2007). ADARRN provided sector-level leadership for the implementation of CQI in participating services through its members, who are service managers and representatives on the EAC governing the project. At the service-level, managers nominated an existing staff member to lead the implementation of CQI in their service as the CQI facilitator. The roles of nominated CQI facilitators included:

- Senior AoD Worker;
- Quality Management Officer;
- AoD Case Worker;
- Administration and Client Support Officer; and
- Counsellor.

The specific roles of the CQI facilitators were to lead the uptake of CQI tools and techniques in their service, identify any barriers to uptake or areas that could be improved, use data to inform action

planning and to measure and monitor improvements, and engage a wide range of staff in CQI activities through advocacy, feedback of data, and communication.

2. Training and tailored support

The core components of the CQI process were:

Engagement of a CQI expert

A CQI consultant with more than 10 years' experience in providing CQI training and support to staff of Indigenous health care services was engaged to deliver 30 hours of training to the CQI facilitators over a 12-month period.

Introductory CQI training

For the CQI facilitators nominated by each service, introductory training days were held in Sydney in July 2019 (one day) and December 2019 (two days). The purpose of these workshops was to introduce them to the principles and processes of CQI, and initiate thinking about how these might be applied in their own service.

CQI support workshops

Eight 60–90-minute workshops were delivered by the CQI consultant and/or a member of the research team over a 12-month period. The purpose of these workshops was to support CQI facilitators to:

1. Develop their knowledge of CQI tools, techniques, and skills, and to provide strategies to assist their routine application in their own service;
2. Examine and co-interpret the data collected in their service using data dashboards (interactive visual displays of data analysis) developed by the research team; and
3. Develop and test strategies for improving the use of the SAT by using CQI Plan, Do, Study, Act (PDSA) cycles.

These strategies applied to both CQI facilitators' individual actions and ways of enhancing collaboration with other staff. The timing of these workshops coincided with outbreaks of the COVID pandemic. Since the national and jurisdictional government's travel restrictions and social distancing regulations precluded face-to-face training, these workshops were delivered remotely to CQI facilitators via videoconferencing. All support workshops were recorded and made available to all CQI facilitators, including those unable to attend a particular workshop.

CQI on-site visits and remote support

Members of the research team made scheduled on-site visits to Aboriginal residential rehabilitation services (COVID restrictions permitting). The purpose of these visits was to assist them to identify and implement strategies for strengthening the extent to which CQI processes were embedded into routine service delivery systems and processes in each service. In addition, remote support was available to all services on an as-needs basis, usually by email or phone.

PROCEDURES FOR THE IMPLEMENTATION OF THE CQI MODEL

As summarised in Figure 5, the introductory training commenced in month 15 (April 2019) and was completed in month 19 (August 2019). The CQI support workshops also commenced in month 19 at Orana Haven and Weigelli, followed by Namatjira Haven and Maayu Mali in month 22 (November 2019), and The Glen in month 25 (February 2020: note that Oolong House disengaged from the project prior to the commencement of CQI support). All services received a minimum of two on-site support visits over 12-months (except Oolong House which were unable to continue their involvement in the project during this period). Maayu Mali, Orana Haven and Weigelli received additional on-site support for assistance to overcome practical and technical barriers to embedding a routine and systematic data collection process in their PIMS.

DATA COLLECTION

Quantitative data included client assessments routinely collected by services using the SAT. Eligible clients were those in residential rehabilitation during the study period who had at least one assessment. The data were extracted from the electronic PIMS of services, cleaned, coded and merged in Microsoft Excel. Qualitative data were collected using a semi-structured interview guide (Appendix 2) with five CQI facilitators and ethnographic notes recorded in CQI training and support sessions.

OUTCOME MEASURES

Given CQI is a service improvement strategy, its impact was assessed at the service level (rather than the individual patient level). Data from four of the six Aboriginal residential rehabilitation services who participated in this study were analysed (of the two services for which data were not analysed, Oolong House disengaged from the project prior to the CQI support workshops and the client data from Weigelli were unable to be linked in time for this report). Given the proportion of clients who are assessed at intake was already extremely high at the start of this project, the primary outcomes were changes in the proportion of clients (from before to after the implementation of the CQI model) with:

1. An assessment undertaken at exit from a service;
2. At least one 'in progress' assessment (i.e. undertaken during the treatment period, but only for clients who stayed at least 28 days); and
3. At least one 'in progress' and one exit assessment.

PROCESS MEASURES

Two process outcomes were assessed:

1. *Implementation of the CQI model*. The extent to which the components of the CQI intervention were implemented as planned, including the number and frequency of CQI training workshops, support workshops and on-site/remote support visits delivered to each service.
2. *Acceptability of the CQI model.* The experiences of CQI facilitators and their perceptions of the delivery of the CQI model in their service.

DATA ANALYSIS

Quantitative data

The impact of CQI on the outcomes was estimated using linear mixed effects models. The primary fixed effect was the observation period (a three-level categorical predictor: baseline vs intervention vs post-intervention). The random factor was the group to which each service had been allocated: Service Group 1, 2 or 3. The Odds Ratio (OR) was used to calculate the odds of clients of services receiving progress, exit and progress and exit assessments across the three different periods. Confidence Intervals (CI) were set at 95%.

Qualitative data

Interviews with CQI facilitators lasted between 32 and 53 minutes (average length 43 minutes) and were audio-recorded. Recordings of interviews were transcribed verbatim. Interview transcripts, and ethnographic notes recorded during CQI support sessions, were analysed using deductive thematic analysis (Braun & Clarke, 2006).
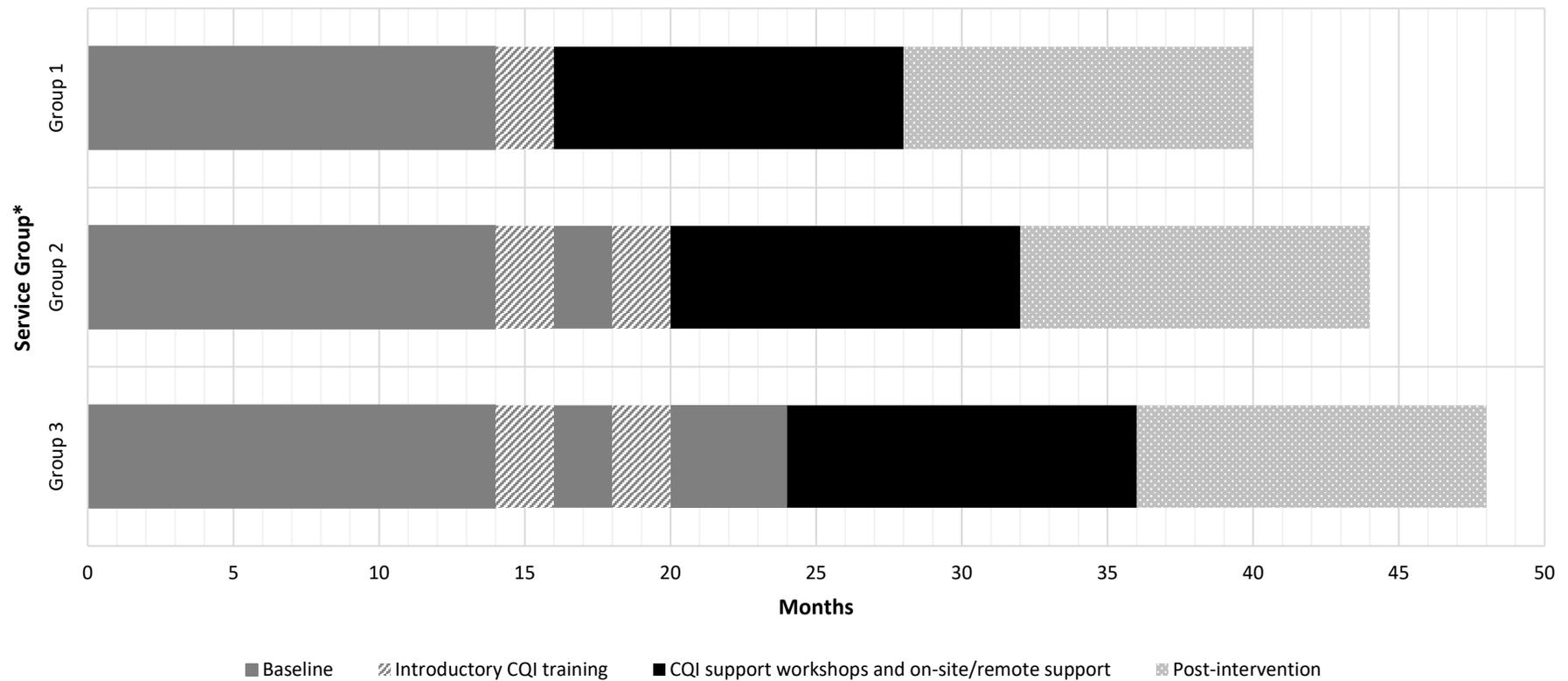
Figure 5: Phases of study design and implementation of the CQI intervention

*Service Group 1: Orana Haven and Weigelli (note that the outcome data for Weigelli clients were unable to be linked to a client ID in time for this report).

Service Group 2: Namatjira Haven and Maayu Mali.

Service Group 3: The Glen and Oolong House (note that Oolong House disengaged from the project prior to the commencement of the support workshops).

Key findings

IMPLEMENTATION OF THE CQI MODEL

As summarised in Table 7, the key findings from the implementation process were:

- All services nominated a CQI facilitator and attended the introductory CQI workshops.
- The number of on-site support visits by a member of the research team ranged from one to (Oolong House) to five (Weigelli).
- For the eight scheduled support workshops, the number attended by CQI facilitators ranged from zero (Oolong House, noting that Oolong House participated in the introductory CQI training workshops but disengaged from the project prior to the commencement of the support workshops) to seven (Namatjira Haven and Weigelli).
- The main reasons reported by CQI facilitators for their non-attendance at workshops were unexpected work commitments and their absence from the workplace on the day of a scheduled workshop.

Table 7: Implementation of the CQI model in Aboriginal residential rehabilitation services

Service Group and Service	CQI intervention components			
	CQI facilitator	Introductory CQI training	On-site visits by researchers	Support workshops (8 sessions scheduled)
Service Group 1				
Orana Haven	✓	✓	4	6
Weigelli*	✓	✓	5	7
Service Group 2				
Namatijira Haven	✓	✓	2	7
Maayu Mali	✓	✓	3	6
Service Group 3				
The Glen	✓	✓	2	4
Oolong House*	✓	✓	1	0

* Data from these services were not included in the outcome analysis. Oolong House participated in some CQI activities but were unable to stay engaged throughout the project, and the client data from Weigelli were unable to be linked in time for this report.

DESCRIPTIVE ANALYSES

Clients and client stays

As summarised in Table 8:

- A total of 774 clients from four Aboriginal residential rehabilitation services were included in the analysis of CQI outcomes. These clients represent the total number who were admitted to an Aboriginal residential rehabilitation service and received at least one assessment during the study period.
- These 774 clients recorded a total of 850 client stays: in each service the number of client stays is greater than the number of clients because some clients had more than one stay during the study period.
- Slightly less than one half (48%) of all clients included in the outcome analysis were from The Glen service. Comparable proportions of clients were from Orana Haven (18%), Namatjira Haven (17%) and Maayu Mali (17%). Similarly, the proportion of client stays at The Glen service was 49% and ranged from 16% to 18% in the other three services.

Table 8: Number of clients and client stays in Aboriginal residential rehabilitation services

Variable	Aboriginal residential rehabilitation service			
	The Glen	Orana Haven	Namatjira Haven	Maayu Mali
Number of clients (n=774)	372 (48%)	140 (18%)	134 (17%)	128 (17%)
Number of client stays (n=850)	416 (49%)	149 (18%)	153 (18%)	132 (16%)

N.B. Percentages rounded to nearest whole number.

Assessments per client stay

For the 850 client stays, a total of 2,133 assessments were recorded in the PIMS of Aboriginal residential rehabilitation services. Figure 6 shows the proportion of clients that had different numbers of SAT assessments per client stay during the study period. The highest proportion of client stays recorded one assessment (38%) followed by three assessments (33%).
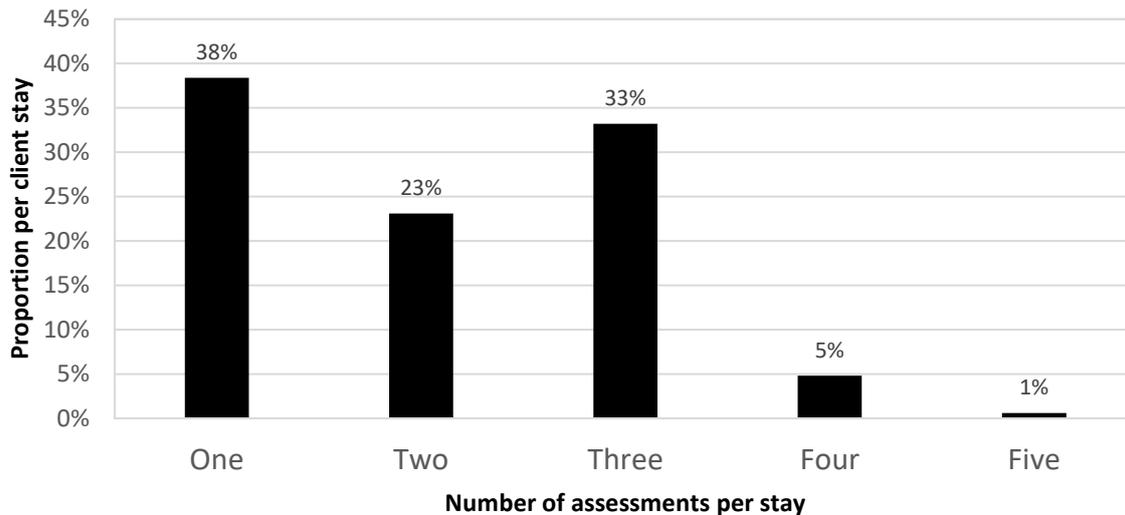
Figure 6: Proportion of the number of assessments per client stay during the study period

Proportion of clients who had one to five assessments during their stay, separately for each CQI implementation phase

Table 9 shows the proportion of clients who had one to five assessments during their stay, separately for each CQI implementation phase:

- Encouragingly, the proportion of clients who only had one assessment during their stay decreased between the pre-implementation and implementation phases (38% to 30%), but it increased in the post-implementation phase (46%).

- Similarly, the proportion of clients who had three assessments increased between the pre-implementation and implementation phases (31% to 40%), but then decreased in the post-implementation phase (30%).

- The proportion of clients who had two assessments during their stay remained relatively stable across all three CQI implementation phases.

