Understanding clients, treatment models and evaluation options for the NSW Aboriginal Residential Healing Drug and Alcohol Network (NARHDAN): a community-based participatory research approach

NARHDAN

Copyright Statement

'Understanding clients, treatment models and evaluation options for the NSW Aboriginal Residential Healing Drug and Alcohol Network (NARHDAN): a community-based participatory research approach' report

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- Wellington Aboriginal Corporation Health Service (Maayu Mali);
- Namatjira Haven Limited (Namatjira Haven);
- Ngaimpe Aboriginal Corporation (The Glen);
- Orana Haven Aboriginal Corporation (Orana Haven);
- The Oolong Aboriginal Corporation (Oolong House);
- Weigelli Centre Aboriginal Corporation (Weigelli).

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Acronyms and Terminology

AA	Alcoholics Anonymous
ACCHSs	Aboriginal Community Controlled Health Services
AH&MRC	Aboriginal Health & Medical Research Council
AMS	Aboriginal Medical Service
AoD	Alcohol and Other Drugs
AUDIT	Alcohol Use Disorders Identification Test- screening tool to assess frequency, quantity of alcohol use and dependence
ASSIST	Alcohol, Smoking and Substance Involvement Screening Test- screening tool to assess all levels of problem or risky substance use
BBV-TRAQ	Blood Borne Virus- Transmission Risk Assessment Questionnaire – assesses the frequency with which injecting drug users have participated in risk-practices that increased their exposure to blood-borne viruses
BBV-TRAQ – short version	Short version of Blood Borne Virus- Transmission Risk Assessment Questionnaire
BI	Brief Intervention
CBA	Cost Benefit Analysis
CBT	Cognitive Behavioural Therapy
CBPR	Community Based Participatory Research
CEA	Cost Effectiveness Analysis
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
CRA	Community Reinforcement Approach
CUA	Cost-Utility Analysis
DASS 21	Depression Anxiety Stress Scales – 42 item screening instrument for depression, anxiety and tension/stress
DALY	Disability Adjusted Life Year
DUDIT	Drug Use Disorders Identification Test - screening tool to assess frequency, quantity of drug use and dependence
Fagerstrom	A standard instrument for assessing the intensity of physical addiction to nicotine
IRIS	Indigenous Risk Impact Screen – 13 item screening instrument for alcohol and other drug use, and related mental health issues for Indigenous Australians

GEM	Growth Empowerment Measure – a measurement instrument for assessing levels of empowerment in Indigenous Australians across a number of domains
K10	Kessler 10 - a brief measure of non-specific psychological distress in the anxiety-depression spectrum
MI	Motivational Interviewing
NA	Narcotics Anonymous
NADA	Network of Alcohol and other Drug Agencies
NADAbase	NADAbase is the combined NADA provided database for National and NSW Minimum Data Sets for Alcohol and Other Drug Treatment Services (N/MDS) and Client Outcomes Measurement System (COMS
NARHDAN	NSW Aboriginal Residential Healing Drug & Alcohol Network
NDARC	National Drug and Alcohol Research Centre
PHC	Primary Health Care
PHN	Primary Health Network
QALY	Quality adjusted life year
SDS	Severity of Dependence Scale – screening tool to assess levels of dependence experienced by users of different types of drugs
SLK	Statistical Linkage Key
WHOQOL	World Health Organisation Quality of Life Assessment
WHOQOL-BREIF	Short version of the World Health Organisation Quality of Life Assessment

Executive Summary

This report details the processes and outcomes of working with six Aboriginal residential rehabilitation services in NSW to develop a standardised assessment tool, define their core treatment and organisational components, and develop an evaluation framework that could be used to evaluate individual treatment components, such as follow-up care, and estimate the total net benefits and costs of their services.

The process of engaging with these Aboriginal residential rehabilitation services was guided by the principles of Community-Based Participatory Research (CBPR), and utilised both qualitative and quantitative methods. The relationship between these six services, which comprise the NSW Aboriginal Residential Healing Drug & Alcohol Network (NARHDAN), and the team of researchers led by Professor Anthony Shakeshaft (National Drug and Alcohol Centre (NDARC) UNSW Sydney), developed through a desire by the NARHDAN group to more systematically examine their data and services, with the goal of building an evidence base to ensure optimal outcomes for their clients.

There were three key processes for developing the report. First, client data were extracted from the electronic patient information systems of participating Aboriginal residential rehabilitation services and examined to identify the key domains of data collected. Second, an interactive workshop was undertaken with the managers of Aboriginal residential rehabilitation services to better understand the context in which their services collect data, and to identify the core treatment and organisational components of their services. Third, the analysis of client data and information provided by managers informed the development of a standardised assessment tool, program logic models defining standard treatment and organisational components, and the development of two evaluation frameworks, one to evaluate Aboriginal drug and alcohol residential rehabilitation, and the other to evaluate follow-up support.

The four primary aims of this report are to:

1. Describe the data collected by the Aboriginal residential rehabilitation services in NSW to identify gaps in client assessment data and develop a standardised assessment tool and data collection process that could be adopted by all services. This standardised assessment tool and data collection process would provide the capacity to embed evaluation into the routine delivery of Aboriginal residential rehabilitation services.
2. Define the core treatment and organisational components of Aboriginal residential rehabilitation services and develop standardised program logic models to operationalise their delivery.
3. Design an evidence-based follow-up model of care that could initially be implemented and evaluated in one Aboriginal residential rehabilitation service, with a view to stepped uptake of these treatment components across all services.
4. Articulate an evaluation framework, incorporating the standardised assessment tool and the standardised program logic models, to facilitate the estimation of the total net benefits and costs of Aboriginal residential rehabilitation services in NSW, and evaluate

the impact of future changes to treatment components, such as the addition of formal, structured follow-up after discharge from residential rehabilitation, or the addition of a systemic aftercare model of treatment.

The key outcomes in relation to the four primary aims are:

1. A proposed standardised assessment tool which would collect client data in at least six domains: i) demographics; ii) substance use; iii) mental health; iv) physical health; v) quality of life; and vi) cultural connectedness.
2. A program logic model to define the standardised core treatment components delivered by Aboriginal residential rehabilitation services in NSW, and a second program logic to define the standardised organisational components of these services.
3. The development of a standardised, evidence-based treatment component for follow-up support that could be delivered by NSW Aboriginal residential rehabilitation services using their existing expertise and resources. The proposed core components of follow-up support are: i) client exit interview and assessment; ii) client referral; and iii) client follow-up contact and assessment. A broader aftercare model is also identified, which could be further developed, implemented and evaluated over time.
4. A proposed evaluation framework that could be used to estimate the total net benefits and costs of existing Aboriginal residential rehabilitation services. This evaluation would provide a benchmark against which the benefits and costs of future innovations in treatment programs could be assessed, such as the development and uptake of a standardised follow-up process across all services, or co-designing and implementing a comprehensive aftercare model of service delivery.

1. Introduction, aims and methodology

Introduction

The harmful effects of substance misuse on Aboriginal and Torres Strait Islander individuals, families and communities (hereafter Aboriginal Australians as the term recommended by the Aboriginal Health and Medical Research Council for New South Wales) arises from a complex aetiology of factors including the intergenerational impacts of colonisation[1], subsequent high rates of incarceration[2], suicide and self-harm[3], and poverty[4]. Despite Aboriginal Australians comprising only approximately 3 per cent of the Australian population[5], drug and alcohol-related morbidity is disproportionately higher among this population[7-8]. In order to significantly redress the burden of harms associated with Aboriginal substance abuse disorders, effective prevention programs and treatment services are required.

Aboriginal residential rehabilitation services offer a multi-component form of treatment and care for Aboriginal people with varying levels of substance use dependence that is culturally acceptable[9-10]. Since their establishment over five decades ago, Aboriginal residential rehabilitation services have been a preferred option for Aboriginal people with problematic substance use[9-11].

One reason residential rehabilitation is often the preferred option for Aboriginal people with substance abuse disorders is that its multi-component approach seeks to address their complex social, economic, housing, and legal needs[12]. Multi-component programs are important given the strong association between substance abuse disorders and related issues, such as mental illness, involvement in crime, family violence, homelessness and recidivism[13]. Studies evaluating the effectiveness of mainstream residential treatment services, compared to outpatient treatment or usual care, have identified that residential treatment is associated with less methamphetamine use and crime[14], higher treatment completion rates and longer time in treatment[15], reduced suicide attempts during treatment[16], and higher reported quality of life and improved social and community functioning[17]. At the very least, residential rehabilitation provides individuals with substance abuse disorders time-out from chaotic environments, with even short periods of abstinence in residential care being beneficial in terms of harm reduction[18].

Almost all people who have high levels of AoD dependence relapse after completing treatment episodes[19]. The post-treatment period has been identified as a point in the treatment cycle when clients are at increased vulnerability to relapse. At this time clients may benefit from structured, regular monitoring of their status, in order to detect the re-emergence of potential problems and re-engage clients back into an appropriate type of treatment[20]. Consequently, structured ongoing support to support healing from substance abuse disorders following a period of high-quality, intensive treatment (such as residential rehabilitation) is recommended[21]. This type of on-going support is generally referred to as aftercare. Evidence from studies with mainstream populations suggests that better client outcomes are associated with aftercare support that is longer in duration[22] and tailored to the needs of individual clients[23]. Despite recognition of the likely benefits of aftercare, it is

not currently routinely provided, primarily because responsibility for instigating and delivering aftercare typically falls between existing services. In order to work effectively and sustainably, a high level of co-ordination is required between different types of services that are meeting different types of client need, and that are often provided in very different geographical locations.

There is limited formal evidence for the effectiveness of Aboriginal residential rehabilitation services. One current systematic review of Indigenous-specific residential rehabilitation services in Australia, the United States, Canada and New Zealand identified only one quantitative evaluation (a pre/post evaluation in one Australian service) published between 2000 and 2016[24]. In the absence of evidence from quantitative evaluation studies, approaches to the delivery of Aboriginal residential treatment programs vary widely, and divergent views exist regarding the appropriateness and efficacy of different potential treatment components. As such, the specific program components that comprise Aboriginal residential rehabilitation treatment are incompletely defined, and the rationale for their inclusion could be more clearly articulated[11,25]. The lack of evidence about what works in Aboriginal residential rehabilitation treatment services indicates a high need to develop the evidence-base in this area.

One way to improve the evidence base of Aboriginal residential rehabilitation services is for researchers to develop collaborative partnerships with these services to work together to align models of care with the needs of their clients and their local communities. Specifically, the quality of the data collected by these services could be improved (to more accurately measure client outcomes and meet formal reporting requirements)[26], their treatment programs could be further refined to optimise the extent to which they align with existing evidence and with each other (greater standardisation) [11,25], and they could be formally evaluated using rigorous evaluation methods to determine the costs and benefits of their treatment programs[24]. Such an evaluation would not only identify the costs and benefits of Aboriginal residential rehabilitation, but it would provide a benchmark against which the benefits and costs of future changes in treatment programs could be assessed (see Attachment 1).

In this context the NDARC, at UNSW Sydney, has worked collaboratively with Orana Haven Aboriginal residential rehabilitation service in NSW to define the components of their model of care and develop a program logic to operationalise the delivery of those treatment components. The model of care components and the program logic developed in collaboration between Orana Haven and NDARC, provide a framework that could be applied across all Aboriginal drug and alcohol residential rehabilitation services in NSW to achieve an unprecedented level of standardisation, in terms of both the model of care provided by services and the way in which they are operationalised (see Chapter 3). Improving standardisation does not mean all services would be required to be identical: they would still need to tailor their treatment activities to the specific characteristics of their clients (see Chapter 2), staffing arrangements and available resources. Nevertheless, a key advantage of achieving this level of standardisation is that it provides the possibility of undertaking more methodologically rigorous evaluations of Aboriginal residential rehabilitation services than

would be possible by working with each of them independently of each other, either in terms of quantifying their benefits and costs generally (see Chapter 5) or quantifying the impact of adding new treatment components, such as formal, structured aftercare (see Chapter 4).

Aims

The aims of this report are to:

1. Describe the data collected by the Aboriginal residential rehabilitation services in NSW to identify gaps in client assessment data, and to develop a standardised assessment tool and data collection process that could be adopted by all services. This standardised assessment tool and data collection process would provide the capacity to embed evaluation into the routine delivery of Aboriginal residential rehabilitation services.
2. Define the core treatment and organisational components of Aboriginal residential rehabilitation services and develop standardised program logic models to operationalise their delivery.
3. Design an evidence-based follow-up model of care, that could initially be implemented and evaluated in one Aboriginal residential rehabilitation service, with a view to stepped uptake and evaluation of these treatment components across all services.
4. Articulate an evaluation framework, incorporating the standardised assessment tool and the standardised program logic models, to facilitate the estimation of the total net benefits and costs of Aboriginal residential rehabilitation services in NSW, and evaluate the impact of future changes to treatment components, such as the addition of formal, structured follow-up after discharge from residential rehabilitation, or the addition of a systemic aftercare model of treatment.

Methodology

Ethics

Ethical approval was sought and granted by the Aboriginal Health and Medical Research Council (1023/14).

Aboriginal residential rehabilitation services

This study was undertaken with six Aboriginal residential rehabilitation services in NSW:

(i) Wellington Aboriginal Corporation Health Service (Maayu Mali);

(ii) Namatjira Haven Limited (Namatjira Haven);

(iii) Ngaimpe Aboriginal Corporation (The Glen);

(iv) Orana Haven Aboriginal Corporation (Orana Haven);

(v) The Oolong Aboriginal Corporation (Oolong House); and

(vi) Weigelli Centre Aboriginal Corporation (Weigelli).

Project design

This project was developed and implemented using the principles of CBPR, and utilises both qualitative and quantitative methods. CBPR is a partnership approach to evaluation and research that equitably involves services, other relevant key stakeholders and researchers in all aspects of the research process. All partners contribute their expertise and share decision-making and ownership. The equal status of the key stakeholders helps to ensure that all partners are involved in every aspect of the research. This is important given evidence that community or service provider participation increases their level of engagement, thereby empowering them to take action to improve the health and social wellbeing of their community[27]. The empowering potential of CBPR is particularly important in Aboriginal communities and services given the high levels of social disadvantage and disempowerment that Aboriginal Australians experience[28]. More specifically, CBPR is considered a culturally acceptable methodological approach for undertaking research with Aboriginal communities because its collaborative process facilitates Aboriginal leadership in establishing partnerships with researchers and other key stakeholders to identify issues, and generate practical and appropriate strategies to resolve them[29]. Ideally, CBPR allows researchers' methodological skills and expertise to be combined with the expertise of local community stakeholders and service providers[30].

The process of CBPR typically involves a collaborative cycle of planning, acting, observing, reflecting and re-planning. These cycles of collaborative action engage all key stakeholders in the partnership as co-researchers, educating and empowering them to effect positive changes in their community and services[31]. In doing so, CBPR combines methods of scientific inquiry with community and service-level capacity-building strategies[32].

The CBPR process used in this project comprised three iterative cycles of research activity with six Aboriginal residential rehabilitation services, as summarised in Figure 1.

Figure 1 Community Based Participatory Research Methodology

1. *Examining the type and quality of client data.* Data were collected from each service through their electronic patient information recording systems (PIRS), including the NADA provided database or Communicare. Data were de-identified by the data custodians prior to exporting into Microsoft Excel. Data were cleaned and analysed using statistical software package Stata 14. Data were analysed by year of admission with differences across the years examined using Fisher's exact tests, chi squared tests and one-way analysis of variance (ANOVA). Further sub-analysis were stratified by age, gender and referral source.

   Client demographic data included, but were not limited to, date of birth, age at admission, gender, Indigenous status, accommodation status, post code, education level, employment status, income, living arrangement, legal status, history of incarceration/custody, smoking status, primary carer during childhood, and dependent children. Other information collected was date of admission, date of discharge, length of stay, referral source, primary and other drugs of concern, substance abuse, mental health assessment and quality of life.

   The quality of the data was assessed to identify areas for improvement, and the tools used to collect data were identified to inform the development of a standardised data collection tool.
2. *Interactive workshops with managers of the six participating Aboriginal residential rehabilitation services.* Managers of the six participating Aboriginal residential rehabilitation services participated in a half day interactive workshop with the research project team. Client assessment data collected in Stage 1 was presented to managers to better understand the context in which it was collected. Their feedback informed the development of a standardised data collection tool. Managers were then presented with the six treatment and three organisational components of a model of care previously developed with Orana Haven and asked to identify specific activities that their service delivers for each component. The activities were summarised in a

table which was examined to determine common activities delivered across services for each component. The outcome of this process led to the development of two standardised program logic models. The first defined the range of activities delivered by NSW Aboriginal residential rehabilitation services for core treatment and organisational components (Chapter 3, Aims 2 and 3). The second defined the components and related activities of an evidence-based model of follow-up care for delivery in NSW Aboriginal residential rehabilitation services (Aim of Chapter 4).

3. *Consultation with a health economist.* A health economist with expertise in quantifying the costs and benefits of health services and programs was consulted to develop an evaluation framework that could be used to quantify the benefits and costs of Aboriginal residential rehabilitation services based on the program logic models (see Attachment 1). The impetus to develop this framework came directly from the managers of the participating services who clearly articulated the need for such an evaluation, to enable them to more systematically examine their data and services, with the goal of building an evidence base to ensure optimal outcomes for their clients. There are a range of potential economic evaluation methods that could be used for this purpose, including:

    - *Cost-effectiveness analysis (CEA).* This uses symptomatic or diagnostic indicators that have been demonstrated to be meaningful to the sector as a unit of measurement (e.g. change in alcohol use).
    - *Cost-utility analysis (CUA)*. This combines both morbidity and mortality into a single unit of measurement, such as a quality adjusted life year (QALY), or a disability-adjusted life year (DALY), to measure how many QALYs or DALYs were averted due to receiving treatment. This is particularly useful for measuring the health domain.
    - *Cost-benefit analysis (CBA)*. This is considered the gold standard in economic evaluation as it provides an estimate of the value of resources used by each program (i.e. the costs) compared to the value of resources the program might save or create (i.e. the benefits). It enables the calculation of a cost-benefit ratio to estimate the likely return on investment. CBA values benefits in monetary terms and looks at final outcomes and spill-over effects over a longer time period. Importantly, the total net benefits to society, as well as to the different cohort groups, would be estimated. The distribution of benefits is also important, as some gains for clients (for example, obtaining a job post-treatment), may have counterpart losses (for example, lower receipt of welfare benefits).