Table 9: Proportion of clients who had one to five assessments during their stay, separately for each CQI implementation phase

CQI implementation phase	Number of assessments per client stay				
	One	Two	Three	Four	Five
Pre-implementation of CQI (n=357)	38% (n=138)	25% (n=89)	31% (n=110)	4% (n=16)	1% (n=4)
Implementation of CQI (n=227)	30% (n=67)	24% (n=55)	40% (n=91)	6% (n=13)	0% (n=1)
Post-implementation of CQI (n=266)	46% (n=121)	20% (n=52)	30% (n=81)	5% (n=12)	NA

N.B. Percentages rounded to nearest whole number.

EFFECTIVENESS OF CQI

Changes in the proportion of clients with an exit and/or progress assessment
The proportions of clients in each CQI implementation phase who had an exit and/or progress assessment are reported in Table 10.

For all three outcomes, the proportion of clients with an assessment increased from the pre-implementation phase to the implementation phase, and from the pre-implementation phase to the post-implementation phase. For example, 19% of clients had an exit assessment the pre-implementation phase, compared to 26% in the implementation phase and 31% the post-implementation phase.

Table 10: Proportion of stays with progress and/or exit assessments in each CQI implementation phase

Outcome	CQI implementation phase		
	Pre-implementation	Implementation	Post-implementation
Exit assessments (n=850)	19% (69/357)	26% (58/227)	31% (82/266)
At least 1 progress assessment (n=610)[a]	60% (155/258)	75% (134/178)	66% (114/174)
Progress and exit assessments (n=610)[a]	14% (36/258)	20% (36/178)	35% (61/174)

[a] Only clients who stayed at least 28 days were included in this analysis.

N.B. Percentages rounded to nearest whole number.

Results of the formal statistical testing
The results of the statistical analysis for each of the three outcomes are:

Component 1: Exit assessments.
Compared to the pre-implementation phase, clients were 26% more likely to have an exit assessment in the implementation phase (OR=1.26; CI: 0.79; 1.99, p=0.330) and 19% more likely to have an exit assessment in the post-implementation phase (OR=1.19; CI: 0.76, 1.86; p=0.436). These differences were in the expected direction, but were not large enough to reach statistical significance.

Component 2: Progress assessments.
Compared to the pre-implementation phase, clients who stayed in treatment for at least 28 days (n=670) were 92% more likely to have at least one progress assessment in the implementation phase (OR=1.92; CI: 1.26, 2.98; p=0.003) and 22% more likely to have at least one progress assessment in the post-implementation phase (OR=1.22; CI: 0.81, 1.87; p=0.345). Both these differences were in the expected direction and the 92% increase from the pre-implementation to the implementation phase was statistically significant.

Component 3: Progress and exit assessments.
Compared to the pre-implementation phase, clients who stayed in treatment for at least 28 days (n=670) were 3% less likely to have at least one progress assessment and an exit assessment in the

implementation phase (OR=0.97; CI: 0.54, 1.71; p=0.909) and 71% more likely to have at least one progress assessment and an exit assessment in the post-implementation phase (OR=1.71, CI: 0.98, 2.98, p=0.057). Although the 3% difference from pre-implementation to implementation was not in the expected direction, it has no practical meaning. The 71% increase from pre-implementation to post-implementation was almost statistically significant (the cut-off for statistical significance is p=0.05).

ACCEPTABILITY OF THE CQI MODEL

Three key themes emerged from the analysis of qualitative data in relation to the acceptability of the CQI model and its implementation process.

Theme 1: Staff were mobilised to take action

There were three key components that were highly valued by the CQI facilitators:

Shared learning between services

The CQI training and support brought the CQI facilitators from different services together, which allowed them to share their experiences of implementing CQI. Facilitators described how CQI training and support inspired them to do more CQI and gave them confidence to talk to other staff about CQI, introduce PDSA cycles and use data for quality improvement.

> 'What I picked up from the training was like just trying to put it across to them that you're not doing nothing wrong; we just want to improve. We want to start having a cycle of improvement. For me, yeah, that's been the most helpful thing, and the training too has helped me not to throw my hands in the air, like just to keep chipping away slowly.' (Facilitator 1)

> 'Some of it is stuff that I just did in Excel with our data and putting graphs together, but the main inspiration for doing that was from participating in this CQI process. I have been wanting to do it for a few years, getting a bit more confidence around it and also, finding the time to do it.' (Facilitator 2)

The opportunity to use data to improve client outcomes

Facilitators' improved confidence in using data for quality improvement was most evident in their accounts of presenting data dashboards to other staff in their service to discuss ways to improve outcomes for their clients.

> 'So I'd do it in our team meetings. I'd show the data dashboards, and we'd also discuss them in our case management meetings, looking at client's data at intake stage, P1, P2, then through to exit when they're leaving.' (Facilitator 3)

The opportunity to use data to improve staff engagement in service improvement

CQI facilitators reported growing interest in CQI among other staff in their service following their presentation of data dashboards at staff meetings. These presentations led to discussions on new ways of problem solving and trialling new things for service improvements.

'At first, they didn't know what I was really doing when I was going away, but then, when I presented that [data dashboard] at the staff meeting, they had a bit of an idea then. And then we spoke about trying to improve the service and the first couple of things that we wanted to try. And we only just - we knew if we said that we weren't going to trial it they wouldn't have been on board, if we'd just said this is what's going to happen and it's going to start next week or whatever. But when we said that we'll trial staff, they jumped on board because they thought, oh well it's a trial, but it's gone really good with the things that we've done so we've stuck with it.' (Facilitator 4)

Theme 2: Staff were able to make sense of their data

Sense-making is a process that involves identifying patterns, making connections, creating meaning, and making predictions. Data dashboards helped CQI facilitators to see the potential for using data to make sense of what was happening in their service, and the impact of their programs on client outcomes. The CQI facilitators identified three key components:

<u>Analytical sense-making</u>

Data dashboards highlighted the potential for presenting data in a way that makes those data actionable. They allowed CQI facilitators to ask questions of their data that were displayed in data dashboards, to identify gaps in the data and, in some cases, to make predictions.

'You could sort of connect the numbers visually if that's the right way of saying it. You can see the data.' (Facilitator 1)

'It was good that the graphs ... the data itself wasn't that difficult to understand because usually it is.' (Facilitator 3)

'So the one we looked at, well where was it, the questions weren't done, so that shows that straight away it was evident that something was missing, so you'd have to have a look as to why.' (Facilitator 1)

<u>Intentional sense-making</u>

This involved the CQI facilitators starting to use data for two discrete purposes:

1.   Informing service-level decision making

Figure 7 is an example of a static data dashboard that was used to explore how data dashboards could help establish service-level benchmarks and demonstrate service improvements. The CQI facilitators typically presented these types of dashboards to their Board of Management and co-staff.

'They can see now and the Board of Directors, they're the main ones that I have presented them to. The board were really, really, they were, well, looking at graphics and things and going "Wow, this is really presenting it to us" and not just over a couple of years, but now over seven years, they really start to see how things change, but they also start to see how the strategic planning that they did years ago is starting to kick in. How that's started to have an impact on outcomes, but also on the type of client, the client base and so on.' (Facilitator 2)

'It was good to show my Team Leader and manager what was happening…' (Facilitator 3)

'I thought it was also good to look at the dashboard, just to reflect on how the program was running in the time that it was done, if any changes were made to the program, and you could match that up to any changes within the data.' (Facilitator 4)

2.   Providing feedback to clients

CQI facilitators perceived data dashboards to be beneficial for showing clients their progress during their time in residential rehabilitation, encouraging and providing opportunities for clients to articulate what is important to them, and motivating clients to stay on their journey of healing and recovery.

'…you can show them [clients] how they've improved, their scores have improved, you can show them and they're just so happy, you know what I mean? It was good for their self-esteem and their self-worth. They think well I have got better, I have made changes, you know? I can keep doing it.' (Facilitator 1)

'I think they'd [clients] open up more because they're only in there for three months and that's not much time. So I think if they saw it for themselves, they'd open up to you more and explain … dig a little deeper as to why they're feeling that way.' (Facilitator 3)

Collaborative sense-making

CQI facilitators were able to use the data dashboards to compare data across different services. These comparisons led to collaborative interpretation and discussion about the similarities and differences in data and outcomes across services which, in turn, led to them sharing experiences and identifying possible explanations. The diverse work roles of CQI facilitators, and differences in the characteristics of services in which they worked, brought different perspectives and experiences to the collaborative sense making process.

'I mean, certainly in terms of being able to do some benchmarking…it's been great to be engaged with other Aboriginal resi rehabs and to look at that standardised data collection across the services.' (Facilitator 2)

Figure 7: Example of static data: a dashboard used with CQI facilitators

Theme 3: Staff identified potential barriers to embedding CQI into routine practice

Three key barriers to embedding CQI into routine practice were identified by facilitators:

Staff misconceptions of CQI

Misconceptions primarily related to confusion between CQI as an internally driven process to improve client care and outcomes, versus an external process imposed by funding and accreditation bodies to ensure that services meet a set of standards.

> 'So, it's been imposed, particularly by funding bodies and governments, is it CQI? You must do this, then it becomes part of your requirement.' (Facilitator 1)

The specific experience of one CQI facilitator, who was employed as a quality management officer, was that Aboriginal residential rehabilitation services are not adequately resourced to implement 'bottom-up', internally driven CQI approaches.

> 'But it's mainly left to the management team because again, historically, community-based organisations don't have a lot of experience with this kind of thing and they're not really resourced to do it, and historically never have been.' (Facilitator 2)

Staff turnover and resistance to change

High staff turnover is a common characteristic of Aboriginal residential rehabilitation services. It may reduce the sustainability of CQI if there is an ongoing need for staff and CQI facilitator training.

'I suppose there's a whole lot of stuff that we can do here...and I suppose it just takes time...we'd have to just get a lot more involvement with staff which is difficult when they keep leaving.' (Facilitator 4)

Staff resistance was associated with staff having past experiences of CQI as an externally driven process.

'It's really tricky sometimes to get staff on board, especially when they've been doing what they've been doing for years, what they've been told they should do, well they're not really open to any change.' (Facilitator 2)

Although staff related issues were commonly identified as barriers, facilitators felt they could be overcome by ensuring any directives to implement CQI activities (from the ADAARN Executive, for example) were supported with locally driven strategies targeting collective efficacy (e.g. the training and support used in this project).

'What I've picked up from the facilitator in the CQI training was just be persistent, to find new ways to get them (staff) involved, so they become a part of the direction the organisation is taking.' (Facilitator 1)

<u>The limitations of electronic PIMS and IT systems</u>

The collection, recording and extraction of data was a particular issue for the CQI facilitators from the three services using Communicare – a PIMS developed for PHC Services. These services required additional technical support to modify assessment items in Communicare and routinely extract data for CQI. IT resource constraints, such as access to computers and internet connectivity, were also persist barriers.

'It's [Communicare's] not appropriate for a drug and alcohol service. I'm not really a fan of Communicare. It just takes a lot of time navigating.' (Facilitator 1)

Important learnings and implications

Important learnings from the key findings of the implementation and evaluation of the CQI model are as follows.

KEY FINDING 1: THE INTRODUCTION OF CQI INCREASED THE NUMBER OF CLIENT ASSESSMENTS COMPLETED DURING TREATMENT, AND ON EXIT

The use of the step-wedge evaluation design highlights that the increased assessments are most likely due to CQI and not some other co-occurring event because the services commenced CQI at different points in time and in a randomly determined order. Important learnings associated with this finding were:

1. The positive impact from CQI is consistent with existing evidence for the effectiveness of quality improvement interventions (Baskerville, Liddy and Hogg, 2012; Alagoz et al., 2018).
2. The CQI had multiple components (CQI expert, introduction and support workshops, site visits). This approach is consistent with Indigenous (Gardner et al., 2018; Lowitja Institute,

2015; Sibthorpe et al., 2018) and non-Indigenous (O'Neill et al., 2011; Sollecito & Johnson, 2013) research evidence on the importance of using CQI to simultaneously target individual (i.e. knowledge and skills of staff) and service (i.e. engagement, leadership, support) level factors.

3. ADARRN's leadership of this project, including their active participation in EAC's project governance, most likely facilitated the high level of acceptability, and therefore effectiveness, of the CQI model.

KEY FINDING 2: CQI WAS HIGHLY ACCEPTABLE TO THE SERVICE-BASED CQI FACILITATORS, PRIMARILY BECAUSE IT HAD PRACTICAL VALUE

The importance of practical value has previously been highlighted in Indigenous primary care services (Bailie et al., 2007; Gilmer et al., 2012; Lowitja Institute, 2015). Important learnings associated with this finding were:

1. The way in which the CQI was constructed allowed the CQI facilitators to:
   a. Take practical action (shared learning across services, improving client outcomes and engaging staff in exploring service-level improvements).
   b. Make sense of their data and its potential usefulness.

KEY FINDING 3: ALTHOUGH CQI WAS EFFECTIVE AND ACCEPTABLE, THERE ARE BARRIERS TO ITS UPTAKE AND SUSTAINED USE

These barriers include:

1. staff misconceptions.
2. staff turnover and resistance to change.
3. the limitations of current IT systems. Data quality issues are common to health care services with suboptimal electronic PIMS (Bailie et al., 2007; Gilmer et al., 2012; Lowitja Institute, 2015) and are consistent with previous studies examining data in Aboriginal residential rehabilitation services (James et al., 2020; Shakeshaft et al., 2018). Important learnings associated with this finding were:
   a. A CQI facilitator position could be established within each service, to protect the CQI process from staff changes. This could be attached to an existing role (as was done in this study) rather than creating a dedicated CQI role to control financial costs.
   b. An active learning environment for CQI facilitators (and other interested staff) could be co-designed by ADARRN and researchers, and provided by researchers. This would further develop the CQI capacity of services.

The main implications from key findings of the implementation and evaluation of the CQI model are:

1. There is sufficient evidence of a positive effect to conclude that the use of CQI in Aboriginal residential rehabilitation services should be sustained and expanded over time. The primary goals would be to maintain the improvements achieved in this project and increase the benefits of CQI. A PREM, for example, could be added to the SAT to systematically assess

clients' experiences of residential rehabilitation and the use of those data optimised through CQI.

2. There would likely be value in establishing an ongoing partnership between service providers, researchers, and NIAA to sustain, and further expand, CQI in Aboriginal residential rehabilitation services. The practical value of CQI relies heavily on the availability of skilled statisticians and data scientists to manage and analyse data, and this expertise is unlikely to be available within services. The policy expertise of NIAA is critical to ensuring CQI improvements have policy relevance, in addition to service and client level benefits.

3. Transitioning services still using Communicare to a PIMS that is more suited to the needs of residential services is warranted, given it was perceived to be impractical. Although this entails a change-over cost, existing evidence shows that well-functioning electronic PIMS can improve the quality of services and data, without substantially increasing costs to the health care system (Gilmer et al., 2012). This study found that data extraction was much more efficient with other PIMS.

4. ADARRN and the researchers should co-design, using the principles of Indigenous data sovereignty (Trudgett et al., 2022), a centralised, automated process that facilitates more routine and efficient collation, cleaning, storage, and analysis of data. Current variation in the format and quality of data extraction means considerable time is required for the analytical process which inhibits the usefulness of CQI for improving client outcomes and service provision in close to real time. In this study, for example, ongoing problems with linking client identification numbers precluded the inclusion of data from one service. Automating this process would also remove the burden of data extraction from Aboriginal residential rehabilitation services because it could, with their clear consent, be managed remotely by researchers.

Next steps

Having established a best-evidence SAT and identified the most appropriate PIMS to facilitate the use of the SAT, this chapter demonstrated how a CQI process can be used to incrementally improve the quality of the data being collected over time and help improve the quality of the services that are provided to clients. The next step is to demonstrate how those data can be used for purposes other than CQI, including to inform an analysis of the economic benefits and costs of Aboriginal residential rehabilitation services.

6. AIM 3: THE ECONOMIC BENEFITS AND COSTS OF ABORIGINAL RESIDENTIAL REHABILITATION SERVICES

Introduction and aims

Project 1 established a model of care that is standardised by best-evidence, the delivery of which is able to be tailored to the different circumstances of different Aboriginal residential rehabilitation services (Shakeshaft et al., 2018), Chapter 4 increased the capacity of services to routinely collect valid and reliable client data via the SAT, and Chapter 5 demonstrated how a CQI cycle can be implemented to increase and maintain the collection of high-quality data from services. The next step in this project was to utilise a range of data, including those collected in the SAT, to estimate the economic benefits and costs of Aboriginal residential rehabilitation services.

Consequently, the aims of this chapter were to:

1. Estimate beneficial outcomes for clients of Aboriginal residential rehabilitation services in relation to six domains: crime; quality of life; mental health; healthcare resource use; employment; and mortality.
2. Estimate the economic costs of delivering Aboriginal residential rehabilitation services using a detailed micro-costing methodology.
3. Undertake a BCA to combine the estimated benefits and costs of Aboriginal residential rehabilitation services into a BCR.

Methods

THE BENEFIT-COST MODEL

A BCR was estimated by comparing the benefits and costs of residential rehabilitation services with no treatment (assumed to be equivalent to receiving counselling). A positive BCR implies that the economic benefits of residential rehabilitation services are greater than the cost of delivering those services, compared with no treatment. For this study, sensitivity analyses were conducted to explore the robustness of the results to the uncertainty associated with the assumptions used in the BCR model. Costs and benefits are expressed as 2019 Australian dollars. The Australian Bureau of Statistics (ABS) Consumer Price Index (CPI) was used to ensure all figures were standardised to 2019 dollars (ABS, 2021).

ESTIMATING THE BENEFITS OF ABORIGINAL RESIDENTIAL REHABILITATION

A systematic review of the literature was undertaken to understand the key domains of benefit used in previous economic evaluations of residential rehabilitation services. The findings of that review are provided in a previous progress report submitted to NIAA (NDARC, 2020a). Specifically, the systematic review reported nine benefits identified from residential rehabilitation treatment related to: substance use; justice system; societal crime costs; legal costs; health service use; welfare saving; quality of life; productivity; and other. In addition, reports from the Washington State Institute for Public Policy (WSIPP) included mortality and mental health as domains of benefit because they are

significantly related to substance misuse (WSIPP, 2019a; WSIPP, 2019b). Using results from our systematic review (NDARC, 2020a) and the WSIPP reports (WSIPP, 2019a; WSIPP, 2019b), the benefits for clients of Aboriginal residential rehabilitation services were estimated in relation to six domains: crime; quality of life; mental health, healthcare resource use; employment; and mortality. In this study, crime includes justice system, societal crime costs and legal costs; employment includes welfare saving and productivity.

Table 11 presents the benefit inputs used to generate the base case benefit-cost model for Aboriginal residential rehabilitation services. A combination of data from the ABS, services and published studies was used to inform this analysis. In the absence of existing data, plausible assumptions have been made and, where possible, tested in sensitivity analyses. A summary of the methodological approach is provided below.

Crime

A decision tree was developed with a Monte-Carlo simulation model to simulate the impact of Aboriginal residential rehabilitation services on clients who are at least 18 years of age. The modelling accounted for clients either fully completing treatment (>60 days) or partially completing treatment (≤ 60 days), based on a decision by services. The model structure is presented in Appendix 4. Briefly, primary data collected from services at baseline identified the types of crime clients had committed including assault, break and enter, and theft. Primary data collected from services at baseline identified the incarceration history of clients. Post-treatment reoffending rates and re-incarceration rates among those with a criminal history were based on a meta-analysis. Offending and incarceration rates among those with no criminal history were based on the general Aboriginal population (ABS, 2020). The cost of a criminal offence was based on an Australian Institute of Criminology report and adjusted for inflation (Rollings, 2008). A weighted average cost of crime was estimated at $2,346 and applied to criminal incidents avoided as derived from the modelling. The cost of incarceration ($81,629) was based on a NSW Bureau of Crime Statistics and Research (BOCSAR) report (BOCSAR, 2021) and adjusted for inflation. A weighted average cost of incarceration was estimated at $81,629 and applied to incarcerations avoided as derived from the modelling.

Quality of life

A decision tree was developed with a Monte-Carlo simulation model to simulate the impact of Aboriginal residential rehabilitation services on clients who are at least 18 years of age. The modelling accounted for clients either fully completing treatment (>60 days) or partially completing treatment (≤ 60 days), based on a decision by services. The model structure is presented in Appendix 5. Briefly, modelling was based on data collected from services using the EQ-5D – a preference-based health-related quality of life measure with one question for each of the five dimensions that include mobility, self-care, usual activities, pain/discomfort, and anxiety/depression (Herdman et al., 2011). There are five levels within each dimension, from "no problems" to "extreme problems". EQ-5D-5L raw data were transferred into a quality-adjusted health index using an EQ-5D-5L Crosswalk Index Value Calculator. The UK mapping algorithm was used in the absence of Australian weights to convert raw data into quality adjusted life years (QALYs). In the modelling, benefits arising from non-

residential treatment (i.e. counselling) were based on a study by Ciketic (2015). In the absence of empirical research, completion rates were assumed to be similar for both treatment and no treatment (i.e. counselling). A QALY was valued at $50,000, consistent with previous Australian modelling (Vos et al., 2010) and applied to improvements in quality of life from treatment.

Mental health

The impact of Aboriginal residential rehabilitation on clients' mental health was estimated using changes in clients' levels of psychological distress, using the K10 and the cost of a mental health hospital admission. The K10 is a simple, 10-item measure of psychological distress to elicit responses about a respondent's emotional state. Each item has a five-level response scale (1-5). The mean K10 score is the average score of ten domains. Standard cut-off scores were used: < 25 for "likely to have no or a mild mental disorder"; and ≥ 25 for "likely to have a moderate mental disorder" (Andrews & Slade, 2001). Avoided mental health admissions were derived using the proportion of clients with a K10 score ≥ 25 at intake compared to the proportion of clients with K10 score ≥25 at exit. For the counterfactual of no treatment (i.e. counselling), the effect size was based on a study by Teesson (2008). This average cost of a mental health admission was based on a study by Issakidis and adjusted for inflation (Issakidis et al., 2004). This average cost includes estimates for the cost of hospital admissions due to panic agoraphobia, social phobia, generalised anxiety disorder and post-traumatic stress disorder. A weighted average cost was estimated at $1,800 and applied to the number of mental health admissions avoided.

Healthcare resources

The impact of Aboriginal residential rehabilitation on clients' use of healthcare resources was estimated using a range of sources. The proportions of clients admitted to psychiatric, general hospital and ED was based on a study by McKetin et al., (2018). In the absence of empirical research, admissions rates were assumed to be similar for both treatment and no treatment (i.e. counselling). The effectiveness of treatment was based on a study by WSIPP (WSIPP, 2019). The average cost per admission was based on a study by Whetton et al., (2016) and adjusted for inflation. The cost of a psychiatric admission was valued at $19,732; the cost of a general hospital admission was valued at $8,594; and the cost of a hospital ED presentation was valued at $1,060. Cost of admissions were applied to the number of admissions avoided to derive an estimate of healthcare resources saved.

Employment

Employment considered the potential impact on employment rates for those who attended residential rehabilitation multiplied by the value of income potential. The employment rate of clients receiving treatment was based on a study by Karlsson and Burns (2018). In the absence of empirical research, employment rates were assumed to be similar for both treatment and no treatment (i.e. counselling). The effect of treatment on employment was based on a study from WSIPP (2019b). Estimates of weekly income was based on an Australian Institute of Health and Welfare report and adjusted for inflation (AIHW, 2019).

Mortality

Mortality considered the potential gain in life years for those who attended residential rehabilitation multiplied by the value of a statistical life year. The mortality rate was based on a study by Karlsson and Burns (2018). In the absence of empirical research, mortality rates were assumed to be similar for both treatment and no treatment (i.e. counselling). The effect of treatment was based on a study by WSIPP (2019b). The estimated value of one statistical life year was based on a Department of the Prime Minister and Cabinet (PM&C) report and adjusted for inflation (PM&C, 2014). Potential years of life gained was based on a study by Darke et al. (2016).

Table 11: Benefit inputs for cost-benefit model - Base case model

Parameter descriptions	Parameters	Source
Crime		
Proportion clients criminal background at baseline	34%-70%	Primary data
Proportion clients with incarceration background at baseline	2% - 69%	Primary data
Probability of reoffending, given fully complete program	37%	(ABS, 2020)
Prison with sentence, among Aboriginal	66%	(ABS, 2020)
Prison without sentence, among Aboriginal	34%	(ABS, 2020)
Crime rate, among Aboriginal	2%	(ABS, 2020)
Incarceration rate, out of crime	1%	(ABS, 2020)
Average cost of criminal offence	$2,346	Calculations based on (Rollings, 2008)
Average cost of incarceration	$81,629	Calculations based on (BOCSAR, 2021)
Quality of life		
EQ-5D scores for those who fully complete treatment	0.90	Primary data
EQ-5D scores for those who partially complete treatment	0.86	Primary data
EQ-5D scores for those who fully complete counselling	0.73	(Ciketic et al., 2015)
EQ-5D scores for those who partially complete counselling	0.69	(Ciketic et al., 2015)
Value of one quality adjusted life year	$50,000	(Vos et al., 2010)
Mental health		
Odds of having a mental health issue, counselling vs residential rehabilitation	4.17	(Teeson, 2008)
Cost of one mental health admission	$1,800	(Teeson, 2008)
Healthcare resource use		
Prevalence of psychiatric hospital admissions	10.0%	(McKetin et al., 2018)
Prevalence of general hospital admissions	22%	(McKetin et al., 2018)
Prevalence of ED admissions	45%	(McKetin et al., 2018)
Treatment effect size on psychiatric hospitalisations	-0.068	(WSSIP, 2019b)
Treatment effect size on general hospitalisations	0.052	(WSSIP, 2019b)
Treatment effect size on ED admissions	-0.077	(WSSIP, 2019a)

Costs of one psychiatric hospitalisation	$19,732	(Whetton et al., 2016)
Costs of one general hospitalisation	$8,594	(Whetton et al., 2016)
Costs of one admitted ED	$1,060	(Whetton et al., 2016)
Employment		
Proportion employed	16%	(Karlsson, 2018)
Treatment effect size on employment	0.363	(WSSIP, 2019a)
Mean weekly income for those using illicit drugs	$428	(AIHW, 2019)
Mortality		
Mortality rate	0.00075	(Karlsson & Burns, 2018)
Effect size, mortality	-0.077	(WSSIP, 2019b)
Cost of one statistical life year	$194,805	(Department of the Prime Minister and Cabinet, 2014)
Potential years of life lost for drug users	43.5 years	(Darke et al., 2016)

ESTIMATING THE COST TO DELIVER ABORIGINAL RESIDENTIAL REHABILITATION SERVICES

The cost per client per day to deliver Aboriginal residential rehabilitation services was derived from a micro-costing analysis undertaken by the authors of this report, with all costs inflated to year 2019 (NDARC, 2020a). The specific aims of the costing analysis were to estimate the: fixed and variable resources use by Aboriginal residential rehabilitation services as proportion of total costs attributable to each resource type; the proportion of average service total costs allocated to each rehabilitation treatment care component; and the average cost per episode of care and per client per day in residential rehabilitation.

Details of the method are provided in earlier reports (NDARC, 2020a, 2020b). Briefly, costs were obtained from four of the six services. The costing methods used followed the standard Drummond costing methodology using a mix of top-down and bottom-up costing approaches (Drummond, Scupher, Claxton, et al., 2005). This involved identification of service activities and programs, listing all resources used for each activity, and measuring the quantity of resource use. Total costs were calculated by assigning expenditure costs to each resource and multiplying these by the quantity of resource use. Average costs per client were then estimated.

Results of costing analysis

Fixed costs and variable costs comprised 80% (69% – 89%) and 20% (11% – 31%) of total costs respectively. The main cost resource use was staff and wages, accounting for up to 59% of total costs. Client amenities were the smallest proportion of total cost accounting for 0.7% of total cost. The main activity cost drivers were time away from drugs (21%) (e.g. cultural activities) life skills (16%) (e.g. vocational courses, literacy and numeracy), administration (13%) (e.g. client enrolment) and therapeutic activities (11%) (e.g. individual/group counselling). The other activities each

comprised less than 10% of total costs with medical and transition having the least total cost composition: 3% and 4%, respectively. It is important to note that while all services provided similar activities, there was variation in how the activities were provided in terms of staff type, length and frequency of programs and allocation of beds – these variations impacted on estimates of fixed and variable costs. For example, in one Aboriginal residential rehabilitation service, five beds are tied to specific funding and can only be used by clients who meet the criteria of funding bodies funding their availability and use.

The average client cost per episode of care was $17,148 ($14,364 – $18,627), with the highest cost attributed to time away from drugs and life skills: $3,631 ($2,293 – $5,001) and $2,695 ($1,879 – $3,577) respectively. The lowest compositions of average cost per episode of care were attributed to medical and transition costs: $975 and $688 respectively.

Sensitivity analysis
Sensitivity analyses were conducted to test the robustness of the results to changes in parameter values and/or assumptions. For the variables with 95% CIs, the parameters were varied by lower and upper bounds of those CIs. For the variables that do not have 95% CIs, the parameters were varied by 30% (the acceptable range to run sensitivity analysis in the published literature is 25 – 30%). The specific parameter inputs that were varied in the sensitivity analysis are provided in Appendix 6, and the detailed results of the sensitivity analysis are provided in Appendix 7 (lower bound) and Appendix 8 (upper bound).

Key findings

OUTCOMES
Table 12 provides an overview of key results. Briefly, the key findings include:

- The overall BCR of Aboriginal residential rehabilitation services is 1.29, which suggest that every dollar invested in Aboriginal residential rehabilitation services will obtain an estimated $1.29 return.
- The BCRs vary across services, ranging from 0.93 to 2.77. These variations reflect the different characteristics of different services. Key factors that underpin these variations include:
  - The different cost drivers (e.g. capacity issues impacting on the actual availability of beds in different services, and the different types of activities that services provide to operationalise the core components of the model of care);
  - The different characteristics of clients with whom different services engage (e.g. some services have higher proportions of complex clients, especially clients with histories of incarceration);
  - Variations in the types of primary data collected; and
  - Differences in the rates with which different clients complete treatment.