2. Embedding evaluation capacity into Aboriginal residential treatment services: assessing current data collection and the development of a standardised assessment tool

Summary

Key Findings

The quantity of assessment data collected varied across services, but was generally comprehensive and of sound quality.

Aboriginal residential rehabilitation services collect data across similar domains, but use a number of assessment tools (Appendix 2), and there is some variation in wording of questions. Client data for each service varies by data collection instruments (e.g. client intake questionnaire), assessment tools (e.g. the Indigenous Risk Impact Score (IRIS) or Severity of Dependence Scale (SDS)) and data management systems (e.g. NADA or Communicare).

Key Lesson Learned

Developing a standardised assessment tool would be achievable, given the existing similarities in data collection across different services. This would be of benefit in the comparison of client data across the sector.

Standardisation could be achieved without necessarily insisting that exactly the same wording of items, or exactly the same measures, need to be used. A coding system could be devised, for example, to categorise clients according to their level of risk even if different measures are used. Clients' levels of substance abuse dependence, for example, could be assessed using the IRIS in one service and the SDS in another, and then coded according to their level of dependence, irrespective of the measure used (as long as the measure is evidence based).

Key Outcomes

In the workshop convened for this project, the managers of Aboriginal residential rehabilitation services agreed that:

i) the collection of client assessment data could be standardised across their services;
ii) information could be collected in at least six domains (demographics; substance use; mental health; physical health; quality of life and cultural connectedness);
iii) wording of items should be standardised wherever possible; and
iv) data should be collected in all services at three time points: intake, mid-way through treatment and discharge. Consideration would be given to also collecting follow-up data three months after discharge.

An example of a standardised assessment tool for collecting data in the six domains applicable to Aboriginal residential rehabilitation services in NSW is provided for consideration (see Appendix 8). The cost of implementing this tool and/or modifying data management systems would need careful consideration.

Introduction

The collection and interpretation of client data was identified as an essential step in the assessment, management and treatment of clients at residential rehabilitation services. Given the importance of client data for tailoring treatment and program delivery to the specific needs of clients, it is necessary to determine which data are being recorded and the characteristics of clients attending Aboriginal residential rehabilitation services. Recording client risk factors and characteristics at the time of admission, during the client journey and at discharge has been identified as a priority area by managers of the Aboriginal residential rehabilitation services.

Aims

This chapter has four aims.

- First, to describe the characteristics of six Aboriginal residential rehabilitation services: Namatijira Haven, Orana Haven, Weigelli Centre, The Glen, Maayu Mali and Oolong House.
- Second, to describe the assessment tools used to collect client data, and to assess and analyse client data within and across services.
- Third, to develop a standardised assessment tool for consideration by managers of the Aboriginal residential rehabilitation services in NSW.
- Fourth, to explore the possibility of implementing a continuous quality improvement cycle for assessment data.

Key Findings

Characteristics of Aboriginal residential rehabilitation services

Table 1 summarises the current characteristics of the six participating services, including eligibility criteria, bed capacity and length of stay, treatment services delivered, and client outcome assessments (type, frequency).

Table 1 Snapshot of Aboriginal Residential Rehabilitation Services

Service (location)	Eligibility	Treatment	Bed capacity	Detox provided (Y/N)	Client assessment points	Counselling type and format	Follow-up support (Y/N) & format (if applicable)[a]
Namatijira's Haven	Males, aged 18 years and over	Up to 36 weeks with an average of 12 weeks	14-16	2 detox beds (ambulatory)	• Intake assessment • Week 1 - clinical interview assessment, including DUDIT, AUDIT, K10, quality of life and G.P Health assessments. • Week 6 - K10, quality of life • Week 12 - K10, quality of life; SEWB assessment, care plan reviews, exit planning.	• Casework • Group work • Lifeskills/employment courses • Outside services; individual/specialised counselling • Regular G.P. clinics,	Yes Phone or face-to-face, up to 52 weeks
Orana Haven	Males, aged 18 years and over	12-52 weeks (at times)	16-18	Y (in Brewarrina)	• Intake assessment • On entry (program, enrolment) • Care plan reviews	• Motivational interviewing • Group format • Individual counselling provided at AMS • G.P. (physical health)	Yes Phone only
Weigelli	Females, males and couples over 16	12 weeks	18	No	• Intake assessment • On entry (program, enrolment) • Weekly care plan reviews	• Casework • Groupwork • Lifeskills/employment (TAFE) courses • Outside services; relationship/individual counselling • G.P. (Health checks)	Yes Up to six months post-treatment
The Glen	Males, aged 18 years and over	12 weeks	20 program beds	No	• Intake assessment • 1 week COMS[b] • 4 week COMS	• Casework • Groupwork	Yes

			18 transition beds		• 8 week COMS • Care plan reviews	• Lifeskills/employment courses • Outside services; relationship/individual counselling • G.P. (Health checks)	Transition program from 3 to 12 months after initial program (supporting clients with qualifications, employment and housing)
Maayu Mali	Males/females, aged 18 years and over	12 weeks	14 males beds 4 female beds	No	• Intake assessment (includes NADA as COMS) • On entry secondary comprehensive assessment (confirms after week 1 build Care plan • Care plan review as needed or monthly • Prior to discharge exit planning (includes aftercare.	• Casework • Groupwork • Lifeskills/employment courses • Outside services; individual counselling • G.P. (Health checks) • Cultural therapy/conversations (narrative therapy)	Yes Intensive for at least three months
Oolong House	Males, aged 18 years and over	16 weeks or longer depending on individual case plans	21	No	Comprehensive Intake assessment: • Week 1-Collect minimum data set (MDS) IRIS,K10,GEM,DTCQ • Week 4-Collect MDS • WEEK 8-Collect IRIS, K10, GEM, DTCQ • Week 12-Collect MDS • Week 16-Collect MDS, IRIS, K10, GEM, DTCQ • Exit planning	• Casework • Groupwork	Yes Week 12 phone assessment

[a] Data is currently only collected at 3 month follow-up by Oolong House, but data collection at 3-month follow-up is a component of the model of follow-up care outlined in Attachment 1.

[b] Client Outcome Measures Survey (COMS).

Key assessment tools used by services to collect client data

1. AUDIT: Alcohol Users Disorders Identification Test is a 10-item screening tool developed by the World Health Organisation to assess alcohol consumption, drinking behaviours, and alcohol-related problems. A score of eight or more is associated with harmful or hazardous drinking, a score of 13 or more in women, and 15 or more in men, is likely to indicate alcohol dependence.

2. DUDIT: Drug Use Disorders Identification Test is an 11-item screening tool developed in parallel to the AUDIT to identify individuals with drug-related problems. A score of 25 or more indicates a probable high level of drug dependence.

4. SDS: Severity Dependence Scale is a five-item tool for assessing the severity of drug dependence. The higher the score the higher the level of dependence depending on the drug of use. For heroin a score of greater than four indicates dependence. For cannabis and benzodiazepines a score of seven or higher indicates dependence.

3. IRIS: Indigenous Risk Impact Screen is a 13-item instrument, of which questions one to seven assess alcohol and drug risk, and questions eight to 13 assess mental health and emotional wellbeing risk. A total score of 10 or more for questions one to seven indicate increased AoD risk and a score of 11 or more for questions eight to 13 indicate mental health risk.

4. Kessler 10 (K10): Kessler Psychological Distress Scale is a 10-item questionnaire intended to yield a global measure of psychological distress, based on questions about anxiety and depressive symptoms that a person has experienced in the most recent four week period. Scores range from 10 to 50 and are grouped into four risk categories: score 10-15 are likely to be well; score 20-24 are likely to have a mild mental disorder, score 25-29 are likely to have moderate mental disorder and score 30 and over are likely to have a severe mental disorder.

5. WHOQOL-BREF: The WHOQOL-BREF instrument comprises 26 items, which measure quality of life in the following broad domains: physical health, psychological health, social relationships, and environment.

Client data collected by residential rehabilitation services

For each service, client data collected over a six year period (2011-16 or 2012-17) were extracted and analysed. The data available varies across services for a range of administrative, historical and logistical reasons. For example, Maayu Mali client data were only available from when the service commenced operations in June 2015. Detailed demographic data, separately for each service, are presented in Appendix 1. A detailed tabulation of clients' risk factors, separately for each service, are presented in Appendix 2. Appendices 3-7 present data for each service individually. A summary of these data are provided as follows.

Namatjira Haven

Data were analysed from 2012 to June 2017. Comprehensive client data was recorded at time of application to the service giving details for those who were accepted, on hold, withdrawn, pending and rejected. This information was unique to this service. Clients' demographic information and outcome data were available and analysed for each year.

A total of 784 clients applied for admission to Namatjira from the period of 2012 to 2017: close to half were accepted for admission (n= 382, 49%), over a third were rejected (n=287, 37%) and a minority were withdrawn, on hold or pending (n=116, 14%). The reasons for rejection included conflict of interest (n=1, 0.3%), lost contact/insufficient information (n=165, 54%), no bed available (n=33, 11%), not eligible/suitable (n=77, 25%) or referred to other services (n=28, 9%). The mean age of clients was 34 years, with the highest proportion of clients within the age group of 36-45 years (n=288, 37%). Most clients identified as being Aboriginal (n=686, 88%). The mean length of stay was 64 days, with the highest proportion of clients staying between 60-90 days (19%). A quarter of clients were referred through the criminal justice system (n=201, 26%) with this number decreasing over the years from 2012 to 2017. This might indicate a change in client intake with an increase from other referral sources.

Namatjira collects the AUDIT score from its clients at the beginning, middle and end of the client journey. The mean score was 22.6 when examined as a complete cohort, indicating a high proportion of clients are likely to have a high level of alcohol dependence. Most clients were in the category of highest risk with a score of 20 or more (n=104, 58%). Analysis of AUDIT score by year showed an increase over the years from 18 in 2013 to 26 in 2017, although this difference was not statistically significant.

DUDIT scores were also collected for the years of 2016 and 2017. The mean score was 34, however this was only recorded for 27 clients in 2016 and 14 clients in 2017. This mean score suggests a high level of drug dependence among clients.

AoD risk using the IRIS was also measured for n=154 clients with a mean score of 23 and no variance over time. This mean score indicates a high risk of mental health issues and drug and alcohol dependence among clients.

Mental health of clients at Namatjira was assessed using the Kessler 10 with a mean score of 27 and no significant variance over time. The Kessler 10 was administered to n=200 of the 382 clients with most clients having a score of over 30 (n=85, 43%) indicating the likelihood of a severe mental disorder. Mental health risk of clients using the IRIS was also measured for 154 clients with a mean score of 11 and no variance over time.

Orana Haven

Data were analysed from 2011 to 2016. Client demographic data were examined over all years. Client outcome data, however, was unavailable to be extracted for analysis in time for inclusion in this report. Client outcome data has since been extracted and will be cleaned and merged for analysis.

A total of 329 clients were admitted from 2011 to 2016 with a mean age of 34 years. The highest proportion of clients (36%) was in the age group 26-35 years and this result was statistically significant (p=0.007). Indigenous status was recorded as Yes/No with 85% of clients identifying as being Aboriginal and/or Torres Strait Islander. Mean length of stay was 51 days with a statistically significant difference over time: the mean length of stay increased to 61 and 64 days in the years 2014 and 2015. Most clients discharged themselves (47%) instead of completing the program (32%) and this difference was statistically significant

(p=0.000). This trend was consistent over time with the greatest difference being recorded in 2013.

Weigelli Centre

Data were analysed from 2011 to 2016. Client demographic and outcome data were available and analysed for this time period.

A total of 590 clients were admitted to Weigelli from 2011 to 2016 with a mean age of 32 years. The highest proportion of clients was in the 26-35 year age group (40%), however this result was not statistically significant. The mean length of stay was 32 days, with the highest proportion of clients staying between 1-30 days (41%) and this result was statistically significant (p=0.000). It is important to note, however, that a significant proportion of clients also stayed between 60-90 days (30%). This indicates that there are two key groups of clients: those who stay for a month, and those who stay for three months. Referrals to Weigelli were almost evenly distributed between the criminal justice system, self-referred and other sources. On examination of trends over time it was evident that the number of referrals from the criminal justice system increased from 32% in 2012 to 41% in 2016 and this difference was statistically significant (p=0.000).

Weigelli uses the SDS which was recorded for n=149 clients. An overall mean score of 8.7 was recorded for the cohort with no variance over time. An interesting observation was the increase in administering the SDS to a greater number of clients over the years, from two clients in 2011 to 67 clients in 2016.

Weigelli also uses the Kessler 10 which was administered to 147 clients. Of these, n=52 (35%) indicated a very high score of psychological distress (>30): this trend was consistent over time. Similarly to the SDS, it was notable that the administration of the Kessler 10 increased over the years.

The Glen

Data were analysed from 2012 to June 2017. Client demographic and outcome data were available and analysed for this time period.

A total of 798 clients were admitted to The Glen from 2012 to 2017 with a mean age of 37 years. The highest proportion of clients was in the age bracket of 26-35 years (n=274, 35%). Indigenous status was recorded (using a question with multiple response options) and although most clients were Aboriginal (56%), a large proportion were non-Aboriginal (41%). The mean length of stay was 69 days with a significant difference in 2015 where the mean length of stay was 81 days (p=0.000). The highest proportion of clients stayed between 60-90 days (36%) with the next largest group staying between 1-30 days (30%). This trend was statistically significant and also seen at Weigelli. Most clients were self-referred (38%) or were discharged on completion of the program (55%), which was a trend that differed from other residential rehabilitation services where most clients self-discharged.

The Glen uses the SDS which was recorded for n=1632 surveys which indicates repeated measures for the same clients at different time periods. An overall mean score of 9.7 was recorded for the cohort with no variance over time.

The Glen also uses the Kessler 10, which was administered to n=1632 clients. Of these, n=647 (40%) indicated a low score for psychological distress (10-15).

Maayu Mali

Data were analysed from 2015 to June 2017 (noting that the service commenced operations in June 2015). Client demographic data were examined over all years, however, client outcome data were not available for analysis.

A total of 203 clients were admitted to Maayu Mali from 2015 to 2017 with a mean age of 33 years. The highest proportion of clients were in the age bracket of 26-35 years, which is a trend seen similar to other residential rehabilitation services. Data were recorded at the time of admission, assessment and exit. Indigenous status was not recorded at any time-point. Demographic data were minimal and, therefore, they have not been presented in a table. A total of 31 clients had an exit date hence mean length of stay is not presented. The remaining 182 clients did not have an exit date.

Oolong House

Data were analysed from 2011 to 2016. Client demographic data were examined over all years, however client outcome data were not available for analysis.

A total of 344 clients were admitted to Oolong House from 2011 to 2016 with a mean age of 34 years. Majority of clients (34%) were in the age bracket of 26-35 years. Clients were mainly self referred (60%) with around 28% being referred from the criminal justice system. The mean length of stay at Oolong House was 64 days with significant differences across the years. Client length of stay increased from a mean of 77 days to 96 days from 2011 to 2014 and then decreased to 53 days in 2015 and 19 days in 2016. This trend was still significant on removal of these clients who stayed for a single day (n=60). Clients Indigenous status was recorded in detail with the largest portion being Aboriginal (61%). Clients' discharge type was quite evenly distributed with 30% completing the program, 40% being self-discharged and another 30% discharged for a reason other than program completion or self-discharge.

Data quality

The format and information recorded for client demographics varied for each centre, although there was uniformity across certain areas like age at admission. The amount of missing data was minimal indicating recording is done consistently for most clients. Indigenous status was recorded differently at each service with some recording it as a Yes/No while others provided more detailed categories, such as: Aboriginal, Torres Strait Islander, Aboriginal and Torres Strait Islander, Neither, Not Stated. Some services have been administering valid and reliable measurement instruments to collect client outcome data for a number of years, while other services have more recently begun to do so. Valid and reliable measurement instruments are those that have proven to be accurate and consistent in their collection of data. Some of these measures are Aboriginal specific (e.g. IRIS, GEM), some have Aboriginal-specific cut-off scores (e.g. AUDIT-C) and some are yet to be developed (e.g. a valid and reliable measure of cultural connectedness). Overall, the utilisation of reliable and valid measures across all services could be improved.

Standardised data collection and assessment tool

Existing data collected by services covers the domains of demographics, substance use, mental health and quality of life. The data collected and the tools used to collect it are summarised in Appendix 8. Managers of the six Aboriginal residential rehabilitation services agreed there would be value and benefit in the collection of client data in two additional domains: blood borne virus risk, and cultural connectedness. They also supported the standardisation of wording for demographic items.

Managers agreed to the collection of client data across six domains: demographics, substance use, mental health, quality of life (including physical health), blood borne virus risk, and cultural connectedness. Table 2 presents key outcome measures for each domain and valid and reliable measurement instruments for their routine collection. Some of the measurement instruments are currently used by some Aboriginal residential rehabilitation services in NSW to collect client outcome data (e.g. AUDIT, DUDIT) or have been used in other Indigenous healthcare settings (e.g. ASSIST, GEM).

Table 2 Client outcome measures for each domain and instruments for their collection

Domains	**Key outcomes measured in standardised assessment tool**	**Valid and reliable measurement instruments for collecting data on key outcome measures**
1. Demographics	- Name - Date of birth - Sex - Aboriginality - Mob and country - Address - Relationship status - Living arrangements - Employment status - Legal history - Referral source	
2. Substance use	- Frequency - Quantity - Dependence	AUDIT and DUDIT ASSIST
	- Dependence only	SDS IRIS
3. Mental Health	- Anxiety - Depression	K-10 IRIS DAAS
4. Quality of Life	- Physical health - Mental health, - Social relationships - Environment	WHOQOL-BREF WHOQOL
5. Blood Borne virus risk	- Needle and syringe contamination - Other injecting equipment - Second person contamination	BBV-TRAQ SHORT VERSION BBV-TRAQ
6. Cultural connection/spirituality	- Self - Family - Community	GEM

Appendix 9 contains an example of a standardised assessment tool comprising valid and reliable measurement instruments for collecting client data across the six domains at intake, midway through treatment, upon discharge, and at follow-up.

Discussion

Data from each service were analysed and findings are presented in Appendix 3 to Appendix 8. Potential areas for improvement from this data review include:

1. **Collaborating across residential rehabilitation services to determine the minimum standard of data and type to be collected.** The Standardised Assessment Tool (SAT) would enable comparison of client outcomes across services at client admission, assessment and exit with the flexibility for additional data to be collected as determined by the needs of the individual service. The SAT will enable comparison of client outcomes across services, assisting to build the evidence-base for Aboriginal residential rehabilitation services. It will also reduce the time taken to clean each dataset into a comparable format and facilitate more timely and efficient data extraction and analysis.