The robustness of these BCR results are bolstered by two factors.

First, even though the services operationalise the core components of their model of care in very different ways, and engage with clients with different characteristics, the lowest BCR of 0.93 approximates one. This means that, in practical terms, the net cost of providing each Aboriginal residential rehabilitation service is essentially balanced by the economic returns they provide.

Second, even under the most conservative assumptions, the results of which are presented in Appendix 7, the overall BCR of Aboriginal residential rehabilitation services suggest that these services will at least break-even under a range of assumptions.

METHODOLOGICAL CONSIDERATIONS

Interpretation of these results should be placed in context with several strengths and limitations of the analysis.

Key limitations were:

- Quality of life improvements were derived using the EQ-5D. Although well validated in the general population, the EQ-5D might not be an appropriate measure for assessing quality of life in Indigenous people with AoD dependence. Other utility measures such as the Short Form 36 Health Survey or Assessment of Quality of Life may be more sensitive to measuring changes in quality of life (Allen et al., 2013; Whitehead & Ali, 2010), however, these instruments also have not been validated for cultural appropriateness.
- The effect sizes were taken from published evaluations that did not specifically target the Indigenous population, or residential rehabilitation. The effect sizes for mortality, reoffending, re-incarceration, mental health, and hospitalisation were likely to be larger in the Indigenous population than the non-Indigenous population. Applying the effect size for employment was likely to be smaller in the Indigenous population than the non-Indigenous population. The most likely consequence of this limitation is that the BCRs have underestimate the true return on investment.
- Data were incomplete across all services, which required assumptions about generalisability. These assumptions may not hold in practice given variations in the type of clients entering treatment and/or specific activities associated with treatment. Although the sensitivity analysis attempted to explore variations in assumptions, these analyses were limited in scope
- Although the selection of outcome domains was based on a systematic review of the literature, there may be some limited double counting in some of the outcome measures. The EQ-5D, for example, includes anxiety and depression which may overlap with estimates for mental health (derived from the K10) or healthcare resources.

Key strengths of the analysis were:

- The use of standard guidelines for conducting an economic evaluation provide an appropriate and structured approach to the analysis.

- Outcome domains were based on the results of a systematic literature review, meaning they represent current best-evidence outcomes.
- The evaluation team undertook a comprehensive bottom-up approach to costing that optimised the rigor and reliability of the cost estimates.
- The use of sensitivity analysis to explore the robustness of results by testing parameter uncertainty.

Table 12: Benefit-cost analysis of residential rehabilitation

Outcome	Service 1	Service 2	Service 3	Service 4	Overall
Value of the benefit from re-offending avoided	$5,818	$9,712	$1,877	$6,475	$23,882
Value of the benefit from re-incarceration avoided	$34,795	$7,837	$252,756	$11,064	$306,451
Value of quality of life gained	$527,000	$1,173,000	$680,000	$782,000	$3,162,000
Value of mental health admissions avoided	$17,111	$29,328	$4,138	$11,832	$62,409
Value of psychiatric hospitalisations avoided	$8,319	$18,517	$10,734	$12,344	$49,914
Value of general hospitalisations avoided	$6,096	$13,568	$7,865	$9,045	$36,573
Value of ED admissions avoided	$2,277	$5,069	$2,938	$3,379	$13,663
Value of mortality avoided	$3,034	$6,753	$3,915	$4,502	$18,205
Value of benefit from employment gained	$79,481	$176,908	$102,556	$117,939	$476,884
Total value of outcomes	$683,930	$1,440,692	$1,066,778	$958,580	$4,149,981
Delivery costs	$705,744	$1,550,060	$384,564	$528,228	$3,207,476
Number of client days	1,872	7,990	1,317	2,412	13,591
Cost per day	$377	$194	$292	$219	$236
BCR	0.97	0.93	2.77	1.81	1.29

Important learnings and implications

Important learnings from the key findings of the economic analysis are as follows.

KEY FINDING: BCR OF ABORIGINAL RESIDENTIAL REHABILITATION SERVICES IS 1.29. WHICH MEANS THAT EVERY DOLLAR INVESTED IN THESE SERVICES ACHIEVES AN ESTIMATED $1.29 RETURN.

Important learnings associated with this finding were:

1. This is a robust estimate: even under the most conservative assumptions tested in the sensitivity analysis the BCR was 0.99.

2. There is an opportunity to further strengthen the BCRs for Aboriginal residential rehabilitation services in at least five ways:

   a. Improving the quality and breadth of the primary data collected by the Aboriginal residential rehabilitation services. Improving data quality is important given primary data were incomplete across all services. An example of improving the breadth of data is the potential to more directly capture the value of treatment to clients through PROMs or PREMs.

   b. Using linked data to capture a wider range of client outcomes post-discharge. Linking data across routinely collected administrative datasets, such as health (e.g. from the Centre for Health Record Linkage) and crime (e.g. from the NSW BOCSAR), would provide access to outcomes beyond discharge, such as re-incarceration and employment status. These outcomes are currently derived from the non-Australian and non-Aboriginal literature.

   c. Linking service-level data to broader administrative health and crime datasets in real-time. This would allow an analysis of the characteristics of clients with different post-discharge outcomes, facilitating better targeting of the model of care to clients based on their likely post-discharge outcomes. This would improve the efficiency of services and, in turn, further improve their BCRs.

   d. Identifying the positive impact of Aboriginal residential rehabilitation services on families and communities. Careful consultation would need to be undertaken with clients and their family members to identify outcomes they most value and consider and how they might be best applied to the context of Aboriginal residential rehabilitation services.

   e. Expanding the current work done in NSW to a national approach. There are about 35 Aboriginal residential rehabilitation services across Australia. The work done to date on establishing a model of care, the SAT and an economic model for evaluation could be leveraged nationally, which would dramatically increase the robustness of the treatment and BCR outcomes. ADARRN has shifted to become a national network which enhances the feasibility of establishing a national service provider and researcher partnership.

7. AIM 4: THE CO-DESIGN AND IMPLEMENTATION OF INTEGRATED CASE MANAGEMENT AND EXIT PLANNING, AND STAFF EXPERIENCES OF ITS DELIVERY

Introduction and aims

The BCR reported in the previous chapter established that Aboriginal residential rehabilitation services are cost beneficial. The main benefits of Aboriginal residential rehabilitation services for clients in residential rehabilitation were from improvements in quality of life and mental health. And the main benefits for clients after residential rehabilitation were improved employment outcomes, reduced risk of recidivism and a reduced need for acute care services.

Nevertheless, further consultations with managers of Aboriginal residential rehabilitation services determined that more could be done for clients in residential rehabilitation to increase their likelihood of improved health and social outcomes post discharge. Managers identified three key issues integral to clients' health and social outcomes after they leave residential rehabilitation: i) safe and stable housing; ii) access to health care; and iii) a social support network. Earlier exit planning was identified as the most feasible and practical approach for focusing on these issues while clients are still in residential rehabilitation. Drawing on the knowledge and experiences of staff from The Glen, who were already delivering earlier exit planning in their service, the research team worked with managers of services to co-design integrated case management and exit planning refinements to the Aboriginal residential rehabilitation services' model of care.

This chapter will:

1. Describe the integrated case management and exit planning refinements to Aboriginal residential rehabilitation services' model of care and a process for implementing them.
2. Identify staff experience of providing integrated case management and refining exit planning.
3. Explore staff perceptions of the key barriers and enablers to preparing clients for their exit from residential rehabilitation and returning to their communities.

Methods

CO-DESIGN OF INTEGRATED CASE MANAGEMENT AND EXIT PLANNING REFINEMENTS

Table 13 presents a program logic for the integrated case management and exit planning refinements that were co-designed between managers of Aboriginal residential rehabilitation services and the research team. The program logic articulates a way for staff of Aboriginal residential rehabilitation services to work with clients from intake to exit with a more specific focus on their post-discharge needs for:

1. safe and stable housing;
2. timely access to PHC services in their local community for health support (e.g. psychologist, AoD worker); and

3. a supportive social network of family and/or friends.

Table 13: Program logic for the co-designed integrated case management and exit planning refinements to Aboriginal residential rehabilitation services

Goals of the model refinements	Program to be delivered			Measures		
	Core components	How this component works	Flexible activities[a]	Processes	Outcomes	Data source
A. Increase the proportion of clients awaiting admission to a residential rehabilitation who actually commence treatment. B. Increase the proportion of clients who have a planned exit from residential rehabilitation. C. Increase clients' levels of satisfaction/ acceptability with their experience	1. Weekly pre-rehabilitation support for clients awaiting admission.	A practical way to help clients feel engaged with their residential rehabilitation while waiting for admission.	• Virtual contact and support via Zoom/Teams or phone calls.	• Number of clients on the waitlist who access pre-rehabilitation support. • Number of clients with a care/exit plan form that documents their plans for post-discharge access to: a) housing; b) health care; and c) social support. • Number of clients with a documented,	A. % of clients awaiting admission into residential rehabilitation who are admitted. B. Two measures of a planned exit (defined as having all 3 key issues documented in case notes): • % of clients with a planned exit before 30 days of their current residential rehabilitation stay; and • % of clients with a planned exit after 30 days of their current residential	Data for these measures should be sourced from services' routinely collected intake and exit data sets.
	2. Earlier exit planning, comprising explicit recording and regular review of clients' needs on care plans and exit planning forms, specifically for: a) housing; b) health care; and c) social support.	A more specific focus on the three key issues (2a, 2b and 2c) will reduce anxiety about returning to community and increase the likelihood of sustaining their health and social gains after residential rehabilitation. More standardised tracking of progress (on care and exit plans) should help achieve Goal C.	• Tailored care/exit plan forms. These are a mechanism to prompt workers to explicitly record, and regularly review, each client's post-discharge needs in relation to key issues (2a, 2b and 2c). Clients should: i) identify and prioritise the issues they need to address while in residential rehabilitation; ii) implement practical strategies to address issues; and iii) prepare for their exit.			
	2a. Securing safe/stable housing prior to discharge.	Access to safe/stable housing alone can improve mental health and quality of life.	• Register for social housing. • Discussing options with family members virtually.			

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of residential rehabilitation.	2b. Securing access to a PHC provider in the client's community for post-discharge referral and support.	This builds trust and a positive relationship with a PHC provider to meet clients' post-discharge physical and mental health needs.	• Regular contact with a primary care provider while in residential rehabilitation (e.g. Zoom, Teams, phone calls). • Virtual attendance at self-help groups in community (e.g. Self-Management and Recovery Training (SMART)).	booked appointment to see a health care provider in their community. • Number of client contacts with their nominated external support person while in residential rehabilitation.	rehabilitation stay. C. Standardised measures of satisfaction/ acceptability.	
	2c. Ensuring regular contact with a family member or friend from their community while in residential rehabilitation.	This maintains or develops a positive relationship with a trusted person in their community to ensure post-discharge social support.	• Regular contact with a family member or friend while in residential rehabilitation (e.g. Zoom, Teams, phone calls). • Family members do a program like Community Reinforcement and Family Training (CRAFT).			

ª The flexible activities are the actual activities that each service would do to operationalise (or activate) each core component. These are up to each service to work out for themselves. The task of doing this could be part of the one-day workshop and one-week staff exchange. The activities listed here are examples to illustrate this point.

IMPLEMENTATION OF INTEGRATED CASE MANAGEMENT AND EXIT PLANNING REFINEMENTS

An implementation process, comprising peer and professional support, was adopted to facilitate the uptake of the co-designed integrated case management and exit planning refinements in the Aboriginal residential rehabilitation services that expressed an interest in immediately participating. Those services were Orana Haven, Weigelli and Maayu Mali (noting that The Glen had already adopted similar refinements and Namatjira Haven were satisfied with the exit planning process in their service). Appendix 8 presents a program logic of the peer and professional support program used to facilitate the uptake of the refinements to integrated case management and exit planning in Orana Haven, Weigelli and Maayu Mali. The three core components of the peer and professional support program were:

Peer-led workshops

Two workshops were delivered by The Glen to staff from Orana Haven, Maayu Mali, and Weigelli to introduce the case management and exit planning process and discuss current processes to understand how the refined process needs to be tailored. The first workshop was delivered on-site in each service in July 2021. The second workshop was delivered remotely (via videoconferencing) to all three services in September 2021. Appendix 9 contains the workshop materials delivered and Appendix 10 the written feedback from staff who attended the second workshop.

Staff exchanges

ADAARN facilitated a one-week staff exchange between staff from Weigelli, Orana Haven, Maayu Mali and The Glen. The purpose of the exchange was for staff to learn and share ideas on how the new process can be delivered and strengthen peer and professional support for problem-solving. Staff exchanges were scheduled to commence in December 2021 but were postponed due to COVID and flooding in Western NSW. The first staff exchange occurred in May and June 2022.

Monthly remote support

Monthly remote support from The Glen commenced in September 2021 to assist staff from Orana Haven, Maayu Mali and Weigelli to problem solve and troubleshoot barriers to integrated case management and exit planning in their service setting.

QUALITATIVE INTERVIEWS WITH STAFF TO EXPLORE THEIR EXPERIENCES OF INTEGRATED CASE MANAGEMENT AND EXIT PLANNING IN THEIR SERVICE

Fifteen staff were recruited for qualitative interviews from Orana Haven (n=6 staff), Maayu Mali (n=6 staff) and Weigelli (n=3 staff) to explore their experiences of their service delivering integrated case management and exit planning refinements to clients.

Staff recruited for interviews had:

- attended workshops in integrated case management and exit planning facilitated by The Glen service;
- undertaken a service secondment facilitated by ADAARN; and/or

- a role in case management and/or exit planning in their service.

The job titles of staff interviewed included:

- Case Worker (n=5 staff)
- Senior AoD Worker (n=2 staff)
- Outreach Worker (n=3 staff)
- AoD Team Leader (n=1 staff)
- Senior Client Support Officer (n=1 staff)
- Residential Care Worker (n=1 staff)
- Detox Nurse (n=1 staff)
- Detox Support Worker (n=1 staff)

Interview data collection and analysis

Interviews were conducted using a semi-structured interview guide (Appendix 11). Questions explored topics related to staff understanding of integrated case management and exit planning, and their experiences of its delivery in their service. Interviews also explored staff perceptions of barriers and enablers to preparing clients to exit their current episode of residential rehabilitation and return to the community to continue their journey of healing and recovery.

Eight individual interviews, and three group interviews (two interviews with two participants and one with three participants), were conducted. Interviews were 20 to 44 minutes duration (average of 30 minutes) audio-recorded and conducted in an audio-private setting. Interview recordings were transcribed verbatim for coding and analysis. A member of the research team (Dr Clifford-Motopi) reviewed all transcripts for completeness and accuracy and removed names or personal information to ensure anonymity of participants. Interview transcripts were analysed using deductive thematic analysis (Braun and Clarke, 2006). Key themes in relation to barriers and enablers were identified and mapped against the core components of integrated case management and exit planning refinements.

Key findings

DELIVERY OF INTEGRATED CASE MANAGEMENT AND EXIT PLANNING REFINEMENTS

Analysis of qualitative interviews elicited staff experiences in the delivery of the core components of refined integrated case management and exit planning in their services. Staff experiences of delivering each component of integrated case management are described below, with similarities and differences between the Aboriginal residential rehabilitation services highlighted.

Core component 1: Virtual pre-rehabilitation support for clients awaiting admission.

Staff interviewed reported little or no knowledge of virtual pre-rehabilitation support available through The Glen to clients waiting to be admitted to Aboriginal residential rehabilitation.

<u>Core component 2: Earlier exit planning</u>
This component comprised of explicit recording and regular review of clients' needs on care plan and exit planning forms, at least in relation to post-discharge: a) housing; b) health care; and c) social network contacts.

Five themes emerged in relation to the concept of earlier exit planning:

1. *Care plan is a living document*

Staff commonly described the care plan as a living document. The content of care plan forms was consistent across Aboriginal residential rehabilitation services and included sections for documenting a client's needs, goals and progress in the areas of health, housing, family and friends, and legal. In most cases staff completed a care plan with a client on a paper-based form which was later entered in or uploaded to their PIMS.

> "The care plan is pretty straight-forward. If you work on that enough, and get things done for your client, by that time, the exit plan will fall into place when they leave, from your care plan to your exit plan, and hopefully everything else falls into place within those 12 weeks that they're here." (Senior AoD Worker)

The care plan form is regularly reviewed to identify how it could be modified to improve how case workers work with clients.

> "When we have a look at that form, we've just worked out how we can improve it. Like we've come up with one solution but each time where we can improve in adding more information and how we can work better with the clients." (Senior Case Worker)

2. *Early care plan assessments are conducted*

All staff interviewed reported conducting an initial care plan assessment with clients in week one, except for one case worker who conducted the assessment in weeks 2 to 4 to give clients 'time to settle in.'

3. *Care plans are updated regularly*

Care plans are updated regularly although the frequency of updates varies between Aboriginal residential rehabilitation services. Staff from Maayu Mali and Weigelli reported updating care plans fortnightly whilst those from Orana Haven reported updating care plans following the actioning of an item on the care plan.

> "So, every two weeks we'll do a review of it. So, say, if I got the two clients, I'll come up with the two clients and I'll sit down with (Team Leader) and see whereabouts we're up to with that." (Case Worker)

> "We haven't really practiced like setting a schedule to revisit the form. But we work on those things that are identified and then if the client comes back and identifies something else it gets added." (Senior AoD Worker)

4. The exit plan evolves from care plan

Staff from all three services described the exit plan as evolving from the care plan. Elements of the exit plan commonly described by staff were: i) recording of a client's progress in residential rehabilitation and their needs in the post-discharge period; ii) referral to health and/or social services with client consent; and iii) a relapse prevention plan. Staff from Orana Haven and Weigelli also reported encouraging clients to access their outreach workers for aftercare support (Maayu Mali currently do not have outreach workers). Client contact with outreach workers in the post-discharge period was reported to be minimal due to low numbers of clients agreeing to be contacted as part of their exit plan, initiating contact in the post-discharge period, and providing up-to-date contact details for outreach workers to make contact.

5. The timing of exit planning is variable

The timing of the development of the exit plan from the care plan varied between Aboriginal residential rehabilitation services. Staff from Maayu Mali reported developing the exit plan two weeks prior to exit for clients with a scheduled exit date and on the day of exit for clients with an unplanned exit. In Orana Haven, the exit plan was developed on day 60 to coincide with a client's return from their scheduled one-day leave. For clients leaving before day 60, an exit plan was developed on the day of their exit where feasible. Staff from Weigelli described the exit plan as being 'wrapped up with the care plan' and did not identify a specific stage in the period of a client's stay in residential rehabilitation when it was developed.

Core component 2a. Clients have access to safe and stable housing prior to their discharge from residential rehabilitation

Staff reported safe and stable housing as the most common and salient need identified by clients at intake. Finding safe and stable housing for a client was the most time consuming and challenging activity staff undertook in preparing them to exit residential rehabilitation. Staff encountered multiple challenges to finding clients safe and stable housing before their exit from residential rehabilitation, including:

1. Clients lack personal Identification

Many clients lacked the personal identification documents required to submit a housing application. Staff commonly reported that having to obtain these documents delayed their submission of a housing application on a client's behalf.

> "Some need that identification. But that's another thing that goes along with a housing application that's pretty hard to get if the guys have no identity and haven't been sort of stable where they can go and get the - the proper - the Aboriginality forms for that housing." (Case Worker)

However, one staff participant with extensive experience finding housing for disadvantaged population groups described a process whereby a housing application can be lodged without personal ID:

"And you can lodge it without all of the information. They prefer all of the information, because it can't be assessed, but you can lodge it and then get the following ID, and then lodge it, and get it in at a later time, because they give you eight weeks to do that. So I always lodge it as soon as I get it, and then it also forces you, you've got a deadline…" (Outreach Worker)

2. Clients' need to leave high-risk environments

Staff reported that most clients entering residential rehabilitation come from high-risk home and/or community environments. Clients do not want to return to those environments due to their fears and concerns that they will be re-exposed to triggers for their substance misuse. Staff experiences were that finding safe and stable housing for a client wanting to live outside their community was a longer and more difficult process. In most instances the process took longer than the 12-week period of residential rehabilitation, which means that the only viable housing option available to the client upon exit was to return to the high-risk environment in which they were living before residential rehabilitation.

"And they certainly know that drugs and alcohol and everything are everywhere, but they know it's going to be harder back in their community. So, a lot of the times, as soon as they get here, they're like, 'Can we put in for a transfer?'" (Outreach Worker)

3. There are long wait times for community and public housing

Staff experiences were that securing private rental accommodation is unsuitable and/or unachievable for most of their clients due to factors related to their high levels of social disadvantage, such as unemployment, a low income, a criminal history, and a poor tenancy record. Public or community housing is generally the most feasible option for providing clients with long term safe and stable accommodation. Therefore, staff generally support clients to submit a housing application from week one of their stay in residential rehabilitation. However, the long waitlist for public and community housing means that even if clients lodge an application in their first week and complete the standard 12-week period of residential rehabilitation, they are unlikely to have long term safe and stable housing when they exit residential rehabilitation. This is particularly the case for clients requiring public housing in rural and remote locations.

"It's a long wait list. They (housing) do get back to us the application's gone through, but you're sort of not going to get a house within 12 weeks while you're out here." (Senior AoD Worker)

Core component 2b. Clients contact with a nominated primary healthcare provider in their community for post-discharge referral and support

Three themes emerged for nominating a healthcare provider in a client's community.

1. Clients have access to the health care providers during their residential rehabilitation

Clients have access to the services' PHC provider during their stay in residential rehabilitation. This includes a doctor in Canowindra for Weigelli clients, the local Aboriginal Medical Service (AMS) for Maayu Mayu clients, and a doctor in Brewarinna for clients of Orana Haven. Clients are given a health check upon their admission to residential rehabilitation to identify health issues for treatment

and management during their stay in residential rehabilitation. Clients have access to the services' PHC provider on an as needs basis for the duration of their stay in residential rehabilitation.

2. Clients can be referred to a PHC provider on exit

Prior to discharge, clients who give their consent are referred to the PHC provider that referred them to residential rehabilitation or a nominated PHC provider in their community. Alternatively, the health record of a client who does not consent at exit can be later transferred to a PHC provider upon the request of that provider and with the consent of the client.

3. There are challenges to post-discharge referral and support

The main challenges to ensuring clients have contact with a PHC provider for post-discharge referral and support include: i) limited number of services for referral; ii) clients not having a stable PHC provider when they enter residential rehabilitation; iii) clients not consenting to be referred to a PHC provider at exit; and iv) clients relocating to a community post-discharge where they do not have a stable healthcare provider.

> "Well, they're not coming out linked into services. I mean, there's not a lot of services in these areas where we are anyway, but they're not linked with us, so we're not checking on them. As far as I'm aware, they're not linked with the other services that are there, because there's not many services, and there's not many counsellors." (Outreach Worker)

Core component 2c. Clients have weekly contact with a nominated family member/ friend/health worker from their local community

Two themes emerged in relation to establishing a supportive social network in a client's community.

1. Some clients do have daily contact with family and friends

For clients who have daily phone contact with family and friends, staff encourage and facilitate this contact where it is apparent that family and friends are having a positive impact on a client's healing and recovery.

2. Limited client contact with health workers from community

Client contact with a health worker from their community is rare and largely dependent on a health worker keeping contact with the client. Contact between the client's case manager in residential rehabilitation and their health worker in the community is more likely.

BARRIERS AND ENABLERS TO PREPARING CLIENTS TO EXIT ABORIGINAL RESIDENTIAL REHABILITATION AND CONTINUE THEIR JOURNEY OF HEALING AND RECOVERY

Three key themes emerged from the analysis of qualitative interviews in relation to barriers and enablers to preparing clients to exit Aboriginal residential rehabilitation:

1. Availability of AoD detoxification

Orana Haven have an AoD detoxification (detox) unit on site. The facility is run by an AoD detox nurse with the assistance of a support worker. Clients are assessed and prescribed medication for drug and alcohol withdrawal by a local General Practitioner. The unit was originally established as

part of a 12-month pilot program funded by the Primary Health Network. Since its establishment approximately two years ago the unit has treated almost 200 patients, including men, women and couples.

According to the detox nurse, most clients who access the AoD detox unit are from Kempsey, Coffs Harbour, Inverell, Forbes, and Dubbo. Following AoD detox, most male clients are admitted to Orana Haven and female clients to Weigelli (in Cowra) or Wyla (in Orange) for residential rehabilitation.

The AoD detox unit is therefore increasing access to detox for people seeking admission to Orana Haven and Weigelli. Access to AoD detox for clients seeking admission to Weigelli is facilitated by arrangements between Orana Haven and Weigelli for transferring clients between these two services. Weigelli clients completing detox at Orana Haven are transported to Dubbo by Orana Haven staff where they are picked up by Weigelli staff to commence residential rehabilitation. Similarly, Weigelli staff transport clients seeking to undergo AoD detox at Orana Haven to Dubbo for pick-up by Orana Haven staff.

Maayu Mali have limited access to AoD detox for their clients with the closest unit in Armidale approximately 300km away. Staff report losing clients who detox in Armidale due to the time it takes them travel to and/or from Moree.

> "We lose clients in detox so they don't ever reach us. So it's a risk. Even though you ring up a detox centre, you make sure they arrive, you're seeing how they're going." (Senior AoD Worker)

Discussions are underway between management of Orana Haven and Maayu Mali to establish a process for transferring Maayu Mali clients requiring AoD detox to Orana Haven, like that established for clients of Weigelli.

2. Coordinating treatment and care

There are multiple barriers to, and enablers of, coordinating treatment and care for clients at the level of the service and system. Common service-related barriers were staffing and program delivery issues. A shortage of staff at Orana Haven reduced one-to-one contact between clients and staff with most contact occurring in groups. This presented challenges for case management and the delivery of more intensive interventions. Staff from all services identified a need to strengthen the range of therapeutic activities available for clients, in particular specialist mental health support for the treatment of mental health issues.

The life skills component of the model of care was described by staff as under resourced. Staff wanted more resources to deliver life skills training to better prepare clients to live independently without drugs and alcohol, and culture-based activities to strengthen the cultural determinants of clients' healing and recovery.

> "If they don't learn to do something with their time while they're here, then when they get out, what are they going to do?" (Residential Care worker)

Partnerships and referral links with community health and social services enabled staff to start addressing clients' post-discharge health and social needs before they left residential rehabilitation and facilitated the handover of a client to another service upon their exit. Partnerships and referral links with Aboriginal community organisations were particularly beneficial for connecting clients to services and transitioning them back into the community.

3. *Transitioning clients back into the community.*

There is a lack of safe and stable accommodation and work and life skills programs to facilitate a client's transition from residential rehabilitation back into the community. Staff perceptions were that clients who did all the hard work in residential rehabilitation and then returned to a community without a safe and stable place to live, and access to work and life skills programs to support their transition back into the community, were being set-up to fail.

> "A lot of women come with drug and alcohol issues and DV [domestic violence] issues, but we're putting them back into the same area in the same house where the DV occurred, which is a struggle then because they've worked so hard here and they've worked with DCJ's [Department of Communities and Justice] plan, but then DCJ says at the end of it, well, we can't go with our plan now, because you're back in the same community and the same house." (Outreach Worker)

Transitional programs were not only considered important for providing clients with opportunities to developing their work and life skills, but also for providing them with daily structure, routine, and activities to reduce their risk of relapse.

> "And even if it was a transitional program back in community and it was four hours, three days a week, that's four hours, three days a week they're not isolating, sitting there going, well, I may as well just go get back on it. Because they've got a purpose." (Case Worker)

Referral links between residential rehabilitation and other services and agencies were underused or poorly established. Staff explanations for this varied and included residential rehabilitation services not always referring clients to other services for post discharge support, clients not consenting to be referred or attending referral, and referral services not contacting clients after they leave residential rehabilitation.

Encouragingly, outreach workers reported some success in linking clients to services to support their transition from residential rehabilitation back into the community:

> "So, one of our clients up there, from Condo, working with Marathon Health, I already know that when he goes back into community, they've already set up work for him. Marathon Health, myself and the Wiradjuri Centre, we've already set up work for him, where he will be going to Marathon Health and working a couple of days a week…" (Outreach Worker)

Nevertheless, outreach workers' experiences were that such positive outcomes were uncommon as they were reliant on well-established partnerships and referral links between multiple services across multiple communities.

Potential strategies to resolve barriers and strengthen enablers
Table 14 summarises the specific barriers and enablers related to each of the above themes, along with staff suggestions for resolving barriers and strengthening enablers.