The form should be compatible with data recording software and built into existing data management systems. Recording meaningful and easy to access data could improve the process of data reporting and analysis. This could include the use of drop down menus instead of free text recording where feasible. Incorporating the requirements for KPIs into the data collection process would be beneficial to streamline the reporting process, identify areas for improvement and monitor quality improvement over time.

2. **Implementing a Continuous Quality Improvement Cycle (CQI).** Implementing a quality improvement framework with a best evidence and routine data collection and analysis process would be beneficial because it provides the opportunity to improve the quality of data and service provision over time, engages staff with the importance of data collection, helps set goals for improvement and monitor success over time, and is customer outcome focussed. CQI has been shown to be effective in Aboriginal and Torres Strait Islander Primary Health Care Services and is well suited to the principles of holistic service delivery[33]. It has a participatory action approach with a focus on customer service adhering to the principles and values of Aboriginal and Torres Strait Islander people.[34-35]

The CQI process is outlined in the Figure 2 below. CQI begins with the training of relevant staff in data collection processes, a review of the data collection and quality process followed by data analysis and reporting. The staff then contribute to participatory interpretation of the data report providing context to the trends seen in the data. They then set goals with a systems based action plan for changes to be implemented. Any further training required to implement these changes is then carried out as needed. A time period (usually one year) is then agreed upon to conduct the cycle again beginning at the data collection and reporting. In the next year of the CQI cycle, the impact of changes implemented in the previous year are examined and success is celebrated following further changes if needed. This process is continued on an annual cycle or a shorter cycle depending on the needs of the service. Using CQI could increase services' capacity to attract funding from a wide range of sources, and enable continuous improvements in client outcomes. It provides an organisation with evidence of improvements over time, and gaps in service delivery. Understanding the importance of data collection and its impact on client outcomes at an organisational level gives decision makers the ability to articulate their needs with evidence to support their requests.

Figure 2 Continuous Quality Improvement Cycle

3. Development of a standardised program logic for Aboriginal residential rehabilitation services

Summary

Key Findings
Each of the services identified the six core treatment components (healing through culture and country, therapeutic activities, case management, life skills, time out from substances and follow-up support) as being delivered by their Aboriginal residential rehabilitation services. Figure 3.1 in Appendix 9 visually represents this.

Healing through culture and country was identified as being the central treatment component of all services. It was also found that follow-up support is the least developed and most challenging treatment component to deliver.

In addition, the services agreed that there are three core organisational components (clinical governance and supervision, staff skills, and links to other networks and services) that are standardised across, and important to, the delivery of treatment by all Aboriginal residential rehabilitation services.

Key Lesson Learned
Aboriginal residential rehabilitation services in NSW deliver a range of program activities that operationalise six core standardised treatment components, and three core standardised organisational-level components. Although there are some similarities in these activities specifically for the treatment components of therapeutic activity, case management and life skills, they are all tailored to their own clients, available resources and staffing arrangements.

Key Outcomes
The development of a program logic model that defines six core standardised treatment components and their related activities.
The development of a program logic model that defines three core standardised organisational-level components and their related activities.

Introduction

A program logic model is a planning and evaluation tool that articulates what the program is, what it expects to do, and how it will be measured. Two program logic models are presented in this chapter to define the standard core treatment and organisational components of six Aboriginal residential rehabilitation services in NSW. Defining Aboriginal residential rehabilitation services using standardised core components provides one possible solution to addressing the previously identified problem of specific program components of Aboriginal residential rehabilitation treatment, and the rationale for their inclusion, being incompletely defined[11-25]. The program logic models presented in this chapter do not require Aboriginal residential rehabilitation services to adhere to a prescribed treatment process, but provide a best-evidence structure within which different Aboriginal residential rehabilitation services can tailor their preferred treatment activities for their service.

Aims

This chapter has three specific aims:

- First, to describe the core activities of six Aboriginal Residential Rehabilitation services using six treatment and three organisational components. A model for these components was previously identified by one Aboriginal Residential Rehabilitation service and used as a template following agreement from all services.
- Second, to define the core treatment components and their related activities in a standardised program logic model applicable to Aboriginal residential rehabilitation services in NSW (to provide a standardised model of best-evidence treatment applicable to all services).
- Third, to define the core organisational components and their related activities in a standardised program logic model applicable to Aboriginal residential rehabilitation services in NSW (to provide a standardised model for operationalising best-evidence treatment applicable to all services).

Key findings

All managers reported their service delivered the six core treatment components and three core organisational components, which were previously identified in the template provided by Orana Haven (see Appendix 9). The core treatment components included healing through culture and country, therapeutic activities, case management, life skills, time out from substances and follow-up support. The three organisational components included governance rules and routine, staff skills and experience, and links with services and other networks.

Table 3 summarises the activities delivered by the six Aboriginal residential treatment services for the six treatment components and three organisational components.

Table 3 Activities delivered by participating Aboriginal residential rehabilitation services for treatment and organisational components

	Central component	Treatment Components					Organisational components		
Service	**Culture and country**	**Therapeutic activities**	**Case management**	**Life skills**	**Time out from substances**	**Follow-up support**	**Clinical governance & supervision**	**Staff skills**	**Links to services and networks**
Namatijira Haven	Elders come to mentor clients, uncle support workers, art and craft making and cultural groups.	One on one counselling, psycho educational groups, informal counselling (include yarning), peer support groups and AA/NA groups.	Casework support, structured case-planning, client record keeping, appointments and referrals, transport and case reviews.	Daily routine through program structure and observing role modelling. Redevelop personal responsibility by following rules/chores. Complete vocational courses. Literacy, education and communication skills.	Sleep/food, time at river, arts and craft, smoking cessation program, time for reflection, games time, cultural trips, activities including NAIDOC Week, relaxation groups.	Limited follow-up support due to resourcing and difficulty in maintaining contact.	Regular Board meetings and review of strategic documents to meet ongoing accreditation standards. Consistent program rules / routine for clients and staff. Local decision making processes. Strong regional advocacy. Ensure adequate resources and ongoing capital works as needed. Regular feedback of program outcomes to staff, Board, community and other stakeholders via reporting systems. Regular clinical and cultural supervision. Regular staff training.	Minimum certificate 4 AoD, caseworkers, lived experience, through to Bachelor degrees.	Local GP, Community health services, NARHDAN member, Nada Member, works closely with funding bodies including federal, state and local services, local elders, PHN, local allied health service providers including government and non-government agencies and a member of the AHMRC.

Orana Haven	Being on country near the river, developing kinships, making artifacts, bush medicine and focus on personal spirituality.	One-on-one counselling, AA, morning and group psychological therapy and education Informal counselling,	Referrals to local health, support services and visiting specialists. Working with corrections. File notes and conducting program measures. Patient transport.	Daily routine through program structure and observing role modeling. Redevelop personal responsibility by following rules. Complete vocational courses. Literacy, education and communicatio n skills.	Sleep/food, time at river, arts and craft, smoking cessation program.	Referrals to services post-discharge. Support services in client's community. Maintain phone contact as needed.	Regular Board meetings and review of strategic documents to meet ongoing accreditation standards. Consistent program rules / routine for clients and staff. Local decision making processes. Regional advocacy. Ensure adequate resources and ongoing capital works. Regular feedback of program outcomes to staff, Board, community and other stakeholders via reporting systems. Regular clinical and cultural supervision. Regular staff training. Continuing quality improvement cycles and capacity building.	Aboriginal. Life experience. Qualifications from certificate IV to Graduate Diploma level. Client centred approach.	Partnerships with local services, networks across the field (e.g. NADA and Bilu Muuji- local AMS) and a member of the AHMRC.
Weigelli	Making artefacts, art work, camping, discussing the importance of country and connections, visits to sites of significance, exploring cultural	Group work, family relationship counselling (outside), one on one casework/care planning,	Assessment and referral, regular file reviews, weekly clinical reviews, coms at	Literacy and numeracy. Life skill planning, social capacity building, skills to improve employability,	Cooking, trips to the river and cultural sites, and time out for reflection with guided support.	Phone support on an as required basis.	Bi-monthly board meetings, yearly board AGM, review of centres, program reviews, operating policy and procedures,	Life experience. Qualifications from certificate 4 to Masters level.	Local GP, community health services, Relationship Australia (family couples counselling), NARHDAN

	connections and own identity, and healing ground.	psycho-educational groups, informal yarning about self, country and addiction.	entry which includes severity of dependence, Kessler 10 and the quality of life scale, weekly client meetings, recording client interactions.	including structure, taking responsibility. TAFE courses.			Continuous Quality Improvement (CQI), yearly review of the residents manual, on intake and at regular intervals during the program, urine screening, weekly chores roster, weekly working bee, client contracts and a contractual process, and regular clinical reviews of client progress.		member, Nada member, works closely with funding bodies including federal, state and local services, local Elders, PHN, Member of the AHMRC.
The Glen	Art, music, dance, heritage, cultural dance, storytelling sessions with visiting Aboriginal Elders, contact with Board and community members, who serve as Aboriginal role models.	Group counselling, parenting program, mindfulness classes, individualised counselling (gambling, financial, grief).	Centrelink support GP clinic, psychologist, acupuncture, data analysis, and surveys.	Vocational prep, meal prep and shopping.	Sport and recreation (soccer, volleyball, cricket, touch footy), landscaping, waterway clean up, yoga, beach and swimming, musicals, camps, theatre, movies and other outside excursions.	Follow up calls 3, 6 and 12 months after completion. Clients are invited to The Glen's events (dances and sport).	NADA's Working With Diversity AOD training, bi-monthly staff and Board lunches, regular staff and team meetings, intranet and clear policies, Individual external clinical supervision Staff supported and actively engaged in decision-making, planning and e-policies and procedures for intake, assessment and planning valuating processes and mental health days for staff.	Minimum certificate 4 in Community Services Drug and Alcohol through to bachelor qualifications.	Local GP Services, Relationships Australia, Lifeline, Gambling Solutions, Gosford Narara, financial counselling 4everlearning, State Debt, Babana Aboriginal Men's Group, Barang Alliance Partners and Centrelink.

Maayu Mali	Cultural program that involves community integration, culturally sensitive to meet the needs of clients from start to finish, culturally sensitive groups, regular Elders session each week (topics include drugs/alcohol cultural breakdown), cultural activities and visits to sites for significance.	Men's yarning circle, women's yarning circle, rekindling our spirit group, AA/NA meetings, reconnection with self, and cultural history and identity.	Individual and groupwork, general casework practice, file notes, general casework conducting program measures, and patient G.P. Clinics (Pious-AMS offsite).	Living skills program. Art as needed to fit the needs of individual clients (carving, making digeridoos etc.).	Sporting activities, sleep/food time at river, arts and craft, and smoking cessation program.	Referrals to services post-discharge. Support services in client's community. Maintain phone contact as needed.	Bi-monthly staff and Board meetings. Regular staff and team meetings Intranet and clear policies. Staff supported and actively engaged in decision-making, planning and e-policies and procedures. Continuing quality improvement cycles and capacity building. Staff supervision (monthly).	Certificate 4 minimum through to Bachelor degree. Experience living and/or working in Aboriginal communities.	Partnerships with local services. Networks across the field (eg. NADA and local AMS- Bila Muuji). Member of the AHMRC.
Oolong House	Cultural groups, program on river, site visits, heavy emphasis on cultural activities, Elders support as needed, artefacts making and informal yarning.	One-on-one counselling, AA, morning and psycho-educational groups and informal counselling.	Referrals to local health, support services and visiting specialists. Working with corrections. File notes. General casework conducting program measures. Patient G.P. Clinics (offsite).	Daily routine through program structure and observing role modelling. Life skills program. Complete vocational courses. Literacy, education and communicatio n skills.	Sporting activities, time at river, arts and craft, smoking cessation program and time for reflection (journaling/ meditation).	Yes-case managed as per the normal program, Licences, housing, court support etc.	Bi-monthly staff and Board meetings. Regular staff and team meetings. Intranet and clear policies. Staff supported and actively engaged in decision-making, planning and e-policies and procedures. Staff have clinical supervision (offsite if needed). Continuing quality improvement cycles and capacity building.	Certificate 4 minimum through to Bachelor. Experience living and/or working in Aboriginal communities.	Partnerships with local services Networks across the field (eg. NADA and AHMRC, NACCHO) and government and non-government agencies.

Summary of treatment components and their related activities

1. *Healing through culture and country:* There was strong agreement that *healing through culture and country* was the central component of treatment. There were a number of activities identified that operationalised the centrality of *healing through culture and country*, that are unique to Aboriginal services: the way clients and staff talk to each other fosters a perception of family and community; the emphasis on country, mob, and where you come from fosters connection to land and people; the value of role-modelling positive behaviour, and identifying with Aboriginal Elders and workers' lived experiences of being Aboriginal and overcoming substance use problems is important for establishing rapport and strengthening the therapeutic alliance. Managers recognised that healing, and therefore reduced substance misuse, is not just related to the improved health of the individual, but also the improved wellbeing of the broader community, which acknowledges the interconnectedness between the social, cultural, spiritual and environmental influences of health. These elements were embodied in the red centre circle for all Aboriginal residential rehabilitation services, because they are applied or embedded across all of the other five core treatment components.

2. *Therapeutic activities:* Counselling, group psychological therapy and education and Alcohol Anonymous (AA) were the most common therapeutic activities delivered by Aboriginal residential rehabilitation services. The type of counselling was generally not specified other than in terms of individual or group counselling. The centrality of healing through culture and country to therapeutic activities is operationalised through yarning, and men's and women's groups which enable clients to share their experiences and help and support each other to make positive changes in their life.

3. *Case management:* Case management is an integral core component of all residential rehabilitation services. Assessment and referral, file reviews and case work were the terms commonly used by managers to describe case management activities delivered by their service. The type and range of activities were consistent with the holistic client-centred approach that is a feature of Aboriginal community controlled health services. The centrality of healing through culture and country to case management activities is operationalised through yarning and client access to Aboriginal staff for the duration of their treatment.

4. *Life skills:* Life skills included activities designed to re-establish or learn daily routine and structure, improve skills in literacy and numeracy, strengthen connection to culture, and enhance individual capacity and life opportunities through learning work-ready skills.

5. *Time out from substances:* Time out from substances refers to a client's time away from using and the interactions with people who encouraged or maintained substance use. In an Aboriginal residential rehabilitation context, time out from substances includes improved quality of life through developing a better sleep routine, good nutrition, and learning to engage in positive alternative activities to substance use during spare time in preparation for discharge. The centrality of healing and culture to life skills was operationalised through time out on country, time with elders and time engaged in cultural activities.

6. *Follow-up support:* Helping to maintain clients' health and wellbeing after discharge can be considered as comprising two aspects: i) follow-up support that is provided directly by the

residential rehabilitation service, which builds on the relationship that has been built between clients and the residential rehabilitation services; and ii) aftercare, which is a structured, formal, shared care model that seeks to actively organise a range of different types of services to meet the broader range of clients' needs (e.g. primary care, day counselling, housing, work skills development). This report is limited to focusing on follow-up support, given models of aftercare require broader consideration of the range of services that are available in different communities or jurisdictions, and the need for a high level of co-ordination between them. Current follow-up support provided by different residential rehabilitation services varies in terms of its length and intensity, ranging from encouraging clients to re-contact their service at any time through to active re-contact and assessment of clients post-discharge. This existing variation provides an opportunity to co-design and evaluate a standardised process for follow-up support (see Attachment 1).

Standardised Treatment and Organisational Program Logic Models

As described in the methods section of Chapter One, two program logics were developed. The first program logic model (Figure 3) defines the core treatment components of Aboriginal residential rehabilitation services in a standardised, best-evidence model. The second program logic model (Figure 4) defines the organisational-level components of Aboriginal residential rehabilitation services in a standardised, best-evidence model.

Figure 3. Standardised program logic model of core treatment components and flexible program activities

a. Client areas of need	b. Treatment program		c. Mechanisms of change	d. Process measures	e. Outcomes*
	Core treatment components	**Program activities**			
Primary client areas of need: 1. Risky drug and alcohol use 2. Poor quality of life 3. Poor cultural connection ***Secondary client areas of need:*** 4. Co-occurring mental illness 5. Criminal justice involvement 6. Chronic physical health needs 7. Tobacco use *8.* Unemployed / limited education	**Healing through culture and country**	- Being on country/spiritualty - Developing kinships - Making artefacts, fishing bush medicine	Reconnecting clients to culture and country via activities and strong relationships	No. of clients engaged in regular cultural activities	***Primary outcomes:*** 1. Reduced substance misuse (AUDIT*/ DUDIT* / IRIS* & clean urines) 2. Improved quality of life (WHO-QoL*) 3. Increased connection to culture (GEM*) ***Secondary outcomes:*** 4. Reduced psychological distress (K10*) 5. Reduced risk of BBV (*BBV-TRAQ – Needle syringe contamination) 6. Reduction in recidivism (Pre/post criminal justice data) 7. Improved physical health (Pre/post Indigenous health check outcomes) 8. Reduction in smoking (Fagerstrom*)
	Case management	- Referrals to local health services and visiting specialists - Regular client assessments - Case reviews	Clients engaged in the program via positive therapeutic alliance between staff and clients Referrals to AMS to external health and social services Client's social, psychological and physical needs managed concurrently	No. of clients staying in the program for three or more months No. of Indigenous Health checks/other referrals No. of client's needs addressed	
	Therapeutic activities	- One-on-one counselling using evidence-based approach (e.g. motivational interviewing, community reinforcement approach, cognitive behavioural therapy) - Psychoeducational groups - Informal counselling (yarning)	Improving client quality of life Increased understanding of substance misuse (e.g. triggers) and personal strategies (e.g. motivations, goals, timeout) for reducing it Education and empowering clients to make positive changes in their life	No. of clients engaged in support groups No. of external counselling sessions provided No. of clients implementing personalised strategies	
	Life skills	- Develop daily routine - Positive role modelling - Redevelop personal responsibility - Work readiness activities - Literacy / communication skills	Reconnecting clients to culture and country Relearning daily routine and structure to maintain a healthy lifestyle after discharge Learning and developing work-ready and communication skills	No, of work ready activities completed No. of vocational-related courses completed No. of clients achieving personalised life skills goals	

				No. of clients following daily structure and routine.	*9.* Improvement in employment and education (three months follow-up data)
	Time out from substances	- Improve physical wellbeing (e.g. sleep routine / nutrition) - Improve mental / spiritual wellbeing - Smoking cessation	Identify and engage in positive alternative activities to substance use to learn how to take time out from substances	No. of clients engaging in time out activities No. of clients quitting or reducing smoking	
	Follow-up support after discharge	- Referrals to services post-discharge (e.g. ACCHOs) - Follow-up support - Follow-up assessment and brief counselling	Continue to access treatment and care required to maintain improved health and wellbeing post discharge Ongoing tailored support for clients post discharge in the continuum of their treatment	No. of clients participating in follow-up care (e.g. phone calls, assessments, referrals) No. of clients maintaining contact with PHC services and other relevant services they were referred to upon discharge.	

Client areas of need: the primary and secondary client needs that Aboriginal residential rehabilitation target.

a. *Treatment program*: the five treatment components and flexible activities related to each.
b. *Mechanisms of change*: key mechanisms of change to improve for clients.
c. *Process measures*: key processes to measure or quantify client or change.
d. *Outcomes*: key outcomes used to measure or quantify client change.

Figure 4. Standardised program logic model of core organisational-level components and flexible activities

a. Organisational areas of need*	b. Organisation-level features		c. Mechanisms of change	d. Process measures	e. Outcomes
	Core organisational components	**Activities**			
1. Effective culturally safe service delivery	**Links with services and other networks**	- Partnerships with local services - Networks across the field - CQI cycles and capacity building	Ongoing strong partnerships with local service providers and external networks Regular CQI feedback to inform local decision making	Type and no. of services or programs integrated into service delivery No. of network meetings attended	Improved client outcomes (Figure 3.1)
2. Supported and skilled staff	**Staff skills**	- Staff must be client-centred - Regular staff training - Regular clinical and cultural supervision	Client-centred staff committed to improving client outcomes Pathways to increase and up skill Aboriginal staff Staff supported by regular clinical and cultural supervision and access to training	No. of staff training completed No. of Aboriginal staff employed No. of staff receiving cultural/clinical supervision	Improved client intake/discharge data Improved staff retention
3. Strong governance and sustainability	**Governance, rules and routine**	- Regular Board meetings - Annual review strategic intent to meet ongoing accreditation standards - Consistent program rules / routine for clients and staff - Strong regional advocacy - Ensure adequate resources and ongoing capital works as needed - Regular feedback of program outcomes to staff, Board, community/ stakeholders via reporting systems	Strong vision and purpose of program Local decision making from an empowered Board and community Regular governance training and inductions for Board members Policies and procedures	No. of Board meetings No. of staff meetings Annual budget Annual review of treatment and organisational process measures Review, update and train policies and procedures	Program Accreditation Current Strategic plans Annual reports to stakeholders and funders Policies and procedures embedded in staff practice

a. *Organisational areas of need*: defines areas of organisational need.
b. *Organisation-level features*: three organisational components and flexible activities related to each.
c. *Mechanisms of change*: how the components to improve the organisation.
d. *Process measures*: key measures to assess the effectiveness organisational change.
e. *Outcomes*: key measures to quantify client organisational change.

Discussion

The process and outcome of researchers working with multiple Aboriginal residential rehabilitation services to define, standardise and operationalise their core treatment and organisational components has not been undertaken elsewhere, or at the very least, has not been extensively published in the peer reviewed literature[24]. As a result of the CBPR process, the findings of this chapter suggest that a successful Aboriginal residential rehabilitation service involves increased client quality of life and cultural connectedness, and decreased risky substance use.

The value of standardising core components

Defining Aboriginal residential rehabilitation programs using standardised core components with flexible activities specific to each service provides one possible solution to the problem of inconsistent delivery and quality of service in Aboriginal residential rehabilitation programs. A strength of this approach is that the definition does not require programs to adhere to a prescribed set of activities, but provides a defined structure within which different Aboriginal residential rehabilitation services can categorise the preferred program activities for their service. For instance, coastal-based services will delineate different activities to metropolitan or remote services. Furthermore, programs in different communities may have more than these core components, but are defined as being comparable if they have these same core components as a minimum, irrespective of the specific activities developed and delivered to suit the unique circumstances in which they are being implemented.

Given the reported inconsistency in outcomes measured across Aboriginal residential rehabilitation services both in Australia and internationally[24], the adoption of the program logic framework delineated in this chapter would help standardise those outcomes. The potential suite of outcome measures would likely increase over time with the potential to include other domains such as homelessness, specific health issues, and family restoration. Outcomes could additionally extend to measuring community-level benefits of programs.

The current evidence relating to Aboriginal residential rehabilitation does not clearly articulate the process of change as a result of embedding culture into program delivery. One way to do this might be for programs to develop their own logic models which specify the nature of the harm on which they are trying to positively impact, their core and flexible components, the mechanisms by which their programs are predicted to have their effect, and their precise outcome measures. Achieving this level of specificity would eventually help address a range of related questions about how these programs achieve their effect. Embedded in this process could be further evaluation based on measuring indicators of change. Anecdotally, staff of Aboriginal residential rehabilitation services report a range of improvements in the physical health, pride and self-confidence of participants over time that are not currently captured in their formal assessment processes. While these would not necessarily become outcome measures, they could provide a suite of key indicators of progress to help encourage participants to maintain the often-difficult changes they are making in their lives.

The standardised program logic models articulated in this chapter offer potential to rapidly develop a larger and more rigorous evidence-base to improve outcomes for all clients attending Aboriginal residential rehabilitation services, both within NSW and nationally. No program evaluations published to date have undertaken an economic analysis to weigh the benefits of the program against its costs. This makes it difficult for governments and other agencies to justify funding programs on the basis of a likely economic return for their investment.

4. A program logic model for follow-up support

Summary

Key Findings
The frequency and type of follow-up delivered by Aboriginal residential rehabilitation services varies considerably and could be better defined. Referrals and phone contact are the two most common activities delivered by Aboriginal residential rehabilitation services providing follow-up support.
The core components of evidence-based follow-up support that could be delivered by Aboriginal residential rehabilitation utilising their existing expertise and resources include: aftercare plan; client referral; client contact; and follow-up assessment.

Key Lesson Learned
Aboriginal residential rehabilitation services in NSW deliver some components of evidence-based follow-up support but there is the capacity for the delivery of standard core components across all services.

Key Outcomes
Development of a program logic model defining core components of evidence-based follow-up support and their related activities that could be delivered by NSW Aboriginal residential rehabilitation services utilising their existing expertise and resources.

Introduction

The delivery of follow-up support to clients discharged from Aboriginal residential rehabilitation services is warranted given that guidelines for the treatment of drug and alcohol dependence recommend high-quality, intensive treatment (typically involving some residential rehabilitation) be followed up with structured, ongoing support to maintain healing[36-37]. There is anecdotal evidence from NARHDAN members that Aboriginal clients exiting NSW Aboriginal residential rehabilitation services require more structured follow-up support post discharge. Although follow-up support was identified by managers as a core treatment component of Aboriginal residential rehabilitation services in NSW, there is variation in the frequency and intensity of its delivery. One reason for this is that Aboriginal residential rehabilitation services are challenged to find programs that they can routinely deliver utilising existing resources to help clients with their healing from substance abuse and become engaged in aftercare treatment following residential rehabilitation. The model of follow-up support presented in this chapter is unlikely to require additional resources or expertise for Aboriginal residential rehabilitation services to deliver it, but rather could be delivered as a core treatment component, as defined in the standardised program logic model (Figure 3) outlined in Chapter 3.

Aims

This chapter aims to define the activities of evidence-based follow-up support, and measures for assessing their impact, in a program logic model applicable to Aboriginal residential rehabilitation services in NSW.

Key Findings

Figure 5 defines the core components and related activities of evidence-based follow-up support in a standarised program logic model applicable to Aboriginal residential rehabilitation services in NSW.

Figure 5. Program Logic model of evidence-based follow-up support

a. Areas of need	b. Follow-up support Core program components	 Flexible activities	c. Mechanisms of change	d. Outcomes (outcome measures)	e. Process measures
Individuals discharged from NSW Aboriginal residential rehabilitation services	Standardised discharge assessment Personalised aftercare plan	- Exit interview - Brief counselling	1. Ongoing tailored support targeting specific client needs 2. Facilitates engagement of other service providers to support clients post discharge resi rehab 3. Reaffirms to clients that their healing from substance abuse extends beyond the resi rehab period, and reassures them that they will have ongoing support in their journey of healing from	Reductions in: - Client substance misuse or relapse (intake vs post discharge period) - Police involvement / recidivism (rates of crime / incarceration) Improvements in: - Personal wellbeing, empowerment or quality of life (rates of employment/ training, QoL scores, GEM) - Physical health (Indigenous Health Checks – MBS 715) - Mental health (K10)	1. Percentage of eligible clients with a standardised discharge assessment recorded. 2. Percentage of discharged clients with a post discharge referral recorded. 3. Percentage of discharged clients with post discharge follow-up recorded, and the frequency and type of follow-up recorded. 4. Percentage of discharged clients with a three month post discharge standardised assessment recorded.
	Connect client to AMS or other relevant PHC health care service in their community for ongoing treatment and care post discharge	Referral of client to AMS or other PHC service upon their discharge via: - Phone call - Visit to local AMS or PHC service - Visit from local AMS or PHC service - Telehealth Follow-up phone call to AMS or PHC service to check on client's progress			
	Follow-up contact with client until at least the three month follow-up interview and assessment	Weekly contact with client for four weeks then fortnightly contact until three months post discharge: - Phone contact - Local outreach visits - Local support groups - Telehealth Check client progress against aftercare plan provided at discharge, including one or more of the following: - Brief counselling/yarning/advice - Referral/links to health and/or social services Increase contact if client experiences relapse or other problems.			
	Standardised three month follow-up assessment	Administer brief version of standardised assessment tool to clients at three month follow-up via: - Phone; - Face-to-face; or - Telehealth Check client progress against aftercare plan provided at discharge, including one or more of the following:			

		- Brief counselling/yarning/advice - Referral/links to health and/or social services Increase contact if client experiences relapse or other problems.	substance abuse		

Discussion

The four core components of follow-up support and their related activities, as defined in the standardised program logic model (Figure 5), are based on which evidence-based follow-up support strategies Aboriginal residential rehabilitation services currently deliver and are likely to be able to deliver using their existing resources and expertise.

1. *Standardised assessment and aftercare plan:* A standardised assessment would provide information on a client's health and social wellbeing at discharge, better enabling targeted referral and tailored follow-up support. Information collected from the standardised assessment tool would be used to develop an aftercare plan for clients at discharge. Client data collected using the standardised assessment tool would also provide baseline measures for the assessment of client outcomes at 3-months post discharge. The collection of pre-and post-client discharge data would enable the cost-benefit of the addition of follow-up care to be quantified in individual Aboriginal residential rehabilitation services.

2. *Referral of client to AMS or other relevant PHC service for ongoing treatment and care post discharge:* PHC services are appropriate for individuals with chronic substance use disorders who require ongoing treatment and care, but do not require more intensive and expensive residential care[38]. Post-treatment referral processes should be documented, ensuring the client is not required to re-tell their story unless they request it. It is good practice for Aboriginal residential rehabilitation services to follow up their referrals to determine if they were successful and for the receiving agency to provide them with feedback on the process and outcome of the referral. A successful referral is one that results in the client receiving services from the agency to which they were referred.

3. *Follow-up contact:* Substance use relapse rates are often high in the first months after discharge from residential rehabilitation services, and patient adherence to aftercare plans is often low[39]. Mainstream evidence suggests that better client outcomes occur the longer the duration of follow-up support[40] and when tailored to the complexity of issues facing the clients upon discharge[41]. The frequency of client contact typically depends on the length of time the client has been out of residential rehabilitation and not experienced relapse or other serious problems[39]. Follow-up support would involve weekly contact with clients for the initial four week period following their discharge from residential rehabilitation treatment, followed by fortnightly contact until at least the three month follow-up assessment. Personalised content will be provided to clients based on the aftercare plan developed for them at discharge and their current condition. Contact could be in person or over the phone and comprise one or more of the relevant flexible activities (See Figure 4). Consistent with the evidence, the frequency of contact could be increased if a client experienced relapse or some other serious problem that increased their risk of harm.

4. *Standardised assessment of client outcomes:* The collection of three-month follow-up data would enable changes in client outcomes in the defined post discharge period to be quantified, and the cost-benefit of the addition of follow-up support to be quantified in individual Aboriginal residential rehabilitation services (as outlined in Attachment 1).

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Appendices

APPENDIX 1: Demographic data collected by service

Variable	Service				
	Namatjira	**Orana Haven**	**Weigelli**	**The Glen**	**Maayu Mali**
Demographics					
Age	DOB	DOB	DOB	DOB	DOB
Aboriginality	• Aboriginal • Torres Strait Islander • Both Aboriginal and Torres Strait Islander • Neither	• Yes • No	• Yes • No	• Aboriginal • Torres Strait Islander • Both Aboriginal and Torres Strait Islander Neither	Not collected
Sex	Not collected	Not collected	Male/Female	Male/Female	Male/Female
Marital status	Not collected	Not collected	Not collected	Not collected	Not collected
Employment status	Ever employed (Yes/No)	Not collected	Not collected	Asked as income source	Not collected
Education	Highest qualification	Not collected	Not collected	Not collected	Not collected
Length of stay	Date of arrival and discharge	Date of arrival and discharge	Days of occupancy	Date of arrival and discharge	Date of arrival and exit date
Referral source	• Self • Family • Community member • Police • Court • Probation and Parole • Department of Juvenile Justice	Not collected	• Self • Family • Community member • Police • Court • Probation and Parole • Department of Juvenile Justice	• Self • Family • Community member • Police • Court • Probation and Parole	Not collected

			• Etc (18 categories)	• Department of Juvenile Justice • Etc (18 categories)	
Referral Type	• Coerced • Diversion • Mandated • Self	Not collected	Not collected	Not collected	Organisation name collected
Discharge type	• Completed • Self-discharge • House-discharge	• Completed • Self-discharge • House-discharge	Not collected	Reason for Cessation • Imprisoned • Left involuntarily • Service completed • Transferred/Referred	Not collected
Income Source	• Centrelink Benefit • Carers Allowance • Newstart • Other • Parenting	Not collected	• Temporary benefit • Pension (aged, disability) • Retirement fund • Dependent on others • Part-time employment • Full-time employment • Student allowance • No income	• Temporary benefit • Pension (aged, disability) • Retirement fund • Dependent on others • Part-time employment • Full-time employment • Student allowance • No income	• Temporary benefit • Pension (aged, disability) • Retirement fund • Dependent on others • Part-time employment • Full-time employment • Student allowance • No income
Country of Birth	Not collected	Not collected	Not collected	Yes (eg: Australia, New Zealand)	Not collected
Preferred Language	Not collected	Not collected	Not collected	Collected	Not collected
Post Code	Collected	Collected	Not collected	Collected	Address collected
Living with	Collected as part of accommodation	Not collected	• Alone • With Children • Friend/parent/relative • Spouse/partner • Not stated	• Alone • With Children • Friend/parent/relative • Spouse/partner	Not collected

			• Other etc.	• Not stated • Other etc.	
Accommodation type	Collected at admission and discharge • Homeless • In Custody • Own Home • Renting/Boarding • Sharing with family • Sharing with others • Unknown	Not collected	• Boarding house • Caravan • Prison • Homeless • Not known etc.	• Boarding house • Caravan • Prison • Homeless • Not known etc.	Not collected
Other information collected	• On remand, bailed, paroled, serving sentence, AVO • Raised by Parents(yes/no) • Children (yes/no) • Solicitor details • Current medical conditions • Current medications	Number of times at Orana Haven Urine Screen	N/A	N/A	• Currently intoxicated • Withdrawal signs • Coping strategies • Safe to go home • Safety and location of children
Other administrative data					
Admissions information	• Accepted for admission • Applications withdrawn • Applications on hold • Pending • Rejected	Not collected	Not collected	Not collected	Not collected
Reason for rejection	• Conflict of Interest • Lost contact • No bed available • Not eligible/suitable • Referred to other service/program	Not collected	Not collected	Not collected	Not collected
SLK	Collected	Not collected	Not collected	Collected	Not collected

APPENDIX 2: Client risk factor data collected by services

Client risk factors	Namatjira	Orana Haven	Wegelli	The Glen	Maayu Mali	Ooling House
	Mean(SE)/ n(%)	Mean(SE)/n(%)	Mean(SE)/ n(%)	Mean(SE)/ n(%)	Mean(SE)/ n(%)	Mean(SE)/ n(%)
Substance abuse						
Mean AUDIT score	22.1(1.0)					
Low risk (0-7)	34(19)					
Moderate risk(8-15)	22(13)					
High risk (16-19)	18(10)					
High risk and dependence (20 or more)	104(58)					
Total	178(100)					
DUDIT Score	34.2(1.3)					
AOD Risk IRIS	22.3(0.4)					
SDS score			8.7(0.3)	9.7(0.1)		
0-3 Low			10(8)	63(4)		
4-6 Mild			33(22)	199(12)		
7-9 Moderate			41(28)	461(28)		
10-12 Substantial			42(28)	578(35)		
13-15 Severe			23(15)	331(20)		
Total			149(100)	1632(100)		
Mental health						
Mean Kessler-10 score	27.4(0.7)			20.4(0.2)		
10-15 Low psychological distress	24(12)		19 (13)	647(40)		
16-21 Moderate psychological distress	35(18)		26(18)	370(23)		
22-29 High psychological distress	56(28)		50(34)	307(19)		
30+ Very high psychological distress	85(43)		52(35)	308(19)		
Total	200(100)		147(100)	1632(100)		
Mental health Risk IRIS	10.8(0.2)					
Quality of life						
WHO-QoL	86.3(1.8)					
WHO - 8				29.2(0.2)		