Table 14: Barriers to, and enablers of, preparing clients to exit residential rehabilitation

Key Theme	Barriers	Enablers	Staff suggestions to resolve barriers and strengthen enablers
Availability of AoD detox.	• Limited detox for clients of Maayu Mali. • Waiting time for detox bed.	• Detox unit at Orana Haven for individuals and couples. • Detox arrangement between Orana Haven and Weigelli.	• Establish detox arrangements between Maayu Mali and Orana Haven for clients seeking admission to Maayu Mali.
Coordinating treatment and care.	• Accessing mental health care for clients. • Some staff without AoD training. • Life skills component of model of care is underdeveloped. • Limited one-on-one case management in some services.	Service partnerships and referral links: • Weigelli and Yoorana Gunya, Condobolin Aboriginal Health Service. • Maayu Mali and Pius Aboriginal Medical Service and • Orana Haven and Weigelli.	• Staff training in mental health first aid. • Employment of counselling staff. • Support for case workers to obtain Cert IV in AoD. • Increased frequency of one-on-one case management.
Transitioning clients from residential rehabilitation back into their community.	• Housing unavailable or unaffordable. • Lack of community support programs. • Underutilised or poorly established referral links. • Few or no aftercare workers to support clients in post-discharge period.	• Weigelli outreach worker linking clients to transition program at Marathon Health in Condobolin. • Orana Haven outreach team servicing Bourke, Cobar, Brewarinna and Engonnia.	• Secure transitional housing. • Housing officer at sector (ADARRN) or service level. • Extend duration of residential rehabilitation. • Identify and establish referral links with transitional programs.

Important learnings and implications

Important learnings from the key findings of the co-design and implementation of integrated case management and exit planning refinements are outlined below.

KEY FINDING 1: STAFF ARE MAKING EFFORTS TO DELIVER INTEGRATED CASE MANAGEMENT AND EXIT PLANNING ROUTINELY AND PERCEIVE THAT IT BETTER PREPARES CLIENTS TO EXIT RESIDENTIAL REHABILITATION

There is some variation between services in the delivery of core components of integrated case management and exit planning refinements. Important learnings associated with this finding were:

1. Aboriginal residential rehabilitation services' early identification and documentation of clients' needs is enabled by staff completing a care plan assessment with clients during their first week in residential rehabilitation. The care plan is reviewed and updated regularly enabling it to evolve into the exit plan when a client is ready to leave residential rehabilitation.

2. Although staff perceive integrated case management and exit planning to be acceptable, its feasibility for addressing clients' post-discharge needs is dependent on finding clients safe and stable short-term and longer-term housing, and successfully linking them into health care services and social supports after discharge. On-going monthly support by The Glen and staff exchanges facilitated by ADARRN were successful strategies for facilitating an active learning environment for case workers to broaden their experience in case management and earlier exit planning.

3. Staff were either unaware of virtual pre-rehabilitation support for clients provided by The Glen or were unsure how their clients could access it. Aboriginal residential rehabilitation services could develop strategies to routinely offer this resource and support their staff to deliver it.

KEY FINDING 2: A MODEL OF INTEGRATED CASE MANAGEMENT AND EXIT PLANNING IS APPROPRIATE THAT CONSIDERS LOCAL CONTEXT AND SERVICE ENVIRONMENT

Important learnings associated with this finding were:

1. Aboriginal residential rehabilitation services use different activities to operationalise earlier exit planning. This is consistent with the program logic model of integrated case management and exit planning which allows for flexibility in activities to operationalise core components (see the flexible activities identified in Table 13). Continuing staff exchanges facilitated by ADARRN will likely expose staff to a broader range of flexible activities for earlier exit planning some of which may be transferable to their service.

2. The level of staffing and resources available to address the accommodation, health, and social needs of clients through earlier exit planning varies between Aboriginal residential rehabilitation services. As do the strength and number of partnerships and referral links between Aboriginal residential rehabilitation services and other services and agencies.

ADARRN's leadership and expertise is likely to be beneficial for assisting services to optimally utilise existing, and access additional service and community resources.

KEY FINDING 3: THERE ARE OPPORTUNITIES TO IMPROVE THE EFFECTIVENESS OF INTEGRATED CASE MANAGEMENT AND EXIT PLANNING

This may be done by:

1. Increasing the availability of AoD detox;
2. Enhancing mental health services; and
3. Transitioning clients from residential rehabilitation back into the community.

These barriers are consistent with previous studies conducted in Aboriginal residential rehabilitation service settings (Brady, 2007; Munro et al., 2017). Importantly, key enablers with the potential to resolve or lessen the impact of barriers were identified and staff provided suggestions for overcoming barriers based on their experiences. Important key learnings associated with this finding were:

1. The AoD detox unit at Orana Haven is well established and is routinely used by clients applying for admission to Orana Haven and Weigelli. Orana Haven and Maayu Mali are currently making arrangements to increase access to the AoD detox unit for clients applying for admission to Maayu Mali.
2. Addressing the needs of clients with co-existing drug and alcohol and mental health disorders present significant challenges to Aboriginal residential rehabilitation services due to a lack of specialist mental health staff and services to meet their complex needs. Compounding this is the lack of case workers in some Aboriginal residential rehabilitation services with fundamental training in AoD and mental health. Clients with co-existing drug and alcohol and mental health disorders tend to have significantly poorer social functioning, higher levels of substance misuse, and less compliance with treatment and poorer treatment outcomes (Davis et al., 2020).
3. The challenges staff face navigating services and linking clients to them in preparation for their exit from residential rehabilitation is consistent with the current lack of knowledge regarding how best to support clients to move between AoD services and access the right service at the right time (Padwa et al., 2016). Australian and international best-practice clinical guidelines recommend that integrated (or co-ordinated) care, collaborative care planning, and processes to transfer clients between services be key aspects of AoD treatment (NSW Ministry of Health, 2020).

There are two main implications of key findings from the co-design and implementation of integrated case management and exit planning refinements. The first is that sector-wide support for staff in Aboriginal residential rehabilitation services to obtain AoD and mental health training would provide them with knowledge and skills to better assist clients with co-existing mental health and AoD issues until appropriate specialist help is available. The AH&MRC training college deliver a Certificate IV in Aboriginal drug and alcohol in face-to-face block and online mode, providing opportunity for case

workers to obtain qualifications in that are highly specific to their work with clients in Aboriginal residential rehabilitation. Similarly, a certificate in Aboriginal and Torres Strait Islander Mental Health First Aid is available through Mental Health First Aid. The course is delivered over 14 hours by an accredited Mental Health First Aider and provides opportunity for case workers to learn evidence-based practical skills in how to assist clients who are experiencing mental health issues.

The second implication is that the concept and practical delivery of a well-functioning AoD system of care has not been well developed in Australia or internationally (Padwa et al., 2016), which means there is an opportunity for Aboriginal residential rehabilitation services and Aboriginal PHC services to be world leaders in developing a coherent and well-functioning system of AoD care. A system of care designed for clients exiting residential rehabilitation would need to be co-designed with all key stakeholders, including those with lived experience, service staff, researchers, and policy experts, but would ideally link together the range of health and social services clients need to be able to seamlessly transition between the services that they need when they need them. This would: i) assist residential rehabilitation services to navigate services and connect clients to them; ii) help ensure that clients receive the right service at the right time; and iii) improve client access to the services they need both before and after their stay in residential rehabilitation. ADARRN (including Orana Haven and Weigelli) and members of the research team are currently working together to co-design some key principles that might govern such a system of care, to more systematically organise the delivery of the range of drug and alcohol services that are provided to Aboriginal and Torres Strait Islander clients in NSW. There is no reason that these key principles could not also be developed for Indigenous AoD services nationally. There is also clear potential to broaden the range of services in the co-designed system of care to include the health and social services identified by staff as essential for preparing clients to exit residential rehabilitation and return to their community.

Next steps

This chapter described integrated case management and exit planning refinements implemented in Orana Haven, Maayu Mali and Weigelli, and identified staff perceptions of their acceptability, along with the key barriers and enablers to their uptake into routine practice.

The overall finding is that staff in these residential rehabilitation services found the refined integrated case management and exit planning process to be acceptable and that they have been able to move towards establishing its routine delivery. Ongoing monthly support by The Glen, and staff exchanges led by ADARRN, were key strategies to help ensure that all components of integrated case management and exit planning refinements were sufficiently implemented to allow for this initial evaluation of its uptake into real-world and routine service delivery.

The key next steps would be to translate the staff suggestions identified in Table 14 into practical improvements that can be applied to the refined integrated case management and exit planning process. This would require at least two steps:

1. *Short-term improvements.* Implementation of the suggestions that are relatively easy to operationalise. First aid mental health training, for example, could be relatively easily provided to all staff of residential rehabilitation services.

2. *Longer-term improvements.* There is a real opportunity to co-design and test an improved system of care that would provide AoD clients with more timely access to a range of best-evidence AoD services, including detoxification, day counselling programs, self-help groups, residential rehabilitation, and primary care. This system would also establish efficient mechanisms to access other critical services, especially the need for safe and stable housing.

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9. APENDICES

Appendix 1: Standardised Assessment Tool (SAT)

PRIMARY DRUG OF CONCERN

The following questions ask you about what drug you are most concerned about and how you feel about this drug. Please answer as honestly as possible by telling me which answer is right for you.

1. Over the last three months, what drug was causing you greatest concern?

Select one only

Alcohol (Grog)	☐
Cannabis (Yandi, Gunja)	☐
Amphetamines	☐
Methamphetamines	☐
Cocaine	☐
Tobacco	☐
Tranquilisers (Benzos)	☐
Opioids	☐
Cocaine	☐
Non-opioid Analgesics	☐
Heroin	☐
Methadone	☐
Buprenorphine	☐
Other Drug (please specify): _____	☐

The following questions ask about how you have been feeling about that drug over the last three months (even if you have not been using)?

	Never or almost never	Sometimes	Often	Always
2.1 Did you ever think your use of **(principal drug of concern)** was out of control?	0	1	2	3
2.2 Did the prospect of missing this drug make you very anxious or worried?	0	1	2	3
	Not at all	A little	Often	Always or nearly always
2.3 How much did you worry about your use of the drug?	0	1	2	3
	Never or almost never	Sometimes	Often	Always
2.4 Do you wish you could stop?	0	1	2	3
	Not difficult at all	Quite difficult	Very difficult	Impossible
2.5 How difficult would you find it to stop or go without **(principal drug of concern)**?	0	1	2	3

Total score

2.6 What other drug/s are you concerned about?

_____

_____

_____

_____

DRUG and ALCOHOL USE

3.1 How many days in the last four weeks did you use?

Cannabis (Yarndi, Gunja)

Amphetamines

Methamphetamines

Heroin

Other Opioid

Cocaine

Buprenorphine

Tranquilisers

Other Drug, Specify_____

3.2 How many **days in the last four weeks** did you drink alcohol (beer, wine, spirits)? _____days

3.3 On average, how many **standard drinks** did you have on those days when you were drinking (refer to standard drinks chart)? _____drinks

3.4 On the **days in the last four weeks** when you were drinking much more heavily than usual, how many drinks did you have? _____drinks

3.5 How many **days in the last four weeks** did you drink at this level? _____days

3.6 How many **days in the last four weeks** did you use tobacco (cigarettes, cigars, pipe tobacco)? _____days

3.7 How many cigarettes/cigars/pipes did you have on a **typical day** when you did use tobacco? _____cigarettes etc.

3.8 When did you **last inject drugs**? (Select one only)

Last injected within the previous three months

Last injected more than 3 months ago but less than 12 months ago

Last injected within the previous three months ☐

Last injected more than 12 months ago ☐

Never injected ☐

Not stated/Inadequately described ☐

MENTAL HEALTH

'These questions ask you how much of the time you have had certain feelings in the last month? Please answer as honestly as possible by telling me which answer is right for you. If you are unsure about which response to give to a question, the first response you think of is often the best one.'

	None of the time	A little of the time	Some of the time	Most of the time	All of the time
1.1 In the last four weeks, about how often did you feel tired out for no good reason?	1	2	3	4	5
1.2 In the last four weeks, about how often did you feel nervous?	1	2	3	4	5
1.3 In the last four weeks, about how often did you feel so nervous that nothing could calm you down?	1	2	3	4	5
1.4 In the last four weeks, about how often did you feel hopeless?	1	2	3	4	5
1.5 In the last four weeks, about how often did you feel restless or fidgety?	1	2	3	4	5
1.6 In the last four weeks, about how often did you feel so restless you could not sit still?	1	2	3	4	5
1.7 In the last four weeks, about how often did you feel depressed?	1	2	3	4	5
1.8 In the last four weeks, about how often did you feel that everything was an effort?	1	2	3	4	5
1.9 In the last four weeks, about how often did you feel so sad that nothing could cheer you up?	1	2	3	4	5
1.10 In the last four weeks, about how often did you feel worthless?	1	2	3	4	5

Total score

QUALITY OF LIFE

The following questions ask how you feel about your quality of life, health, and other areas of your life. Please choose the response that is right for you.

Question	Very poor	Poor	Neither poor nor good	Good	Very good
5.1 How would you rate your quality of life?	1	2	3	4	5
	Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
5.2 How satisfied are you with your health?	1	2	3	4	5
	Not at all	A little	Moderately	Mostly	Completely
5.3 Do you have enough energy for everyday life?	1	2	3	4	5
	Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
5.4 How satisfied are you with your ability to perform daily living activities?	1	2	3	4	5
5.5 How satisfied are you with yourself?	1	2	3	4	5
5.6 How satisfied are you with your personal relationships?	1	2	3	4	5
	Not at all	A little	Moderately	Mostly	Completely
5.7 Have you enough money to meet your needs?	1	2	3	4	5
	Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
5.8 How satisfied are you with the conditions of your living place?	1	2	3	4	5

GENERAL HEALTH

For each area of your health choose the answer that is right for you now. Your answers will help us work with you to improve your health.

6.1 Mobility

I have no problems walking about

I have slight problems in walking about

I have moderate problems in walking about

I have severe problems in walking about

I am unable to walk about

6.2 Self care

I have no problems washing or dressing myself

I have slight problems in washing or dressing myself

I have moderate problems washing or dressing myself

I have severe problems washing or dressing myself

I am unable to wash or dress myself

6.3 Usual activities (e.g. work, family, social activities)

I have no problems doing my usual activities

I have slight problems doing my usual activities

I have moderate problems doing my usual activities

I have severe problems doing my usual activities

I am unable to do my usual activities

6.4 Pain/discomfort

I have no pain or discomfort

I have slight pain or discomfort

I have moderate pain or discomfort

I have severe pain or discomfort

I am extreme pain or discomfort

6.5 Anxiety/depression

I am not anxious or depressed

I am slightly anxious or depressed

I am moderately anxious or depressed

I am severely anxious or depressed

I am extremely anxious or depressed

CULTURAL CONNECTION

	Strongly disagree	Disagree	Don't disagree or agree	Agree	Strongly agree
7.1 I feel connected to my homeland or traditional country.	☐	☐	☐	☐	☐
7.2 I feel connected to Aboriginal people.	☐	☐	☐	☐	☐
7.3 I feel I know about Aboriginal culture.	☐	☐	☐	☐	☐

Appendix 2: Interview guide for CQI Facilitators

Topic areas	Questions and discussion points
A bit about you…	• I would like to start the interview by asking about your background, to find out a bit more about you. • It would be good to hear about where you were working before you came to [Name of service]. This will help me to understand your role at [name of service] and your skills.

Role and work at [name of Service]	• Can you tell me what your official role is at [Name of service]?
	   o What are you required to do in this role?
	• Tell me about a typical day for you at [Name of service]?
	• What things make it hard for you to do your role at [Name of Service]
	   o What things make it easy for you to do your role at [Name of service]?