APPENDIX 3: Client demographic data over time – Namatjira

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	
Characteristics	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	
	Recorded	Recorded	Recorded	Recorded	Recorded	Recorded	Total
	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)	
Admissions							
Accepted for admission (% of applications)	3(100)	66(50)	96(53)	83(49)	96(45)	38(45)	382(49)
Applications withdrawn (% of applications)	0(0)	4(3)	2(1)	5(3)	3(1)	0(0)	14(2)
Applications on hold (% of applications)	0(0)	1(1)	0(0)	1(1)	0(0)	0(0)	2(0.3)
Pending (% of applications)	0(0)	0(0)	25(14)	18(11)	27(13)	30(36)	100(13)
Rejected (% of applications)	0(0)	61(46)	59(32)	62(37)	88(41)	16(19)	286(37)
Total	3(100)	132(100)	182(100)	169(100)	214(100)	84(100)	784(100)
Age (Mean years)	45(4)	34(10)	34(10)	33(10)	34(10)	36(10)	34(10)
Age groups							
18-25 years	0(0)	29(22)	46(25)	44(26)	43(20)	13(15)	175(22)
26-35 years	0(0)	48(37)	57(31)	65(39)	88(41)	30(35)	288(37)
36-45 years	2(67)	37(28)	54(30)	38(23)	48(23)	29(34)	208(27)
≥46years	1(33)	18(14)	25(14)	22(13)	34(16)	13(15)	113(14)
Total	3(100)	132(100)	182(100)	169(100)	213(100)	85(100)	784(100)
Aboriginality							
Aboriginal	2(67)	114(86)	158(87)	147(87)	188(89)	77(91)	686(88)
Both Aboriginal and Torres Strait Islander	0(0)	1(1)	3(2)	2(1)	1(1)	1(1)	8(1)
Neither	1(33)	17(13)	20(11)	18(11)	21(10)	6(7)	83(11)
Torres Strait Islander	0(0)	0(0)	1(1)	2(1)	1(1)	1(1)	5(1)
Total	3(100)	132(100)	182(100)	169(100)	211(100)	85(100)	782(100)
Length of stay ((Mean days (SD))	205(90)	71(54)	69(52)	56(47)	60(45)	41(26)	64(51)
Length of stay groups							
1-30 days	0(0)	13(20)	15(16)	16(19)	14(15)	7(18)	65(17)

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	
Characteristics	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	
31-59 days	0(0)	9(14)	7(7)	18(22)	17(18)	2(5)	53(14)
60-90 days	0(0)	14(21)	22(23)	17(21)	15(16)	5(13)	73(19)
91> days	3(100)	12(18)	13(14)	5(6)	8(8)	0(0)	41(11)
Missing	0(0)	18(27)	38(40)	27(33)	42(44)	24(63)	149(39)
Total	3(100)	66(100)	95(100)	83(100)	96(100)	38(100)	381(100)
Referral source							
Criminal justice system	0(0)	45(34)	49(27)	43(25)	49(23)	15(18)	201(26)
Other	3(100)	87(66)	131(72)	124(73)	165(77)	69(81)	579(74)
Missing	0(0)	0(0)	2(1)	2(1)	0(0)	1(1)	5(1)
Total	3(100)	132(100)	182(100)	169(100)	214(100)	85(100)	785(100)

APPENDIX 4: Client demographic data over time – Orana Haven

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	
Characteristics	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	
	Recorded	Recorded	Recorded	Recorded	Recorded	Recorded	Total
	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)	
Admissions	48(15)	69(21)	58(18)	64(20)	67(20)	23(7)	329(100)
Age (Mean years)	32(1.3)	32(1.1)	32(1.3)	36(1.3)	36(1.3)	35(1.6)	34(0.5)
Age groups							
18-25 years	16(33)	21(30)	20(36)	13(20)	10(15)	1(4)	81(25)
26-35 years	16(33)	24(35)	19(34)	18(28)	28(42)	13(57)	118(36)
36-45 years	12(25)	21(30)	10(18)	22(34)	14(21)	7(30)	86(26)
≥46years	4(8)	3(4.3)	7(12)	11(17)	15(22)	2(9)	42(13)
Total	48(100)	69(100)	56(100)	64(100)	67(100)	23(100)	327(100)
Aboriginality							
No	2(4)	11(16)	11(19)	10(16)	10(15)	7(30)	51(15)
Yes	46(96)	58(84)	47(81)	54(84)	57(85)	16(70)	278(85)
Total	48(100)	69(100)	58(100)	64(100)	67(100)	23(100)	327(100)
Length of stay ((Mean days (SD))	50(31.3)	55(36)	49(38)	61(46)	64(51)	53(33)	56(41)
Length of stay groups							
1-30 days	17	25	25	22	21	9	119
31-59 days	11	10	10	9	10	4	54
60-90 days	20	32	20	25	28	6	131
91> days	0	2	3	8	8	4	25
Total	48(100)	69(100)	58(100)	64(100)	67(100)	23(100)	327(100)
Discharge type							
Completed	13(27)	26(38)	11(19)	23(36)	25(37)	8(35)	106(32)
Self-discharge	26(54)	29(42)	36(62)	26(41)	28(42)	9(39)	154(47)

House-discharge	9(19)	9(13)	11(19)	15(23)	14(21)	6(26)	64(19)
Missing	0(0)	5(7)	0(0)	0(0)	0(0)	2(0)	7(2)
Total	48(100)	69(100)	58(100)	64(100)	67(100)	25(100)	331(100)

APPENDIX 5: Client demographic data over time – Weigelli

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	
Characteristics	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	
	Recorded	Recorded	Recorded	Recorded	Recorded	Recorded	Total
	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)	
Admissions	40(7)	129(22)	112(19)	119(20)	122(21)	68(12)	590(100)
Age (Mean years)	31(8)	32(9)	32(9)	32(8)	33(10)	33(9)	32(9)
Age groups							
18-25 years	11(28)	34(27)	34(30)	30(25)	34(28)	15(22)	158(27)
26-35 years	18(45)	50(39)	41(37)	52(44)	44(36)	28(41)	233(40)
36-45 years	9(23)	36(28)	26(23)	31(26)	24(20)	21(31)	147(25)
≥46years	2(5)	9(7)	10(9)	6(5)	19(16)	4(6)	50(9)
Missing	0(0)	0(0)	1(1)	0(00	1(1)	0(0)	2(0)
Total	40(100)	129(100)	112(100)	119(100)	122(100)	68(100)	590(100)
Aboriginality							
Yes	32 (80)	117(91)	94(84)	97(82)	88(72)	50(74)	478(81)
No	8(20)	12(9)	18(16)	22(18)	34(28)	18(27)	112(19)
Total	40(100)	129(100)	112(100)	119(100)	122(100)	68(100)	590(100)
Length of stay ((Mean days (SD))	42(29)	28(31)	34(33)	28(31)	33(35)	32(36)	32(33)
Length of stay groups							
1-30 days	18(45)	38(44)	34(42)	39(48)	34(40)	18(40)	181(41)

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	
Characteristics	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	
31-59 days	10(25)	23(26)	19(24)	16(20)	18(21)	9(20)	95(22)
60-90 days	11(28)	23(26)	25(31)	27(33)	28(33)	16(36)	130(30)
91> days	1(3)	3(4)	3(4)	0(0)	5(6)	2(4)	14(3)
Total	40(100)	87(100)	81(100)	82(100)	85(100)	45(100)	437(100)
Referral source							
Criminal justice system	0(0)	41(32)	32(29)	41(34)	48(39)	28(41)	190(32)
Self	24(60)	42(33)	49(44)	31(26)	27(22)	22(32)	195(33)
Other	16(40)	46(36)	31(28)	47(40)	47(39)	17(25)	204(35)
Total	40(100)	129(100)	112(100)	119(100)	122(100)	68(100)	590(100)

APPENDIX 6: Client demographic data over time – The Glen

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	
Characteristics	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	
	Recorded	Recorded	Recorded	Recorded	Recorded	Recorded	Total
	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)	
Admissions	122(15)	219(27)	184(23)	131(16)	124(16)	18(2)	798(100)
Age (Mean years)	32(9)	35(10)	33(11)	31(11)	34(10)	37(11)	33(10)
Age groups							
18-25 years	32(26)	45(21)	44(24)	34(27)	35(28)	1(17)	193(25)
26-35 years	49(40)	83(38)	58(32)	40(32)	38(31)	6(33)	274(35)
36-45 years	30(25)	62(28)	53(29)	43(34)	37(30)	4(22)	229(29)
≥46years	11(9)	29(13)	25(14)	8(6)	14(11)	5(28)	92 (12)
Total	122(100)	219(100)	180(100)	126(100)	124(100)	18(100)	789(100)
Aboriginality							
Aboriginal	75(65)	134(61)	98(53)	77(59)	59(48)	8(44)	451(56)
Both Aboriginal and Torres Strait Islander	4(3)	2(0.9)	2(1)	1(0.8)	3(2)	0(0)	12(2)
Neither	42(34)	79(36)	82(45)	52(40)	59(48)	10(56)	324 (41)
Torres Strait Islander	1(0.8)	2(0.9)	2(1)	1(0.8)	1(0.8)	0(0)	7(0.9)
Not stated	0(0)	2(0.9)	0(0)	0(0)	2(1.6)	0(0)	4(0.5)
Total	122(100)	219(100)	184(100)	131(100)	124(100)	18(100)	798(100)
Length of stay ((Mean days (SD))	63(44)	66(61)	76(104)	81(95)	66(52)	25(26)	69(76)
Length of stay groups							

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	
Characteristics	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	
1-30 days	28(23)	69(32)	61(34)	37(29)	31(25)	9(53)	235(30)
31-59 days	24(20)	39(18)	25(14)	20(16)	22(18)	6(35)	136 (17)
60-90 days	57(47)	74(34)	61(34)	42(33)	46(38)	2(12)	282 (36)
91> days	12(10)	35(16)	34(19)	28(22)	23(19)	0(0)	132(17)
Total	121(100)	217(100)	181(100)	127(100)	122(100)	17(100)	785(100)
Referral source							
Criminal justice system	48(39)	29(13)	65 (35)	41(31)	38(31)	1(6)	222 (28)
Self	41(34)	77(35)	67(36)	53(40)	56(45)	12(67)	306 (38)
Other	33(27)	113(52)	52(28)	37(28)	30(24)	5(28)	270(34)
Total	122(100)	219(100)	184(100)	131(100)	124(100)	18(100)	798(100)
Discharge type							
Completed	59(48)	125(57)	94(51)	71(54)	71(57)	17(94)	437 (55)
Self-discharge	62(51)	92(42)	87(47)	58(44)	53(43)	1(6)	353 (44)
Other	1(0.8)	2(0.9)	3(2)	2(2)	0(0)	0(0)	8(1)
Total	122(100)	219(100)	184(100)	131(100)	124(100)	18(100)	798(100)

APPENDIX 7: Client demographic data over time – Oolong House

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	
Characteristics	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	
	Recorded	Recorded	Recorded	Recorded	Recorded	Recorded	Total
	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)	
Admissions	66(19)	57(17)	51(15)	31(9)	87(25)	52(15)	344(100)
Age (Mean years)	33(10)	33(10)	34(10)	36(12)	34(10)	33(9)	34(10)
Age groups							
18-25 years	17(26)	14(25)	15(29)	6(19)	20(23)	14(27)	85(25)
26-35 years	23(35)	22(39)	10(20)	9(29)	32(37)	20(39)	116(34)
36-45 years	15(23)	15(26)	18(35)	9(29)	25(29)	12(23)	94(27)
≥46years	11(17)	6(11)	8(16)	7(23)	10(12)	6(12)	48(14)
Total	66(100)	57(100)	51(100)	31(100)	87(100)	52(100)	344(100)
Aboriginality							
Aboriginal	46(70)	34(60)	37(73)	19(61)	46(53)	27(52)	209(61)
Neither	19(29)	23(40)	14(27)	12(39)	38(44)	24(46)	130(38)
Not stated	0(0)	0(0)	0(0)	0(0)	1(1)	1(2)	2(0)
Torres Strait Islander	1(1)	0(0)	0(0)	0(0)	2(2)	0(0)	3(1)
Total	66(100)	57(100)	51(100)	31(100)	87(100)	52(100)	344(100)
Length of stay ((Mean days (SD))	77(104)	79(121)	76(60)	95(115)	54(57)	19(35)	64(87)
Length of stay groups							

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	
Characteristics	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	
1-30 days	21(31)	22(39)	17(33)	6(19)	43(49)	42(81)	151(44)
31-59 days	10(15)	9(16)	6(12)	6(19)	9(10)	3(6)	43(13)
60-90 days	7(11)	5(9)	9(6)	3(10)	6(7)	2(4)	26(8)
91> days	28(43)	21(37)	25(49)	16(52)	29(33)	5(10)	124(36)
Total	65(100)	57(100)	51(100)	31(100)	87(100)	52(100)	344(100
Referral source							
Criminal justice system	22(33)	21(37)	15(29)	8(26)	22(25)	9(17)	97(28)
Self	30(45)	28(49)	32(63)	21(68)	54(62)	41(79)	206(60)
Other	14(21)	8(14)	4(8)	2(7)	11(13)	2(4)	41(12)
Total	66(100)	57(100)	51(100)	31(100)	87(100)	52(100)	344(100)
Discharge type							
Completed	27(41)	15(26)	23(45)	11(35)	25(29)	4(8)	105(30)
Self-discharge	33(50)	40(70)	24(47)	10(32)	21(24)	8(15)	136(40)
Other	6(9)	2(4)	4(8)	10(32)	41(47)	40(77)	103(30)
Total	66(100)	57(100)	51(100)	31(100)	87(100)	52(100)	344(100)

APPENDIX 8: Assessment tools currently used by services to collect client data on risk factors

Client risk factors	**Services**				
Substance use	**Namatjira**	**Orana Haven**	**Weigelli**	**The Glen**	**Maayu Mali**
Principal Drug	AUDIT	Not collected	Collected	Collected	Collected as Substance 1, Substance 2 etc.
Alcohol	AUDIT	Not collected	• No of alcohol days in the last month • Standard drinks per day • No of heavy alcohol days Standard drinks per heavy day	• No of alcohol days in the last month • Standard drinks per day • No of heavy alcohol days • Standard drinks per heavy day	• Alcoholic beverages used • Age at first use • Average amount • Frequency • Dependency
Cannabis	DUDIT	Not collected	No of cannabis days in the last month	No of cannabis days in the last month	• Age at first use • Average amount • Frequency • Dependency
Meth/ice	DUDIT	Not collected	No of amphetamine days in the last month	No of amphetamine days in the last month	• Age at first use • Average amount • Frequency • Dependency
Other illicit drugs	DUDIT	Not collected	• No of heroin days in the last month • No of other opioid days in the last month • No of cocaine days in the last month • No of tranquiliser days in the last month No of other drug days in the last month	• No of heroin days in the last month • No of other opioid days in the last month • No of cocaine days in the last month • No of tranquiliser days in the last month • No of other drug days in the last month	• Substance used • Day last used • Days used last week/month • Age at first use • Age use became more regular • Regular or opportunistic use
Tobacco	Not collected	Smoker (Yes/No)	• Number of tobacco days in the last month • Number of cigarettes per day	• Number of tobacco days in the last month • Number of cigarettes per day	• Smoking (yes/no) • Last used • Average use • Frequency of use

Client risk factors	Services				
					• Dependency
Blood Borne Virus Risk					
Injecting Drug Use	• Last injected • Never injected • Not stated • Not collected	Not collected	• Last injected • Never injected • Not stated • Not collected	• Last injected • Never injected • Not stated • Not collected	Risky injecting practices
Needle Sharing	Not collected	Not collected	Not collected	• Never, once, twice, 3-5 times, 6-10 times, more than 10 times.	Not collected
Used sharing injection Equipment	Not collected	Not collected	Not collected	Yes/No	Not collected
Number of Overdoses	Not collected	Not collected	Not collected	Number	Not collected
Dependence	SDS IRIS (AOD Risk)	Not collected	SDS	SDS	Not collected
Mental health	K-10 IRIS (Mental Health Risk)	Not collected	K-10	K-10	• Current mental health illness • History of mental health illness
Quality of life	WHO-QoL (26 Questions)	Not collected	Not collected	QoL-(8 Questions)	Not collected

APPENDIX 9: An example of a Standardised Assessment Tool

NB. This Standardised Assessment Tool is based on evidence based measures, for example AUDIT and DUDIT.

1. Demographics

- **Name on Medicare card:**
- **Preferred Name:**
- **Date of birth:** **Age:**
- **Medicare No.**
- **Are you:**
  - Aboriginal
  - Torres Strait Islander
  - Aboriginal and Torres Strait Islander
  - Neither Aboriginal or Torres Strait Islander
- **If you identify as Aboriginal or Torres Strait Islander**
  - Who's your mob?
  - Where is your country?
- **Address**
- **Telephone**
- **Are you in a relationship:**
  - Yes
  - No
- **Partner's Name:**
- **Children Names and Ages:**
- **Next of Kin/ Emergency contact:**
- **Which of these best describes your usual accommodation:**
  - Renting
  - Boarding
  - Own your Place
  - Staying with Family/Friends
  - Not Fixed
  - Other
- **Which of these best describes your work situation:**
  - Employed Full Time
  - Employed Part Time
  - Pension
  - Student
  - Unemployed
  - Youth allowance
  - Carer
  - Other

- **Legal History:**

  Status:

  - None
  - Bail
  - Parole
  - Probation
  - Other

  Offence details:

  Current court matters:

  Have you ever been charged with any sexual offences?

  - No
  - Yes

  Are you currently on a domestic/apprehended violence order (DVO/AVO)?

  - No
  - Yes

  If yes, who is it against: (Obtain copy of AVO/DVO)

- **Referral Type**
  - Coerced
  - Diversion
  - Mandated
  - Self
- **Referral Source**
  - Self
  - Family
  - Community member
  - Police
  - Court
  - Probation and Parole
  - Department of Juvenile Justice
- **Have you been diagnosed with a mental health illness?**
  - No
  - Yes What is the mental health illness?
- **Are you on any medications?**
  - No
  - Yes What medications are you on?

2. Alcohol Use

'The following questions ask about your use of alcohol during this past year'.

Explain what is meant by alcohol by using local examples of beer, wine, spirits, etc.

If possible show images of local examples of beer, wine or spirits to get a better estimate of how much alcohol a client drinks.

Alcohol Use	0	1	2	3	4
1. How often do you have a drink containing alcohol?	Never	Monthlyor less	2-4 times a month	2-3 times a week	4 or more times a week
2. How many drinks containing alcohol do you have on a typical day when you are drinking?	1 or 2	3 or 4	5 or 6	7 to 9	10 or more
3. How often do you have six or more drinks on one occasion?	Never	Lessthan monthly	Monthly	Weekly	Daily or almost daily
4. How often during the last year have you found that you were not able to stop drinking once you had started?	Never	Lessthan monthly	Monthly	Weekly	Daily or almost daily
5. How often during the last year have you failed to do what was normally expected of you because of drinking?	Never	Lessthan monthly	Monthly	Weekly	Daily or almost daily
6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?	Never	Lessthan monthly	Monthly	Weekly	Daily or almost daily
7. How often during the last year have you had a feeling of guilt or remorse after drinking?	Never	Lessthan monthly	Monthly	Weekly	Daily or almost daily
8. How often during the last yearhave you been unable to remember what happened the night before because of your drinking?	Never	Lessthan monthly	Monthly	Weekly	Daily or almost daily
9. Have you or someone else been injured because of your drinking?	No		Yes, but not in the last year		Yes, during the last year
10. Has a relative, friend, doctor, or other health care worker been concerned about your drinking or suggested you cut down?	No		Yes, but not in the last year		Yes, during the last year

3. Drug use other than alcohol

'The following questions ask you about your use of drugs other than alcohol. Please answer as honestly as possible by telling me which answer is right for you.'