Understanding of continuous quality improvement	• What is your understanding of continuous quality improvement? • How did you develop this understanding? • How would you describe continuous quality improvement at [Name of service]? • Who is responsible for continuous quality improvement at [name of service]?
Experiences of continuous quality improvement?	• What training have you received in continuous quality improvement? • What did you think about this training? • What support have you received to use continuous quality improvement in your role? • How are you involved in continuous quality improvement at [Name of service]? *Prompts: How many cycles? What were the cycles?* • What reasons are you involved in this way? • What do you think about your involvement in continuous quality improvement? Prompts: positive, areas for improvement, level of staff involvement, leadership • What is difficult about continuous quality improvement at [Name of service]?

Your recommendations for continuous quality improvement	• What do you think could be done better at [name of service]
	   o For clients
	   o For staff
	• What is the role of continuous quality improvement in making these improvements?

Other Comments	Is there anything else that you would like to add?

Appendix 3: Inputs for cost benefit model at service level

Parameter descriptions	Counselling	Service 1	Service 2	Service 3	Service 4	Source
Crime outcome						
Proportion with crime history at baseline		48%	34%	70%	54%	Data from services
Proportion with incarceration history at baseline		14%	2%	69%	3%	Data from services
Proportion with incarceration, out of crime history		23%	5%	98%	5%	Data from services
Probability of treatment completion		43%	52%	31%	27%	Data from services
Probability of reoffending, counselling	63%					(Weatherburn et al., 2018e)
Probability of reoffending, given partial treatment completion				59%		(Weatherburn et al., 2018)
Probability of reoffending, given treatment completion				51%		37% effect size from (WSSIP, 2006)
Quality of life outcome						
Utility after one year of treatment, given fully complete				0.90		Calculated from raw data
Utility after one year of treatment, given partially complete				0.86		Calculated from raw data
Utility after one year of counselling	0.72 (0.65-0.79)					(Tran et al., 2021)
Clients						
Number of client days		1,872	7,990	1,317	2,412	(NDARC, 2020b)
Number of clients		62	138	80	92	(NDARC, 2020b)
Delivery costs						
Cost per day		377	194	219	292	(NDARC, 2020b)
Number of tenant days per year		2,738	13,235	6,044	4,979	(NDARC, 2020b)

Appendix 4: Model structure of crime
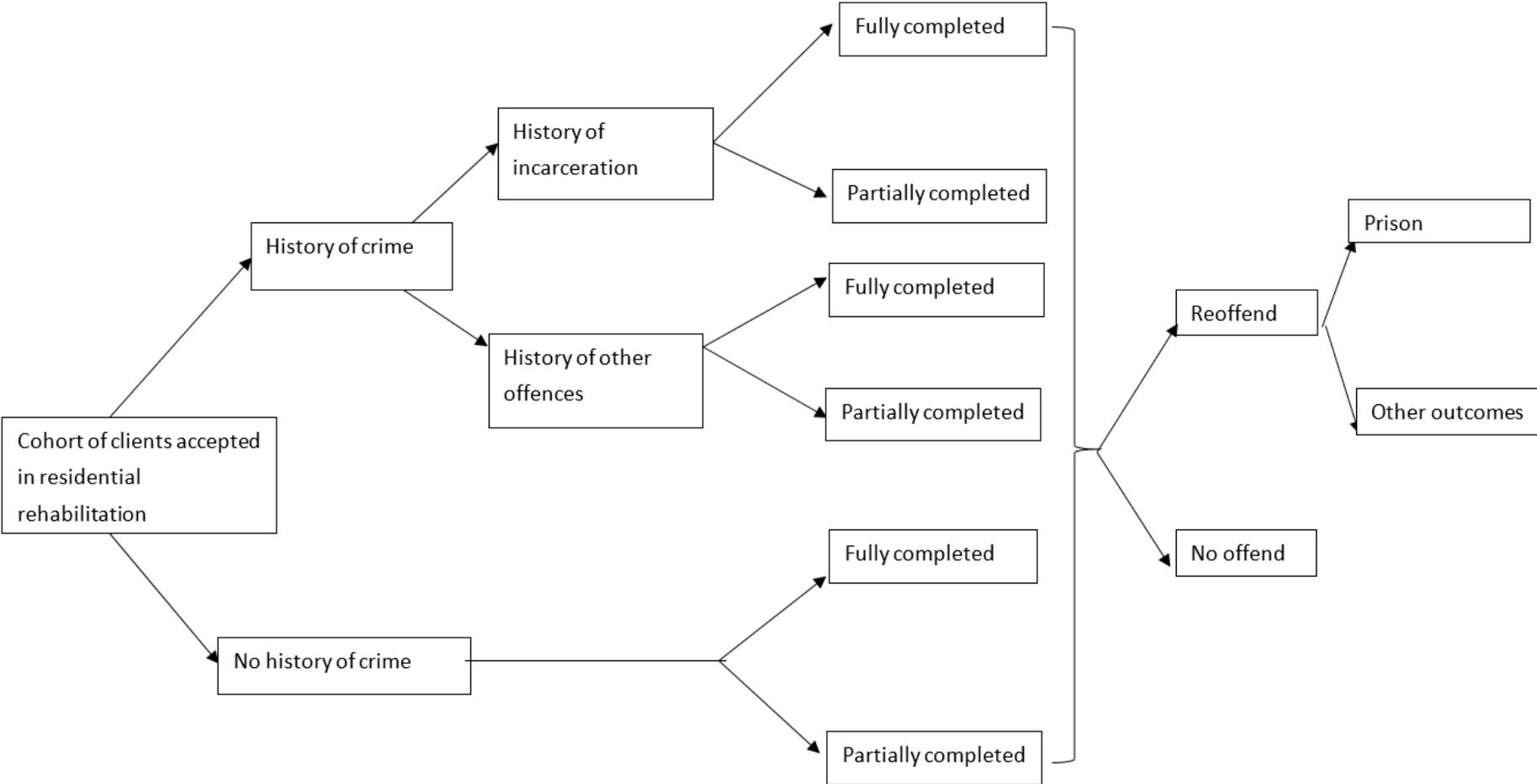
Appendix 5: Model structure of quality of life
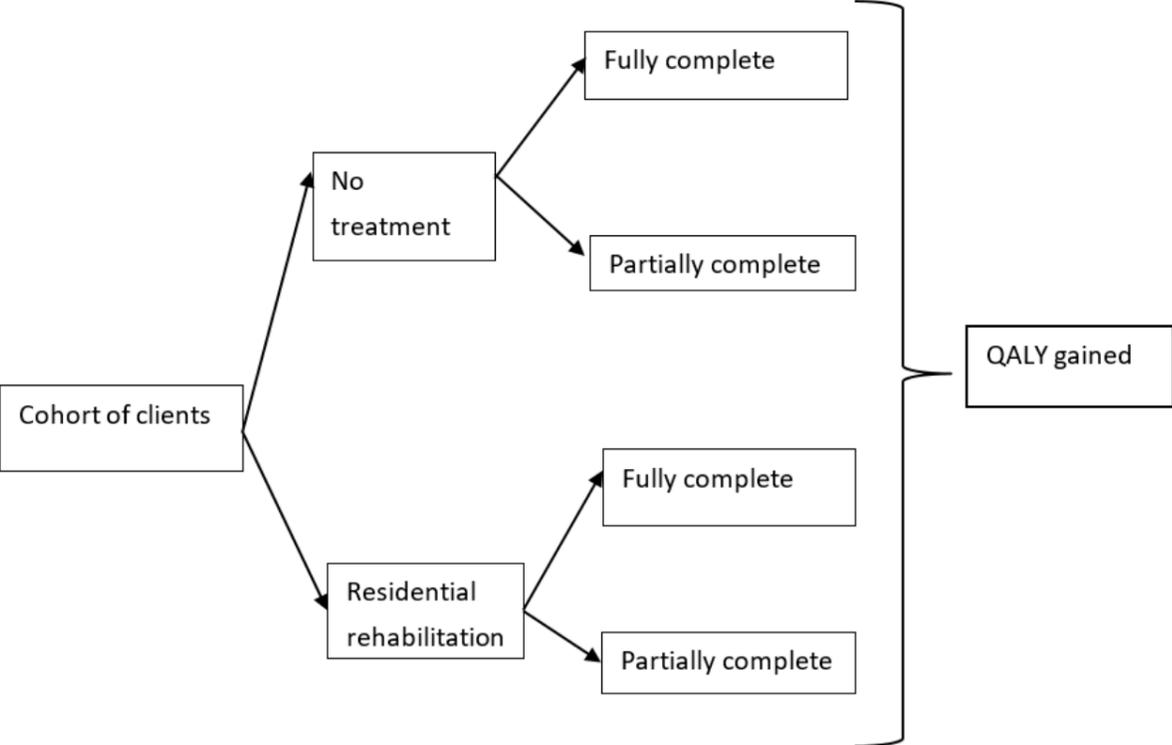
Appendix 6: Model inputs for sensitivity analysis

Parameter descriptions	Parameters	Lower bound	Upper bound
Crime outcome			
Probability of reoffending, fully complete	37%	17%	38%
Prison with sentence	66%	46%	86%
Prison without sentence	34%	24%	44%
Crime rate	2%	1%	3%
Incarceration rate, out of crime	1%	0.70%	1.30%
Length of prison with sentence	1.4 years	0.98 years	1.82 years
Length of prison without sentence	3 months	2.1 months	3.9 months
Costs of prison per day	$220	$154	$286
Costs of prison flag fall	$700	$490	$910
Average cost of one offence	$2,346	$1,642	$3,050
Average cost of one incarceration	$81,629	$57,140	$106,118
Health care resource use			
Odds Ratio (OR) of having mental health problems in residential rehabilitation vs counselling	4.17	1.62	6.73
Cost of one treated mental health	$1,800	$1,260	$2,340
Healthcare resource use outcome			
% psychiatric hospitalisations, counselling	10%	7%	13%
Effect size, psychiatric hospitalisations	-0.068	-0.048	-0.088
Costs of one psychiatric hospitalisation	$19,732	$13,812	$25,652
% general hospitalisations, counselling	22%	15%	29%
Effect size, hospitalisations	-0.052	-0.036	-0.068
Costs of one general hospitalisation, counselling	$8,594	$6,016	$11,172
% admitted to ED, with counselling	45%	32%	59%
Effect size, ED admissions	-0.077	-0.037	-0.100
Costs of one admitted ED	$1,060	$742	$1,378
Mortality outcome			
Mortality rate, counselling	0.00075	0.000525	0.000975
Effect size, mortality	-0.077	-0.054	-0.100
Cost of one statistical life year	$194,805	$136,364	$253,247
Potential years of life lost for heroin users	43.5 years	23.5	60.7
Employment outcome			
% employed	16%	11%	21%
Effect size, employment	0.363	0.250	0.470
Mean weekly income among drug users	$428	$300	$556

Appendix 7: Benefit cost analysis of residential rehabilitation – lower bound

Outcomes	Counselling	Service 1	Service 2	Service 3	Service 4	Overall
Crime outcomes						
Incremental number of re-offending		0.03	0.02	0.01	0.02	
Number of clients		62	138	80	92	372
Number of re-offending avoided		2	3	1	2	
Costs saved by reoffending avoided (A)		$2,851	$4,759	$920	$3,172	$11,701
Incremental re-incarceration		0.00588	0.000595	0.033103	0.00126	
Number of prison cases avoided		0.36	0.08	2.65	0.12	
Costs saved by re-incarceration avoided (B)		$17,126	$3,857	$124,406	$5,446	$150,835
Quality of life outcomes						
Incremental QALY/person		0.10				0.1
Number of QALY gained		6	14	8	9	37
Cost saved by quality of life gained (C)		$310,000	$690,000	$400,000	$460,000	$1,860,000
Mental health outcomes						
Proportion with mental health problems vs without mental health problems in rehabilitation group OR having mental health problems in residential rehabilitation vs counselling (1.62)		0.24	0.60	0.09	0.11	
Number with mental health problems, with counselling		8.68	23.66	1.54	4.58	
Number with mental health problems, with residential rehabilitation		6.00	18.00	1.00	3.00	
Number of mental health problems saved in residential rehabilitation		2.68	5.66	0.54	1.58	
Cost of one mental health problem per year ($1,260)						
Cost saved by improved mental health (D)		$3,375	$7,131	$681	$1,997	$13,184
Healthcare resources use outcomes						
% psychiatric hospitalisations, with counselling	7.00%					
Effect size	4.80%					
% psychiatric hospitalisations, with residential rehabilitation	6.70%					
Costs of one psychiatric hospitalisation ($13,812)						
Psychiatric hospitalisations, with counselling		4.34	9.66	5.60	6.44	
Psychiatric hospitalisations, with residential rehabilitation		4.13	9.20	5.33	6.13	
Number of psychiatric hospitalisations saved		0.21	0.46	0.27	0.31	
Costs saved by psychiatric hospitalisations avoided (E)		$2,853	$6,351	$3,682	$4,234	$17,120
% general hospitalisations, with counselling	15.00%					
Effect size, general hospitalisation	3.60%					
% general hospitalisation, with residential rehabilitation	14.50%					
Costs of one general hospitalisation		$6,016				
Number of general hospitalisations, with counselling		9.30	20.70	12.00	13.80	
Number of general hospitalisations, with residential rehabilitation		8.96	19.95	11.56	13.30	
Number of hospitalisations saved		0.34	0.75	0.44	0.50	
Costs saved by general hospitalisation avoided (F)		$2,037	$4,533	$2,628	$3,022	$12,219
% admitted to ED, with counselling	32.00%					
Effect size, ED admission	3.77%					
% admitted to ED, with residential rehabilitation	30.80%					
Costs of one ED admission	$742					
Number of ED admission, with counselling		19.84	44.16	25.60	29.44	
Number of ED admission, with residential rehabilitation		19.09	42.50	24.63	28.33	
Number of ED saved		0.75	1.66	0.97	1.11	
Cost saved by ED admission avoided (G)		$555	$1,235	$716	$824	$3,330
Mortality outcomes						
% mortality rate, with counselling	0.000525					
Effect size, mortality	5.39%					
% mortality rate, with residential rehabilitation	0.54%					
Costs of one life	$3,204,554					
Number of mortality, with counselling		0.002418	0.005382	0.00312	0.003588	
Number of mortality, with residential rehabilitation		0.00228767	0.00509191	0.002951832	0.003394607	
Number of mortality saved		0.00013033	0.00029009	0.000168168	0.000193393	
Cost saved by mortality avoided (H)		$418	$930	$539	$620	$2,506
Employment outcomes						
% unemployed, treatment	84.00%					
% employed, counselling	11.00%					
Number of employed, with counselling		7	15	9	10	41
Effect size, employment	25.00%					
% employed, residential rehabilitation	14.00%					
Number of employed, with residential rehabilitation		9	19	11	13	51
Incremental number of employed clients		2	4	2	3	10
Mean weekly income	$300					
Annual income	$15,600					
Costs saved by employment gained (H)		$26,811	$59,676	$34,595	$39,784	$160,865
Total costs saved (A+B+C+D+E+F+G+H)		$366,025	$778,471	$568,166	$519,098	$2,231,759
BCR		0.74	0.72	2.11	1.40	0.99