Refer to list of drugs for examples of each type of drug.

How often do you use the following substances?	Never	Tried it once or more times	Once a month or less often	2-3 times a month	2-3 times a week	4 times a week or more	Check box if you mean using during relapse
Cannabis (e.g. gunja, weed)							
Amphetamines							
Cocaine							
Opiates							
Hallucinogens							
Thinner and other drugs							
GHB and other drugs							
Pills (sleeping/calming)							
Pills (pain relievers)							
Tobacco							

What is positive for you about using drugs?	Not at all	A little	Somewhat	A lot	Totally
Sleep better					
Lose tension and become relaxed					
Become happy					
Become strong					
Feel normal					
Become creative (get ideas, do artistic things)					
Become active (clean home, do dishes, wash the car)					
Lose everybody and whole world					
More self-confidence					
Feel less pain in my back, neck, head etc.					
Get a feeling that everything will work out					
Life without drugs is boring.					
I can control feelings like anxiety, anger and depression					
With drugs I can function socially					
With drugs I feel that I am part of the group					
I get better contact with others.					
I get more out of my life.					

What is negative for you about using drugs?	Never	Less often than once a month	Every month	Every week	Daily or almost daily
Over the past year I have had trouble at work, in school or at home because of drugs.					
Over the past year I have sought medical or hospital care or had medical problems (for example memory loss or hepatitis) because of drugs.					
Over the past year I have been in quarrels or used violence under the influence of drugs.					
Over the past year I have had trouble with the police because of drugs.					
	Not at all	**A little**	**Somewhat**	**A lot**	**Totally**
Feel anxiety.					
Get suicide thoughts.					
Avoid the company of others.					
Get headaches or feel nauseous.					
Have worse contact with friends.					
Have trouble concentrating.					
Feel less like having sex.					
Destroys finances.					
Become passive.					
Health worsens.					
Become inconsiderate.					
Destroys family life.					

What are your thoughts about taking drugs?	Not at all	Partly	Totally
Do you enjoy taking drugs?			
Do you feel tired of using drugs?			
Have you been worried about your drug use over the past year?			
Have you been worried about your drug use over the past year?			
Are you ready to work to change your drug use?			
Do you think you need professional help to change your drug use?			
Do you believe you can get the right sort of professional help?			
Do you believe you can be helped by professional treatment for your drug use?			
Do you think it is important to change your drug use?			
Do you believe it will be difficult to change your drug use?			
Have you already changed your drug use and are looking for methods to help you avoid relapses?			

4. Mental Health

'These questions ask you how much of the time you have had certain feelings in the last month? I will read out each question to you, along with the response options. 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.'

Anxiety and Depression Checklist	None of the time (1)	A little of the time (2)	Some of the time (3)	Most of the time (4)	All of the time (5)
During the last 30 days, about how often did you feel tired out for no					
During the last 30 days, about how often did you feel nervous?					
During the last 30 days, about how often did you feel so nervous that					
During the last 30 days, about how often did you feel hopeless?					
During the last 30 days, about how often did you feel restless or					
During the last 30 days, about how often did you feel so restless you					
During the last 30 days, about how often did you feel depressed?					
During the last 30 days, about how often did you feel that everything					
During the last 30 days, about how often did you feel so sad that nothing could cheer you up?					
During the last 30 days, about how often did you feel worthless?					

5. Quality of Life

(physical health; psychological health, social relationships and environment)

'The following questions ask how you feel about your quality of life, health, or other areas of your life. I will read out each question to you, along with the response options. Please choose the response that 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.

Please keep in mind your standards, hopes, pleasures and concerns. We ask that you think about your life **in the last four weeks.'**

		Very poor	**Poor**	**Neither poor nor good**	**Good**	**Very good**
1.	How would you rate your quality of life?	1	2	3	4	5
		Very dissatisfied	**Dissatisfied**	**Neither satisfied nor**	**Satisfied**	**Very satisfied**
2.	How satisfied are you with your health?	1	2	3	4	5

The following questions ask about how much you have experienced certain things in the last four weeks.

		Not at all	**A little**	**A moderate amount**	**Very much**	**An extreme amount**
3.	To what extent do you feel that physical pain prevents you from doing what you need to do?	5	4	3	2	1
4.	How much do you need any medical treatment to function in your daily life?	5	4	3	2	1
5.	How much do you enjoy life?	1	2	3	4	5
6.	To what extent do you feel your life to be meaningful?	1	2	3	4	5
		Not at all	**A little**	**A moderate amount**	**Very much**	**Extremely**
7.	How well are you able to concentrate?	1	2	3	4	5
8.	How safe do you feel in your daily life?	1	2	3	4	5
9.	How healthy is your physical environment?	1	2	3	4	5

The following questions ask about how completely you experience or were able to do certain things in the last four weeks.

		Not at all	A little	Moderately	Mostly	Completely
10.	Do you have enough energy for everyday life?	1	2	3	4	5
11.	Are you able to accept your bodily appearance?	1	2	3	4	5
12.	Have you enough money to meet your needs?	1	2	3	4	5
13.	How available to you is the information that you need in your day-to-day life?	1	2	3	4	5
14.	To what extent do you have the opportunity for leisure activities?	1	2	3	4	5
		Very poor	**Poor**	**Neither poor nor good**	**Good**	**Very good**
15.	How well are you able to get around?	1	2	3	4	5
		Very dissatisfied	**Dissatisfied**	**Neither satisfied nor dissatisfied**	**Satisfied**	**Very satisfied**
16.	How satisfied are you with your sleep?	1	2	3	4	5
17.	How satisfied are you with your ability to perform your daily living activities?	1	2	3	4	5
18.	How satisfied are you with your capacity for work?	1	2	3	4	5
19.	How satisfied are you with yourself?	1	2	3	4	5
20.	How satisfied are you with your personal relationships?	1	2	3	4	5
21.	How satisfied are you with your sex life?	1	2	3	4	5
22.	How satisfied are you with the support you get from your friends?	1	2	3	4	5
23.	How satisfied are you with the conditions of your living place?	1	2	3	4	5
24.	How satisfied are you with your access to health services?	1	2	3	4	5
25.	How satisfied are you with your transport?	1	2	3	4	5

The following question refers to how often you have felt or experienced certain things in the last four weeks.

		Never	Seldom	Quite often	Very often	Always
26.	How often do you have negative feelings such as blue mood, despair, anxiety, depression?	5	4	3	2	1

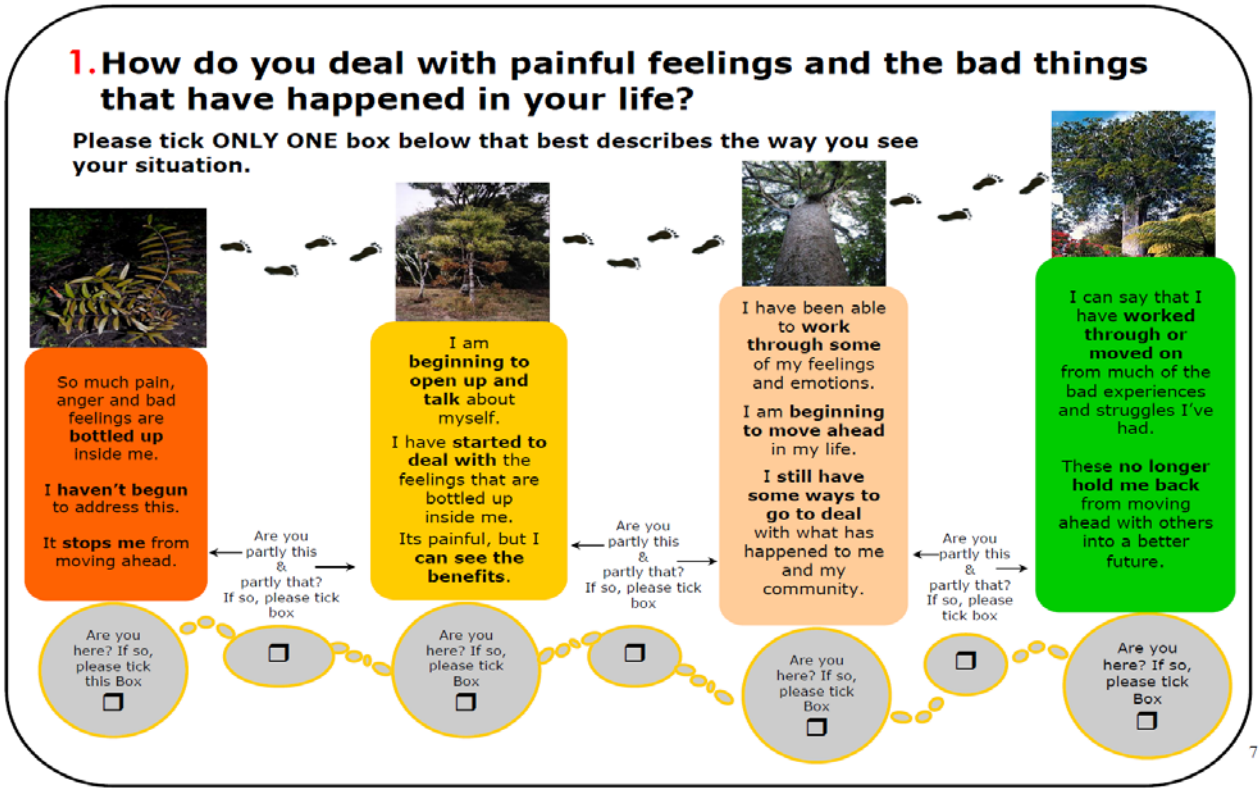
6. Blood Borne Virus Risk

'Please consider the following questions carefully and answer each one as accurately and honestly as you can. All questions refer to your behaviour in the past one month. Try and remember that the only correct answer is an accurate and honest answer. Remember that the information you provide will remain completely confidential.'

Needle and syringe contamination						
In the last month, how many times have you injected with another person's used needle/syringe?	No times – skip next question question 2	Once	Twice	3-5 times	6-10 times	More than 10 times
On those occasions, how often did you rinse it with a combination of full strength bleach and water (i.e, the '2x2x2' method) before you used it?	Never	Rarely	Sometimes	Often	Every time	More than 10 times
In the last month, how many times have you injected with a needle/syringe after another person has already injected some of its contents?	No times	Once	Twice	3-5 times	6-10 times	More than 10 times
In the last month, how many times have you received an accidental needlestick/prick from another person's used needle/syringe?	No times	Once	Twice	3-5 times	6-10 times	More than 10 times
In the last month, how many times have you re-used a needle/syringe taken out of a shared disposal/sharps container?	No times - skip next question	Once	Twice	3-5 times	6-10 times	More than 10 times
On those occasions, how often did you rinse it only with full-strength bleach before you re-used it?	Never	Rarely	Sometimes	Often	Every time	

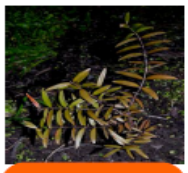
7. Cultural connectedness

'This next section presents you with seven questions about your everyday life. It describes four different situations that are possible answers. Please think carefully and chose only ONE box in the circles provided that best describes how you generally see yourself in your situation. If you see yourself in between two of the answers described, or sometimes one way and sometimes the other, please answer 'partly this partly that.'



2. How do you deal with safety for yourself and your family?

Please tick ONLY ONE box below that best describes the way you see your situation.



I just **put up with things** that harm me. **I often get hurt** physically or emotionally. I haven't found a way to escape or stop this. **I feel too shame** to get help.

Are you here? If so, please tick Box ❒

Are you partly this & partly that? If so, please tick box ❒

When things get frightening, I **escape** in order to protect myself and my family.

I find it hard to trust anyone.

But I am **starting to be able to ask for help for physical safety** if I need it.

Are you here? If so, please tick Box ❒

Are you partly this & partly that? If so, please tick box ❒

I am learning to **take positive steps to protect** myself and family against physical and emotional harm.

I am starting to **trust people to help me stay safe emotionally as well as physically.**

Are you here? If so, please tick Box ❒

Are you partly this & partly that? If so, please tick box ❒

I have a **strong ability to protect** myself and my family from things that could harm us.

I **feel emotionally and physically secure.**

I don't have to run away.

I am **able to trust** other people when appropriate.

Are you here? If so, please tick Box ❒

8

3. How do you feel about making changes in your life?

Please tick ONLY ONE box below that best describes the way you see your situation.

There are things that I should change in my life to be Healthier and Happier.

But it seems all too hard.

I **don't think I can change anything** at this time.

Are you here? If so, please tick Box ❒

Are you partly this & partly that? If so, please tick box ❒

I have **started to think** about some changes I'd like to make that would be good for me.

But I **don't have skills or confidence** to make the changes.

I try but I usually fall back to my old ways.

Are you here? If so, please tick Box ❒

Are you partly this & partly that? If so, please tick box ❒

I have **thought a lot** about changes I'd like to make that will be good for me.

I have **gained some skills & confidence** to make changes.

I have had some **successes**, but I still **don't feel fully confident** about making change.

Are you here? If so, please tick Box ❒

Are you partly this & partly that? If so, please tick box ❒

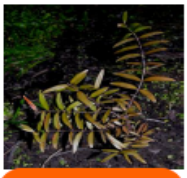
I have **gained skills and confidence and have succeeded in making many** important changes in my life.

I **feel fully confident** about my ability to make changes.

Are you here? If so, please tick Box ❒

9

4. How do you think about your own spirituality in connection with Aboriginal culture? Please tick ONLY ONE box below that best describes the way you see your situation.

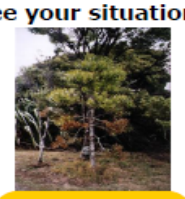


I never think about Aboriginal spirituality.

It doesn't mean anything to me.

Are you here? If so, please tick Box ❒

Are you partly this & partly that? If so, please tick box



I have **noticed Aboriginal spirituality in other people.**

I have **thought about what it means** to me.

I **don't practice** Aboriginal spirituality in my own life.

Are you here? If so, please tick Box ❒

Are you partly this & partly that? If so, please tick box

I see that **spirituality in connection with Aboriginal culture is important** for me.

I have **made some progress in developing and practicing Aboriginal spirituality** in the things I do.

Are you here? If so, please tick Box ❒

Are you partly this & partly that? If so, please tick box

I feel that **I am a deeply spiritual person.**

I recognise the **power of spirit in connection with Aboriginal culture,** with people, the land and our past.
This gives me strength and guides my actions.

Are you here? If so, please tick Box ❒

10

5. Do you have a strong sense of knowing who you are?

Please tick ONLY ONE box below that best describes the way you see your situation.

I don't know who I am.

I don't know where I am going in my life.

Without this, I feel lost.

Are you here? If so, please tick Box ❒

Are you partly this & partly that? If so, please tick box

I have **a pretty good idea** of who I am, but people put labels on me and these affect me.

I am **struggling with being myself and pretending** to be what others expect of me.

Are you here? If so, please tick Box ❒

Are you partly this & partly that? If so, please tick box

I am **lifting off the labels** that other people have given me and other things about me that are not really who I am.

I've **stopped pretending.**

But I still have a long way to go to truly know and be myself.

Are you here? If so, please tick Box ❒

Are you partly this & partly that? If so, please tick box

I'm **very strong about who I am.**

I am proud of my cultural identity.

I now fully understand what that means to me.

Are you here? If so, please tick Box ❒

11

6. Are you able to speak out and be heard in your community?

Please tick ONLY ONE box below that best describes the way you see your situation.

I am **too shy or shame to speak out** in this community.

I **have little or no say** in what happens here.

I have **no voice**.

Are you here? If so, please tick Box ❒

Are you partly this & partly that? If so, please tick box

I am beginning to speak out and have **some say on some issues.**

I have **a long way to go** to make sure my voice is heard and respected.

Are you here? If so, please tick Box ❒

Are you partly this & partly that? If so, please tick box

I am **able to speak out and be heard.**

My **views are considered** when decisions are made in this community.

But I **could be more involved** in how things are decided and done here.

Are you here? If so, please tick Box ❒

Are you partly this & partly that? If so, please tick box

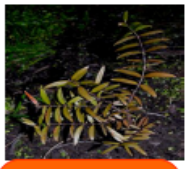
I am **fully part of the decision-making process** in this community as an individual or a member of an active group. People **respect what I say** even when we disagree.

Are you here? If so, please tick Box ❒

12

7. How do you see your relationships with other people?

Please tick ONLY ONE box below that best describes the way you see your situation.



I feel completely trapped in my relationships.

I am dealing with things like: kids out of control, anger and fighting, gossiping, bullying. **Most of my relationships are harmful, not healthy.**

Are you here? If so, please tick Box ❒

Are you partly this & partly that? If so, please tick box

I am **gaining an understanding** of my difficult relationships.

I have started to think about how to make them better. I think more about what I'm saying.

I still have a lot of work to do to improve my relationships.

Are you here? If so, please tick Box ❒

Are you partly this & partly that? If so, please tick box

I have made a lot of **progress in improving my relationships.**

I think a lot about **listening and talking sensitively** to people.

I see **improvement in the way people respond to me.**

Are you here? If so, please tick Box ❒

Are you partly this & partly that? If so, please tick box

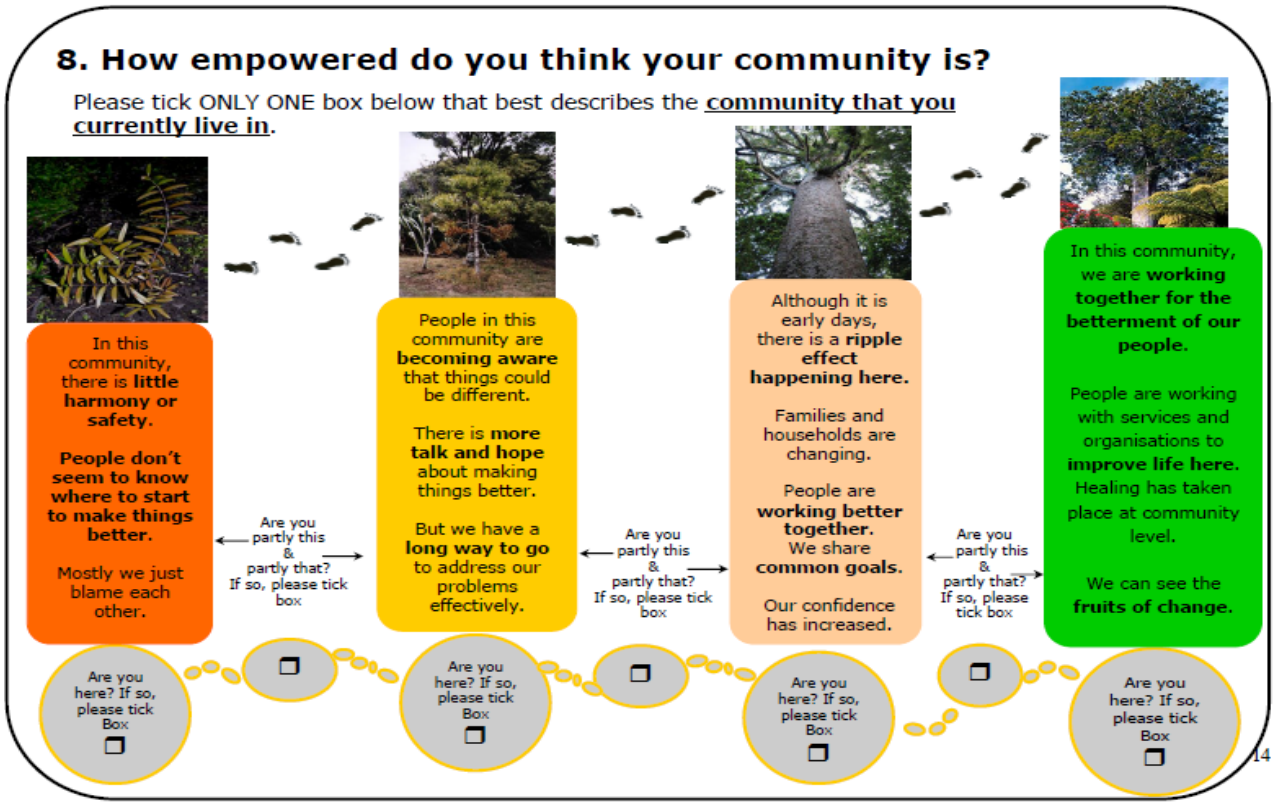
My life is now rich and happier because of many good relationships.

My **relationships give me peace and harmony in my heart.**

I am able to preserve this peace in my home and family, even when we disagree.

Are you here? If so, please tick Box ❒

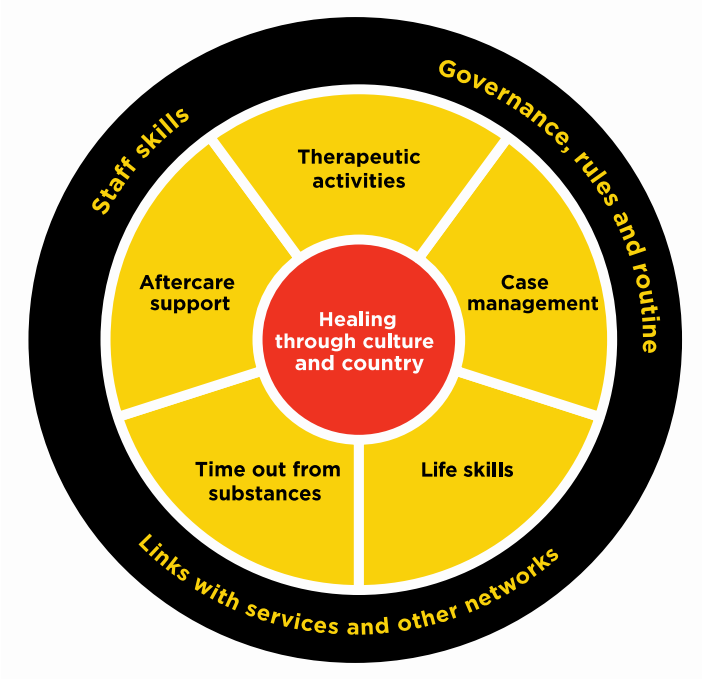
13



1

[1] Haswell, M. R., Kavanagh, D., Tsey, K., Reilly, L., Cadet-James, Y., Laliberte, A., . . . Doran, C. (2010). Psychometric validation of the Growth and Empowerment Measure (GEM) applied with Indigenous Australians. *Australian and New Zealand Journal of Psychiatry, 44*(9), 791-799. doi: 10.3109/00048674.2010.482919

APPENDIX 10: Core treatment and organisational components of Orana Haven



KEY:

- The **red** circle represents the overarching component to ensure client healing from substance misuse
- The yellow circle represents the five most important program components of the Orana Haven program
- The **black** circle represents 3 key organisational components to ensure that Orana Haven runs effectively

First (in the red and yellow circles) are the six core treatment components. Second, (in the black circle) are the three organisational level components. The central component of Orana Haven's model of care is healing through culture and country, which is why it is shown in the red centre. The other five treatment components of Orana Haven that enable healing through culture and country are shown in the yellow section and include therapeutic activities, case management, life skills, time out from substances and aftercare support. The effective delivery of these treatment components at Orana Haven is dependent upon governance rules and routine, staff skills and experience, and links with services and other networks, as shown in the black section.

Proposed framework to evaluate Aboriginal drug and alcohol residential rehabilitation services

Summary

Key Findings
There is limited evidence on the effectiveness of Aboriginal drug and alcohol residential rehabilitation and follow-up services. This paper introduces a proposed framework to evaluate such services. The framework includes measures to assess process, outcome and economic indicators. Services currently collect a range of data that would assist in undertaking an evaluation of effectiveness. Supplementing these data with additional information available using linked, routinely collected data would aid a comprehensive evaluation and minimise the reporting burden for clients and staff.

Key Lesson Learned
There is a need to demonstrate how new knowledge can be co-created by evaluation experts working alongside service providers, the government sector and key stakeholders.

Key outcomes
The articulation of two proposed evaluation frameworks:

- Evaluation Framework 1; to conduct a co-ordinated, structured, multi-component evaluation of Aboriginal drug and alcohol residential rehabilitation; and
- Evaluation Framework 2; an evaluation framework for follow-up support.

Introduction

A current systematic review of the literature for Indigenous drug and alcohol residential rehabilitation services in Australia, the US, Canada and New Zealand, published between 2000 and 2016, did not find any rigorous evaluations[1]. Program evaluations that were identified by the review often used comparatively weak methods, such as retrospective evaluation, a focus on measuring processes rather than outcomes, and being too reliant on self-reported data that are of unknown accuracy. This limits the accuracy of estimates about the extent to which a service provides a benefit, and it is not possible to confidently attribute improvements in outcomes to specific programs (as opposed to some other event, or just a natural change over time).

This paper introduces a framework to evaluate Aboriginal drug and alcohol residential rehabilitation services, including a follow-up component of treatment. The paper: considers the key components of a comprehensive evaluation taking into account process, outcome and economic indicators; discusses a data collection, analysis and reporting strategy; and reviews the overarching principles inherent in undertaking such a comprehensive evaluation, including the embedding of data collection measures into real-time tracking of outcomes, which minimises the reporting burden for clients and staff.

A co-ordinated, structured, multi-component evaluation of Aboriginal drug and alcohol residential rehabilitation services is an exciting, world-first opportunity to demonstrate the practical application of co-creation of new knowledge by evaluation experts working alongside service providers, government and key stakeholders. The approach outlined in this framework has the potential to deliver significant impact to clients of Aboriginal drug and alcohol residential rehabilitation services.

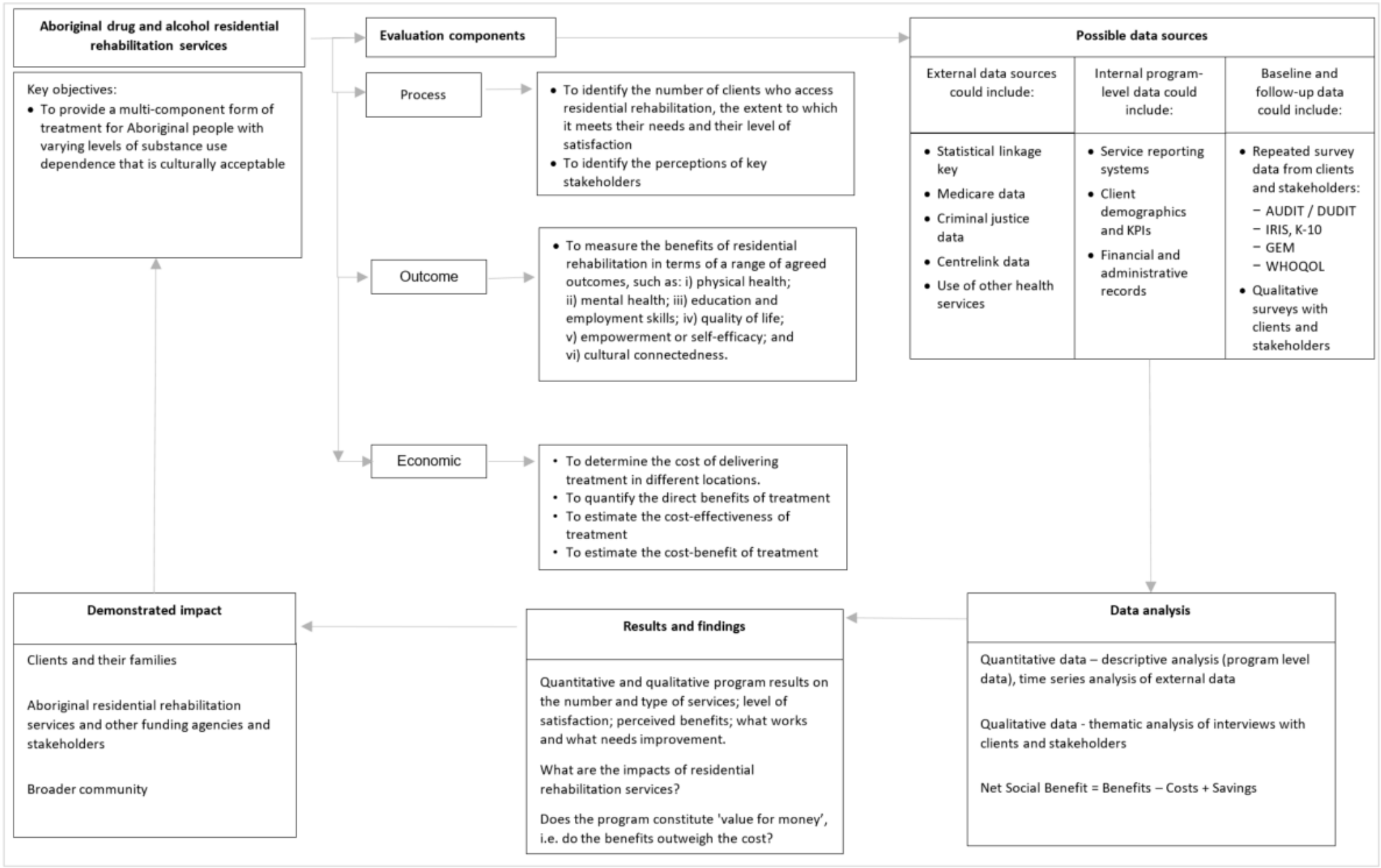
Proposed Evaluation Framework 1

Figure 1 provides an overview of a proposed evaluation framework for Aboriginal drug and alcohol residential rehabilitation services. It combines elements of process, outcome and economic indicators, and adapts existing evaluation analysis of Indigenous programs[2]. Given services have a specific focus on drug and alcohol treatment, one obvious outcome measure is clients' use of substances and level of dependence.

There are, however, a number of other outcomes that could be assessed to capture the full benefits of Aboriginal drug and alcohol residential rehabilitation services. These outcomes could include: i) physical health; ii) mental health; iii) education and employment skills; iv) quality of life; v) empowerment or self-efficacy; and vi) cultural connectedness.

Beyond quantifying the benefits of Aboriginal drug and alcohol residential rehabilitation services for clients, the evaluation framework could incorporate an assessment of the benefits of these services for families and communities. Careful consultation would need to be undertaken to consider how these outcomes might be best applied to the context of Aboriginal drug and alcohol residential rehabilitation services, and to identify the extent to which scientifically validated measurement tools are available for each outcome.

Figure 1: Proposed evaluation framework for Aboriginal drug and alcohol residential rehabilitation services



Evaluation components

A comprehensive evaluation considers process, outcome and economic indicators.

Process (implementation) evaluation

The purpose of the process evaluation would be to produce a comprehensive picture of the implementation of Aboriginal drug and alcohol residential rehabilitation services. The process evaluation helps to understand how services are delivered, what services are delivered and to test the program logic model. It would be critical for distinguishing implementation issues from program design issues.

Specific objectives of the process evaluation may include:

- Providing a systematic description of local implementation and delivery.
- Assessing the fidelity of implementation of services in terms of how services are delivered.
- Clarifying causal mechanisms that link activities to outcomes.
- Identifying local contextual factors associated with variation in outcomes.
- Assessing the extent to which programs have met clients' needs.
- Providing comparative data from different services to be used in the outcome and economic evaluation.
- Providing an evidence base to support local service providers in assessing and refining practice.

Process evaluation questions would cover both formative and summative perspectives. Formative evaluation aims to provide information to improve program or service design. For example:

- What are the main elements and characteristics of each service, including aftercare?
- What are the roles and responsibilities of services and their staff?
- What are the characteristics and experiences of clients?
- How well are staff/organisations functioning together?
- What is working well? What isn't working well? And for whom?

Summative evaluation provides information needed to determine the overall impact or effectiveness of a program:

- How feasible was the original design of the treatment program delivered in each service?
- To what extent was treatment implemented and delivered as planned, in accordance with the model of care (including aftercare)?
- To what extent are programs amenable to implementation elsewhere?
- Has implementation proved sufficiently effective to merit further roll out or extension of programs?

The process evaluation will also support the outcome and economic evaluation by documenting and analysing the mechanisms through which Aboriginal drug and alcohol residential rehabilitation services bring about change.

Outcome evaluation

The purpose of the outcome evaluation would be to determine the extent to which Aboriginal drug and alcohol residential rehabilitation services achieve a broad range of outcomes against their objectives.

Specific questions the outcome evaluation may answer include:

- To what extent do the programs / services reduce clients' drug and alcohol use;
- To what extent do the programs / services improve clients' physical health, mental health, quality of life, sense of empowerment or self-efficacy, and cultural connectedness?
- To what extent do the programs / services empower clients to make decisions in their life?
- To what extent do the programs / services promote education, or work-skill, or life-skill training opportunities?
- What is the impact of Aboriginal drug and alcohol residential rehabilitation services for the communities in which the services are operating, and for the families and communities of clients?

Where appropriate measures and values exist, outcome data would also be translated into monetary terms for the economic evaluation (next section).

Economic Evaluation

There are a range of potential economic evaluation methods [3].

- *Cost-effectiveness analysis (CEA)*: uses symptomatic or diagnostic indicators that have been demonstrated to be meaningful to the sector as a unit of measurement (e.g. change in alcohol use).
- *Cost-utility analysis (CUA)*: combines both morbidity and mortality into a single unit of measurement such as a quality adjusted life year (QALY), or a disability-adjusted life year (DALY), to measure how many QALYs or DALYs were averted due to receiving treatment. This is particularly useful for measuring the health domain.
- *Cost-benefit analysis (CBA)*: CBA is considered the gold standard in economic evaluation as it provides an estimate of the value of resources used by each program compared to the value of resources the program might save or create (i.e. the benefits). It enables the calculation of a cost-benefit ratio to support potential return on investment. CBA values benefits in monetary terms and looks at final outcomes and spill-over effects over a longer time period. Importantly, the total net benefits to society, as well as to the different cohort groups, would be estimated. The distribution of benefits is also important, as some gains for clients (for example, obtaining a job post-treatment), may have counterpart losses (for example, lower receipt of welfare benefits).

Depending on the type of economic appraisal chosen there is scope to demonstrate whether the benefits of Aboriginal drug and alcohol residential rehabilitation services outweigh their costs. The benefits and costs could be modelled over the short, medium and long term.

Specific questions the economic evaluation may answer include:

- What is the cost of delivering Aboriginal drug and alcohol residential rehabilitation services?
- What are the major drivers (or components) of the cost?
- To what extent does the cost of residential rehabilitation and/or aftercare vary between services? Why?
- Are Aboriginal drug and alcohol residential rehabilitation services cost effective in terms of improving client's quality of life (measured as quality adjusted life years)?
- Do the benefits of Aboriginal drug and alcohol residential rehabilitation services (expressed in monetary terms) outweigh the costs (i.e.: is it cost-beneficial?).
- Do Aboriginal drug and alcohol residential rehabilitation services provide good value for money?
- Would the addition of follow-up services to the existing model of care, or a new aftercare treatment model, provide good value for money relative to current treatment?
- Is there scope to vary alternative use of resources to achieve either a more cost-effective or cost-beneficial outcome?

Each of the economic evaluation methods outlined above identify, measure and value resources (i.e., costs) in the same way. Typically, resource use is limited to three types of costs:

- Capital costs (estimates of the cost of land, buildings and equipment)
- Operating expenses (running costs for Aboriginal drug and alcohol residential rehabilitation services)
- Indirect costs of the service (costs of volunteer time, carer time, client out of pocket expenses)

Capital costs and operating expenses are usually the key drivers of resource use, incurred by both government and non-government services. Resources would be valued using market rates or equivalent proxies. A combination of the top-down approach using financial records and first-principles 'bottom-up' approach would be used to value resource use for capital and operating costs. Indirect costs would typically be calculated taking a broad social perspective, and including the out of pocket expenses to clients themselves.

An economic evaluation would usually measure a number of different types of benefits.

- Cost savings from treatment (including avoided costs), such as savings in health costs.
- Benefits to clients. The exact method of measuring these would need to be determined but a broad framework is likely to be important given the likely wide-range of benefits clients receive from Aboriginal drug and alcohol residential rehabilitation services including reductions in substance use, and/or improvements in: These outcomes could include: i) physical health; ii) mental health; iii) education and employment skills; iv) quality of life; v) empowerment or self-efficacy; and vi) cultural connectedness.
- Benefits to the broader community and/or clients' families. These can be difficult to measure but are likely to be an important benefit of Aboriginal drug and alcohol residential rehabilitation services. A range of surveys could be developed to help identify appropriate measures of family and community benefits.