Appendix 8: Benefit cost analysis of residential rehabilitation – upper bound

Outcomes	Counselling	Service 1	Service 2	Service 3	Service 4	Overall
Crime outcomes						
Incremental number of reoffending		0.05	0.04	0.01	0.04	
Number of clients		62	138	80	92	372
Number of re-offending avoided		3	5	1	4	
Costs saved by reoffending avoided (A)		$9,833	$16,415	$3,172	$10,943	$40,364
Incremental re-incarceration		0.0084	0.00085	0.04729	0.0018	
Number of incarcerations avoided		0.52	0.12	3.78	0.17	
Costs saved by re-incarceration avoided (B)		$45,124	$10,163	$327,788	$14,348	$397,423
Quality of life outcomes						
Number of improved quality of life						
Incremental QALY/person		0.24				0.24
Number of QALY gained		15	33	19	22	89
Cost saved by quality of life gained (C)		$744,000	$1,656,000	$960,000	$1,104,000	$4,464,000
Mental health outcomes						
Proportion with mental health problems vs without mental health problems in rehabilitation group OR having mental health problems in residential rehabilitation vs counselling (6.73)		0.24	0.60	0.09	0.11	
Number with mental health problems, with counselling		19.15	38.47	4.40	12.58	
Number with mental health problems, in residential rehab		6.00	18.00	1.00	1.00	
Number of mental health problems saved in residential rehab		13.15	20.47	3.40	11.58	
Cost of one mental health problem per year ($2,340)						
Cost saved by improved mental health (D)		$30,762	$47,905	$7,958	$27,086	$113,711
Healthcare resources use outcomes						
% psychiatric hospitalisations, with counselling	13.00%					
Effect size, psychiatric hospitalisations	8.80%					
% psychiatric hospitalisations, with residential rehabilitation	11.90%					
Cost of one psychiatric hospitalisation	$25,652					
Psychiatric hospitalisations, with counselling		8.06	17.94	10.40	11.96	
Psychiatric hospitalisations, with residential rehabilitation		7.35	16.35	9.48	10.90	
Number of psychiatric hospitalisations saved		0.7125	1.5859	0.9193	1.0572	
Costs saved by psychiatric hospitalisations avoided (D)		$18,277	$40,681	$23,583	$27,121	$109,663
% general hospitalisations, with counselling	29.00%					
Effect size, general hospitalisation	6.80%					
% general hospitalisation, with residential rehabilitation	27.00%					
Costs of one general hospitalisation	$11,172					
Number of general hospitalisations, with counselling		17.98	40.02	23.20	26.68	
Number of general hospitalisations with residential rehabilitation		16.76	37.31	21.63	24.88	
Number of hospitalisations saved		1.22	2.71	1.57	1.80	
Costs saved by general hospitalisation avoided (E)		$13,579	$30,224	$17,521	$20,149	$81,474
% admitted to ED, with counselling	59.00%					
Effect size, ED admission	10.01%					
% admitted to ED, with residential rehabilitation	53.10%					
Costs of one ED admission	$1,378					
Number of ED admission, with counselling		36.58	81.42	47.20	54.28	
Number of ED admission, with residential rehabilitation		32.92	73.27	42.48	48.85	
Number of ED saved		3.66	8.15	4.72	5.43	
Cost saved by ED admission avoided (F)		$5,046	$11,231	$6,511	$7,487	$30,275
Mortality outcomes						
% mortality rate, with counselling	2.00%					
Effect size, mortality	1.58%					
% mortality rate, with residential rehabilitation	1.55%					
Costs of one mortality	$15,372,093					
Number of mortality, counselling		0.9796	2.1804	1.264	1.4536	
Number of mortality, with residential rehabilitation		0.9641	2.1459	1.244	1.4306	
Number of mortality saved		0.0154	0.0344	0.0199	0.0229	
Cost saved by mortality avoided (G)		$237,924	$529,574	$306,999	$353,049	$1,427,546
Employment outcomes						
% employed, with counselling	21.00%					
Number of employed, with counselling		13	29	17	19	78
Effect size, employment	47.00%					
% employed, with residential rehabilitation	31.00%					
Number of employed, with residential rehabilitation		19	43	25	28	115
Incremental number of employed clients		6	14	8	9	37
Mean weekly income	$556					
Annual income	$28,933					
Costs saved by employment gained (H)		$177,053	$394,085	$228,455	$262,723	$1,062,316
Total costs saved (A+B+C+D+E+F+G+H)		$1,050,829	$2,222,631	$1,584,220	$1,484,475	$6,342,155
BCR		1.49	1.43	4.12	2.81	1.98

Appendix 9: Program logic for the uptake of the refined integrated case management and exit planning process in Aboriginal residential rehabilitation services

Goal to be achieved
Uptake of a refined integrated case management and exit planning process into routine delivery by Aboriginal residential rehabilitation services.

Process to be delivered

Core components (supports for uptake)	Why would this component work?
Peer-led workshop/s with staff of services to: • introduce the refinements to case management and discharge planning; and • articulate services' current processes to tailor the uptake process to each service.	The workshops: • allow trusted professional peers to introduce the refinements to the integrated case management and discharge planning process; and • Staff from each service are responsible for designing how the refinements will be best implemented in their service.
Staff exchanges of up to one week between The Glen and other participating services to problem solve uptake issues in real time and in real-world service delivery.	As for the uptake of any innovation, there will be challenges in integrating new processes into routine delivery of residential rehabilitation services. These staff exchanges help allay fears about implementing a new process by providing problem-solving support between professional peers as the changes are being implemented in real-time.
Monthly remote support to services from The Glen.	Ongoing support to services to troubleshoot barriers to routine delivery of the integrated case management and discharge planning process on an as-needs basis.

Indicators that new processes are being delivered	Outcomes that demonstrate successful uptake
• Number of staff in each service who attended each workshop. • Development of a process for providing clients with access to pre-rehabilitation support, and evidence of the addition of that process into a service's policies and procedures manual. • Update of existing care plan forms to include standardised case management/exit planning components. • Process for clients to nominate and connect with a community-based health care provider established. • Process for clients to nominate and connect with external support person established. • Number of contacts between services and peer trainers. • Number of remote support sessions with each service.	Indicators that the goal is being achieved: • Zoom link and details of pre-rehabilitation support included in service's correspondence with clients accepted into residential rehabilitation. • Standardised integrated care plan /exit planning form uploaded onto each service's patient information management systems. • Section to record details of client nominated external contact added to the standardised, integrated case management/exit planning form.

Appendix 10: Workshop materials for integrated case management and exit planning

What does a successful exit look like?

The client journey

Day 1   All about them

What does a successful exit/completion look like?
(Based on a clients individual needs/goals)

Loss of family and culture
Cannot communicate - Closed
Use drugs as a coping mechanism

Barriers

Clients have the confidence to "case manage" and empowering them to help themselves

Disorientated   Unsettled   Worthless
In crisis
Unmanageable   Centrelink   No money
Come in with absolutely nothing   No transport
No identification
Don't know who they are / what the need
Lack of motivation (reasons for change)
Lack of trust (need to build rapport)
Coming from jail
A lot of let downs & disappointments in the past
No clothes   trauma?
Poor mental health (anxiety, depression, stressed)
Homeless   A decent meal, shower & sleep
Poor sleep, diet (malnourished)
What does week 1 look like?   Start with physical health
Build rapport & connection, relationship & trust
Getting info they need for ID   Need to feel safe & comfortable
Understanding the client situation, needs & exit
Referral to mental health services
Check if they have a 715   Work out legal conditions/reporting
                              Court matters

Identification
No rental history
Language barriers
Cultural barriers
Services have AVOs against clients
Service barriers
Judgement
Lack of quality service partners
Not seen doctor for a long time
Getting things done now/instantly
Understanding their goals
Generational bias
Financial literacy/education
Rural/regional

How to build good partnerships
Join case management plans
Service visits
interagency meetings
community events
knowing who's who locally
advocacy

Housing
Family identity
Cultural connection
Physical health/appearance   Good diet/sleep
Healthchecks
Support network   Connected with good services
Education   Continued relationship
Literacy skills
Cert III/workforce skills
Legal
Good mental health and confidence
Good communication
Changing attitudes towards services
Getting into the workforce/Employment
Aftercare/supports in place
Ability to ask for help
Financial health
Self-worth

From Homeless to Safe Housing

Homeless

Fear
Being alone
Any family support   Centrelink
                        Bank account
Cultural map   Bank Statements
                        Identification
Birth Certificate
                        References
Medicare

Lack of Housing (Social/Private) is an issue
Housing application → Housing provider
                    Building a good relationship
Letter sent to   Good contacts
wrong/old address

Skills and education   Aboriginality Certificate   Private housing

Employability? → Employment → Money? → Potential relocation
                              Financial literacy
                              Savings plan

Safe housing

Secure/permanent
Area away from certain areas
Safe environment
Basic essentials. Not overcrowded
Appliances
Emergency accommodation

Case management: **WHY?**

- Addressing **underlying issues** & causes
- **Client-centred and tailored care:** Physical, mental, spiritual, financial
- Helping clients **achieve** what THEY've always wanted to achieve.
  - Steppingstones include getting ID, sorting out debts etc.
- Giving them **opportunities** for **education, employment** & **housing**
- Showing clients how to case manage themselves.

"People like it when they understand something that they previously thought they couldn't understand. It's a sense of <u>empowerment</u>." – Neil Degrasse Tyson
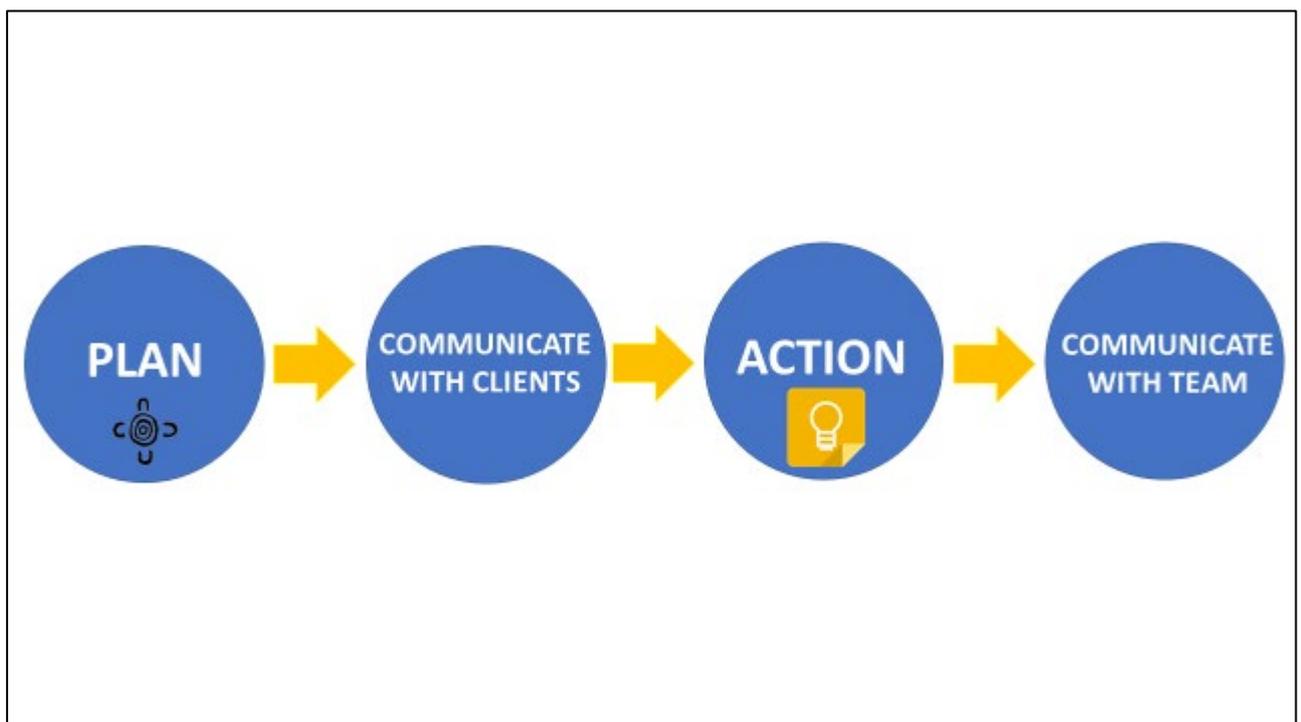
Appendix 11: Written feedback from staff of services attending second workshop

Weigelli staff feedback

- We get so caught up in the process of doing it.
- It's nice to reflect on why we are doing it. Is good to share from other services. Good refresher.
- Interesting to see how our MIMASO works. Very educational.
- Listening to everyone else case management and how we deliver the same thing to our clients.

Orana Haven staff feedback

- Listening to improve our services to get more changes and improvement.
- Love how MIMASO is on everything on one page.
- We are still back in the dinosaurs. Communicare.
- The layout of MIMASO is amazing which can help us.
- Learning about case management is a big thing.
- MIMASO outlines more than what it does at Orana Haven.

Maayu Mali staff feedback

- Still on Communicare, still learning a little bit about MIMASO.
- Were all on the same page.
- Keep in mind that it is client driven.
- Interesting to see how other rehabs work.
- Experience from other rehabs was good.

Appendix 12: Interview Guide for integrated case management and exit planning

Topic areas	Questions and discussion points
Work role	• Can you tell me what your official role is at [Name of service]? • How long have you been in this role? • What are you required to do in this role?
Understanding of case management and exit planning	• What is your understanding of the purpose of case management? How did you come to this understanding? • What is your understanding of the purpose of exit planning? How did you come to this understanding? • What is your understanding of the relationship between case management and exit planning? How did you come to this understanding?
Delivery of case management and exit planning	• How is case management and exit planning delivered at [Name of service]? *Prompts: when, frequency, how and by whom?* • How has this changed at [Name of service] since workshops and the staff exchange? Prompts: staff involved, case management forms, issues targeted, client engagement. • What issues are the focus of case management and exit planning? • What information is collected from clients? • Where is the information recorded? • How is the information used? • What do you think of case management and exit planning at [Name of service]? • What are the challenges? • What is working well?
Delivery of post-rehab follow-up support	I would like to hear about what help and support [name of service] provide to clients after they leave resi rehab. • What contact does [name of service] have with clients after they leave resi rehab? *Prompts: frequency and type of contact* • How does [name of service] work with clients after they leave resi rehab to address their health, housing and social support needs?
Final Comments	• What can [name of organisation] do better for clients to help them improve their quality of life and stay off drugs and alcohol? • Do you have anything to add?