Possible data sources

Figure 1 outlines the type of data that would be required for a comprehensive evaluation of Aboriginal drug and alcohol residential rehabilitation services. These data are categorised into: external data sets; internal program-level data; and, baseline and follow-up data. These data sources are expanded in Table 1.

Internal program level data

These data would be collected by the Aboriginal drug and alcohol residential rehabilitation services and would include information on:

- Client level data on participation (dose) and reach.
- Client-level data on experience and satisfaction.
- Program and system level data, including financial and administrative records.

Baseline and follow-up data

These data would include interviews with clients, staff and the community/family members. These could include:

- The adaptation of a tool to measure clients' perceived needs.
- Validated measures of substance use (Fagerstrom, AUDIT, DUDIT), mental health (IRIS, K-10), quality of life (WHO-QOL) or empowerment (using for example the Growth Empowerment Measure or GEM).
- Measures to elicit community value (using standard economic techniques).

Linked client administrative and outcome data

These routinely collected data could include the following (nb: these are only indicative data sources and would need to be carefully worked through):

- Statistical linkage key;
- Medicare data;
- Criminal justice data;
- Centrelink data; and
- Use of other health services.

It is envisaged that all client information would be de-identified and encrypted via a statistical linkage key so that change in these outcomes could be tracked longitudinally. Statistical linkage is increasingly being used by government organisations such as the Australian Bureau of Statistics and the Australian Institute of Health and Welfare.

The statistical linkage key enables two or more records belonging to the same individual to be brought together. It is represented by a code consisting of the 2nd, 3rd and 5th characters of a person's family name, the 2nd and 3rd letters of the persons' given name, the day, month and year when the person was born and the sex of the person, linked consecutively in that order. In addition, Medicare data could be linked to provide further detail on client's medical and pharmaceutical use over time.

Table 1: Possible data collection strategy

1. Purpose	To evaluate Aboriginal drug and alcohol residential rehabilitation services	
2. Overarching outcomes	To provide a multi-component form of treatment and care for Aboriginal people with varying levels of substance use dependence that is culturally acceptable	
3. Client outcomes	Clients of Aboriginal drug and alcohol residential rehabilitation services would have improved outcomes across multiple domains:	
	• Physical health; • Mental health; • Education and employment skills; • Quality of life; • Empowerment or self-efficacy; and • Cultural connectedness.	
To measure change in client outcomes *Self-report client outcome data*	**<u>Priority data</u>** Required from all clients (to measure impacts of the overarching initiative): • Existing data: Items within baseline data instruments that capture demographics and client characteristics. • Existing (and new) instruments that capture substance use, mental health, quality of life, personal wellbeing. • Possible extra data to measures outcomes: o AUDIT / DUDIT o IRIS, K-10, GEM o Empowerment – GEM o WHO-QOL o Perceived needs o Client satisfaction with services.	**<u>Service level data</u>** Required from clients • Demographics • Each service will identify outcome measures via a program logic process, and develop a bespoke survey instrument to capture data relevant to these outcomes.
When collected?	• On client intake into service • During treatment • On discharge • Possibly follow-up post-discharge	• On client intake into service • During treatment • On discharge • Possibly follow-up post-discharge
Linked client outcome data (administrative data)	Additional, routinely collected data that could be used: • Statistical linkage key; • Medicare data; • Criminal justice data; • Centrelink data; and • Use of other health services.	
When collected?	Could be annually – including 1 years post program exit or intervention	
4. Community / families	Communities and families may have improved outcomes:	
Self-report from communities and/or families of clients	• Improved safety for families and communities and reduced crime • Increased social and community connectedness	
When collected?	Annually	
5. Process measures: (* indicates outputs)	• Clients are satisfied with the quality of services they receive • Clients are satisfied that services are appropriately tailored to their circumstances • The program that clients receive is the program that was intended • Clients from targeted groups and communities are attending the appropriate services • Clients are completing services • Services are delivered as expected	
When collected?	• On client intake into service • During treatment • On discharge • Possibly follow-up post-discharge	
6. Economic measures:	• Cost-effectiveness analysis • Cost Benefit Analysis (CBA) How much do Aboriginal drug and alcohol residential rehabilitation services cost, and are those costs outweighed by the benefits	
When collected?	Annually	

Data analysis and reporting plan

A mixed method approach would most likely be the best approach, which combines both qualitative and quantitative methods, to answer the key evaluation questions (process, outcomes and economic).

The qualitative analysis would typically comprise semi-structured interviews and would apply standard analytic techniques to the responses (e.g. thematic analysis). Interviews would be undertaken with a range of key stakeholders to ensure a wide range of potential program benefits are captured. The qualitative evaluation would also complement and add a deeper level of understanding to the findings of the quantitative component of this project. This form of data 'triangulation' is an important strategy for improving the validity of research findings as well as serving to locate critical themes in research.

The quantitative analysis would comprise a number of data elements, many of which are already collected. First, it would determine the number of clients who use Aboriginal drug and alcohol residential rehabilitation services. Second, it would rate the level of satisfaction with services received by embedding a standard satisfaction question (e.g. this could be based on a five point Likert scale from very satisfied to very unsatisfied) into the routine data collection process. Third, it would quantify the benefits of the program in terms of its impact on routinely collected data sets. Fourth, in addition to direct benefits, the intangible benefits could be estimated using appropriate techniques (see below). Fifth, the cost to deliver the services would be estimated. Finally, the estimates of the tangible (direct) and intangible (indirect) benefits of the services and the cost to provide them would be combined in an economic evaluation. This would most likely be a cost-benefit analysis because it is considered the gold standard in economic evaluation, given it provides an estimate of the value of resources used by each service compared to the value of resources the services might save or create (i.e. the benefits). It enables the calculation of a cost-benefit ratio to support potential return on investment. Where possible, the benefits to clients and staff in terms of reduced out of pocket expenses and/or improved efficiency would also be included.

The results and findings of the qualitative and quantitative analysis would be combined to provide an overview of the process, outcome and economic indicators. The outcome of the economic evaluation could be reported as a cost-effectiveness ratio (i.e., cost per improvement in quality adjusted life years) or a benefit-cost ratio (do benefits outweigh costs). Extensive sensitivity and uncertainty analysis would be conducted to test the validity of the results to variations in key parameters and/or assumptions.

Economic techniques for measuring intangible benefits

Economic evaluations generally compare the cost of delivering a program to the benefits. Benefits can be valued both in terms of those who use a program (direct benefits) and those who do not, but nevertheless value its existence (intangible benefits). For those who use a program, the value they ascribe to that can often be measured in economic terms by observing their use of that program. That technique is called revealed preference. For those who do not use a program, however, revealed preference is not possible so an alternative way of assessing the extent to which they value a program is by stated preference. The primary weakness of stated preference techniques is that they rely on what people say they would do rather than what they actually do. Nevertheless, it is an important technique because it is one of the only ways to assign dollar values to those who don't use a program but do value its existence (so it is not possible to use market purchases or observe their direct involvement). In other words, since some people do not reveal their willingness to pay for a program or some outcome through their purchases or by their behaviour, the only option for estimating a value is by asking them questions. One of the most common ways of assessing stated preference is using Contingent Valuation (CV) methods. It is called contingent because people are asked to state their willingness to pay,

contingent on a specific hypothetical scenario. More complex methods of assessing willingness to pay have been developed that provide more choices. These are called discrete choice experiments (DCE). DCEs provide an established mechanism to estimate the value of social benefits where preferences are not revealed through open markets. They involve the use of a survey to systematically quantify individuals' preferences in relation to a number of characteristics (attributes) of a program. DCEs are based on the premise that any good or service can be described according to its attributes, and it is the levels of these attributes that determines how an individual values a good or service.

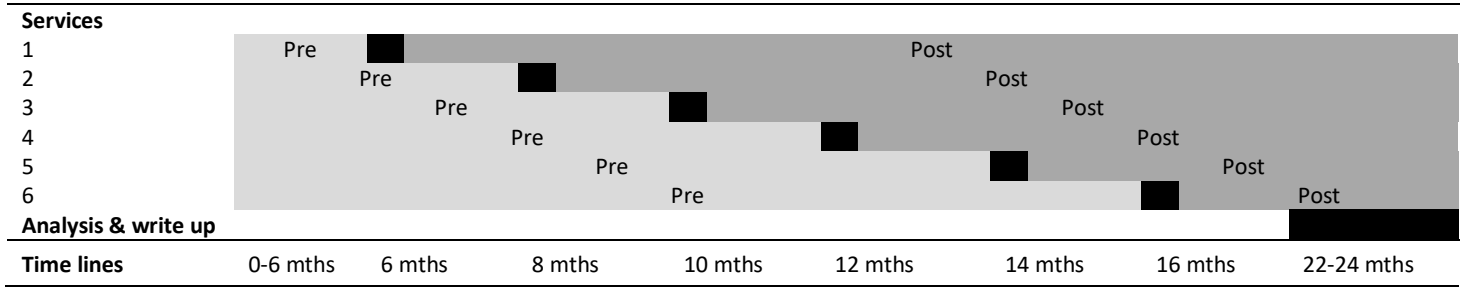
Proposed evaluation framework 2: Follow-up support

Figures 2 and 3 summarise how a model of follow-up support could be evaluated. The evaluation would comprise the following steps: i) the services agree on the standardised process of follow-up support; ii) it is implemented by the first service (randomly selected) in order to check the feasibility and acceptability of the process and make any necessary adjustments; iii) the model of follow-up support is then rolled out into subsequent services in a pre-determined, randomised order; iv) the agreed data are collated and analysed, and the results written-up.

Figure 2 delineates a stepped wedge design that shows the model of follow-up support being adopted by each service successively, at regular intervals. A data collection period of six months would be conducted prior to the commencement of follow-up support in the first service (to measure current outcomes, or treatment as usual) and six months post-commencement in the last service. The impact of follow-up support could be assessed by analysing primary outcome data in two ways: i) all pre-commencement data could be aggregated across all services and compared to post-commencement data aggregated across all services; ii) pre- and post-commencement data within each service.

Figure 3 delineates a proposed evaluation framework that is a version of Evaluation Framework 1, but specifically adapted to the evaluation of follow-up support (Evaluation Framework 2). It shows that the evaluation would measure the impact of follow-up support in terms of processes, outcomes and economic components, to ensure it captures the number of clients accessed, their level of satisfaction with follow-up support, the extent to which it improved their treatment outcomes and whether the costs of follow-up support are outweighed by its benefits (cost-effectiveness).

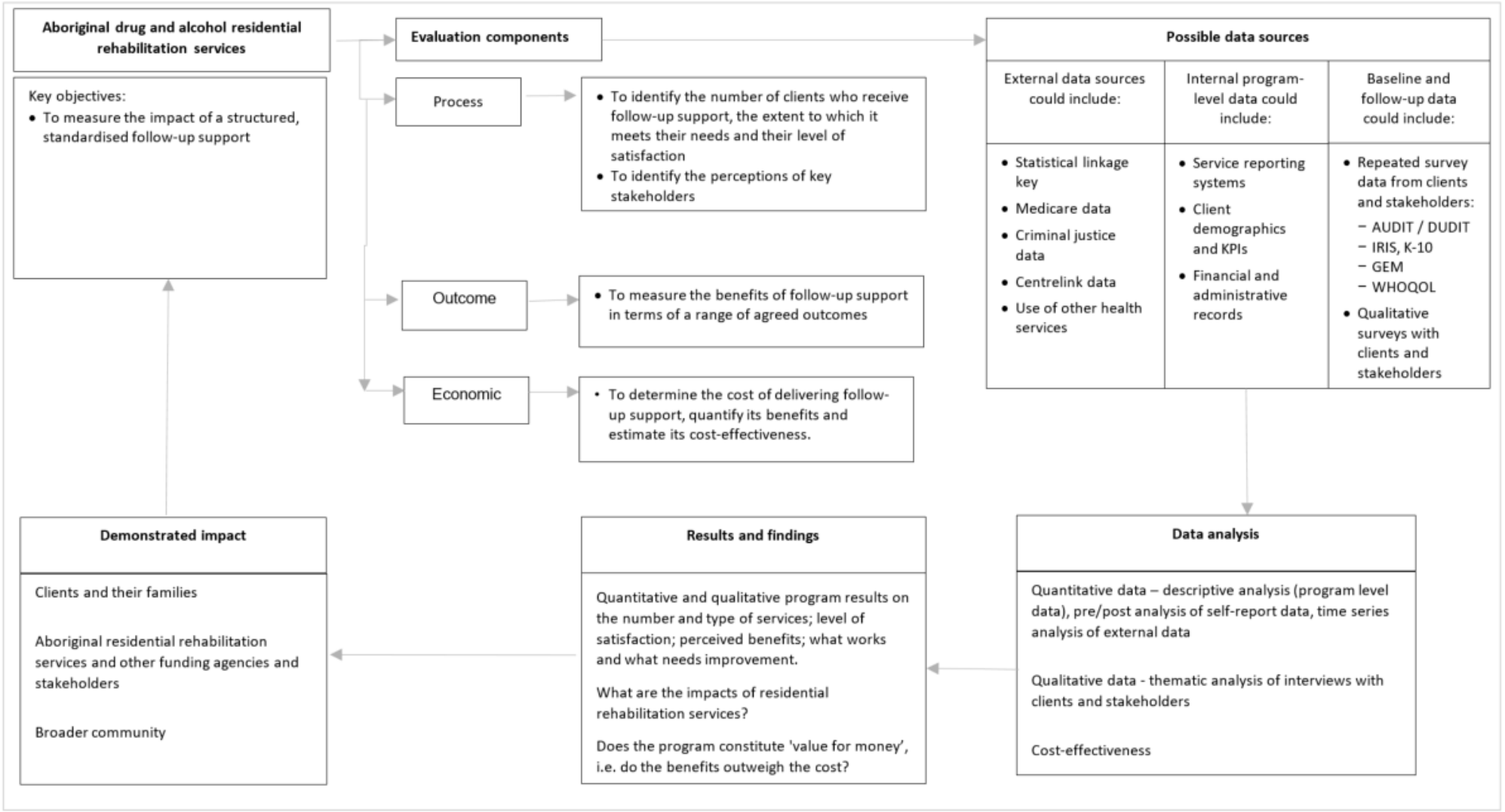
Figure 2. Stepped wedge design for the evaluation of follow-up support



Key

- The light grey shaded cells represent the pre-test data collection period for each service
- The black shaded cells are the point at which each service commences the agreed follow-up model of support
- The dark grey shaded cells represent the post-test data collection period for each service

Figure 3 Proposed evaluation framework for follow-up support



Key principles underpinning the evaluation framework

Three key principles underpin this innovative approach to evaluation:

1. Embedded, prospective evaluation (i.e. planning the evaluation and adjusting service to support collection of relevant data);
2. Enhancing existing data collection systems (i.e. using the CQI proposal in the CBPR report to embed services capacity to collect and manage data); and,
3. Meaningful partnerships for evaluation (i.e. data custodians working together).

Embedded, prospective evaluation

The evaluation framework could be embedded into routine service delivery. This means the evaluation will be sustained over time through real-time data collection so that the data that are required for the process, outcome, and economic evaluation can be readily obtained at agreed time intervals (e.g. on intake to treatment, during treatment, at discharge from treatment and at some interval post-discharge), not just at one point-in-time.

Embedded evaluation could provide a mechanism to:

- Measure clients' perceived needs across multiple outcome domains;
- Allow service providers and policy experts to tailor a suite of services to more effectively meet the specific needs of their clients including post-discharge;
- Measure changes in clients' needs, and/or improvements in their key risk factors, as a consequence of the services they receive;
- Provide clients with feedback on their progress; and
- Measure the benefits of Aboriginal drug and alcohol residential rehabilitation services by aggregating individual clients' data.

Enhancing existing data collection systems

To support ongoing evaluation, this evaluation framework could be designed in the context of CQI to facilitate stronger monitoring capacity within the existing data collection systems used by services. For example, a small number of new measures could be added to existing data collections, or existing measures could be replaced by comparable measures that have more evidence for their accuracy, reliability or comprehension to clients. It is also likely that new or adapted measures could be developed. The over-arching principles of these measures, however, is that: i) they can be embedded into real-time tracking of outcomes; and ii) they minimise the reporting burden for clients and staff. Enhancing data systems could be achieved by using multiple data sets that incorporate 'best-evidence' measures including:

- *Self-reported client data collected at multiple time points* (e.g. at intake, during treatment, discharge from treatment and at some interval post-discharge).
- *Exploring the use of linked administrative datasets* to identify clients' use of services (with their consent at intake) using data from the Aboriginal drug and alcohol residential rehabilitation services and from other, relevant government agencies.
- Novel data collection to measure the impact of Aboriginal drug and alcohol residential rehabilitation services on family- or community-level outcomes.

Meaningful partnerships for evaluation

A co-ordinated, structured, multi-component evaluation of Aboriginal drug and alcohol residential rehabilitation services is an exciting, world-first opportunity to demonstrate the practical application of co-creation of new knowledge by evaluation experts working alongside service providers, government and key stakeholders. The approach outlined in this framework has the potential to deliver significant impact to clients of Aboriginal drug and alcohol residential rehabilitation services via dynamic, locally adaptive service, government and researcher partnerships.

The key principles of successful partnerships include:

- *Meaningful input from clients.* Through the enhancement of data systems, the evaluation will provide clients with the opportunity to identify issues of primary concern to them, and to ensure services can be appropriately tailored to their needs. For example, by collecting standardised, evidence-based data on clients' risk factors and their perceived needs, there is the opportunity to track progress in real-time, and for different services to tailor their programs to meet the specific needs of their own clients. Some of these data are already being collected and reported by services, so it's a question of streamlining and aligning current processes, rather than a whole new way of operating.
- *Co-creation of new knowledge*: Co-creation includes an organisational perspective, a creative approach to evaluation focused on improving human experience, and careful attention to governance and process[4].

Potential driver of cost associated with the evaluation framework

Ideally, an evaluation would be spread over three years. An advantage of the proposed evaluation framework is that it builds on existing data management systems and practices. Improvements may require: additional training to upskill staff; and, refinement of data collection systems to ensure efficiency of data collection and data extraction. New data items could be determined and embedded into existing data collections to minimise reporting burden to the clients and staff of services. Advice from experts about the appropriate procedures for using the statistical linkage key data would be required, but it could include implied consent, opt-out consent or routinely provided full-signed consent from clients. These linked data would allow analysis of the impact of clients over longer time frames. Other considerations include the different software structures of services; different training requirements of services and building flexibility into coding of data to allow for any changes in reporting requirements.

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