Demand Study for Alcohol Treatment Services in the Northern Territory

Report prepared for the Northern Territory Government

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Acronyms

AA	Alcoholics Anonymous
ABS	Australian Bureau of Statistics
ACCHO	Aboriginal Community Controlled Health Organisation (For brevity, we have referred to all the Aboriginal Community Controlled services - including Aboriginal Community Controlled Health Services and Aboriginal Medical Services - as ACCHOs)
AIHW	Australian Institute of Health and Welfare
AMSANT	Aboriginal Medical Services Alliance of the NT
AODTS- NMDS	Alcohol Other Drug Treatment – National Minimum Dataset
AADANT	Association for Alcohol and Other Drug Agencies Northern Territory
BDR	Banned Drinker Register
BIs	Brief Interventions (also referred to as SBIs: screening and BIs)
CAAC	Central Australian Aboriginal Congress
CAHS	Central Australia Health Service
DASPM	Drug and Alcohol Services Planning Model
Demand Study	The Demand Study of Alcohol Treatment Services in the Northern Territory
DoH	Department of Health (Northern Territory)
DoH (Cwlth)	Australian Government Department of Health
DPMP	Drug Policy Modelling Program, UNSW
DRG	Diagnostic Related Group
EOC	Episode of care
FASD	Fetal Alcohol Spectrum Disorder
NGO	Non-Government Organisation
NHMD – NMDS	National Hospital Morbidity Dataset – National Minimum Dataset
NHMRC	National Health and Medical Research Council
NPA	National Partnership Agreement
NTER Act	Northern Territory Emergency Response Act
OSR	Online Services Report (AIHW)
PATS	Patient Assistance Travel Scheme
PMC	Department of Prime Minister and Cabinet
Riley Review	Northern Territory Alcohol Policies and Legislation Review
RRS	Residential Rehabilitation Service
SUS	Sobering up shelters
TEHS	Top End Health Service

Executive Summary

The total social and economic costs and harms of alcohol consumption in the Northern Territory (NT) equates to $1.38 billion per year (Smith, Whetton, & d'Abbs, 2019). A comprehensive strategy is required, that includes alcohol treatment services to curb these costs. Typically, alcohol treatment services are defined as clinical interventions such as withdrawal, counselling, residential rehabilitation and pharmacotherapy. However, a broader definition would include a broader range of interventions, such as brief interventions in primary care, and social and emotional wellbeing services provided in the context of reducing alcohol consumption.

This report reflects a **Demand Study of Alcohol Treatment Services in the NT.** It is a mixed-methods research project examining the current NT alcohol treatment services system. It provides an assessment of how much treatment is currently provided; how much should be provided to meet current demand; and the challenges, barriers and opportunities associated with the planning and delivery of alcohol treatment services in the NT. It responds to multiple recommendations outlined in the *NT Alcohol Policies and Legislation Review* (Riley, 2017); and a subsequent Northern Territory Government (NTG) commitment to undertake the study in the *NT Alcohol Harm Minimisation Action Plan 2018-2019* (NTG 2018). The project is modelled on two recent national demand studies. The first was completed by DPMP and involved a review of treatment service systems across Australia (Ritter et al., 2014). The second was completed by the National Drug Research Institute (NDRI) and involved a qualitative analysis of treatment services involving Aboriginal and Torres Strait Islander people (Gray et al., 2014). The research design has been adapted to meet the unique population distribution, geography and service delivery context of the NT.

This study has been led jointly by Menzies School of Health Research and the Drug Policy Modelling Program (DPMP) at the University of New South Wales, and in partnership with the Aboriginal Medical Services Alliance of the NT (AMSANT).

There were **42,871 episodes/encounters for alcohol treatment in NT in 2016/17**, equating to 117 encounters every day across the NT. Aboriginal and Community Controlled Health Organisation (ACCHO) episodes represent the highest number of encounters (41%). The next highest is GP encounters (18%). Self-help also comprises a substantial amount of alcohol treatment in the NT (16%). Brief interventions provided as part of Sobering Up Shelters (SUS) represent the fourth highest number of episodes/encounters (13%). This is a signal that these settings are vital for picking up and referring people into more intensive alcohol treatment pathways.

The subsequent analysis of unmet demand shows that there is currently a **relatively small gap between met and unmet demand** for alcohol treatment in the NT. It also highlights some areas of additional focus. Key findings reveal:

- There is a large unmet demand for screening and brief intervention, in the order of 18,500 to 19,000 people
- The provision of alcohol treatment (as described in the DASPM care packages), estimates 6,735 people need to be treated in any one year, representing an unmet demand gap of around 2,000 people aged between 18 and 64 years.
- There are currently 158 residential rehabilitation beds provided in the NT for people with alcohol disorders. This is 15% below the modelled estimate of 187 residential rehabilitation beds.
- The level of clinical FTE predicted to meet the care as specified in DASPM is well above the current clinical FTE in the NT. This suggests that while the numbers of people being treated may be about right, the intensity and the level of care is not configured in a way that might best meet needs.
- More treatment is required to respond to mild and moderate needs.

The qualitative component provides a descriptive account of key stakeholder viewpoints from across the alcohol treatment services system. This includes a discussion about alcohol treatment types, including preventative health interventions, brief interventions, counselling, withdrawal services, day programs, residential rehabilitation services and continuing care. The perceived strengths and gaps of each are discussed. A descriptive account of the factors impacting demand; pathways into treatment; intersections with treatment referrals from the criminal justice system; a discussion about the implications of remoteness on treatment accessibility in the NT; and the need for targeted workforce development, are also included.

Key Messages

The key messages presented below have been aligned with the research objectives associated with this study.

Use of Alcohol Treatment Services

- The gap between the numbers of people currently receiving alcohol treatment in the NT, and the projected total demand for alcohol treatment is relatively small.
- There were 42,871 episodes/encounters for alcohol treatment in NT in 2016/17, with ACCHOs delivering 41% of treatment provision, including culturally focused social and emotional wellbeing services. GP encounters represent 18% of treatment; with self-help and SUS equating to 16% and 13% of treatment provision respectively. This shows that at least 88% of alcohol treatment service delivery is provided in settings outside of a specialist care system.
- The majority of treatment is in the form of non-residential counselling (58% episodes of care) followed by Brief Interventions (35% of all episodes of care).
- Residential Rehabilitation Services (RRS) equate to 3.2% of treatment episodes, and provide a more intensive treatment option for some clients with severe alcohol dependence; these clients usually also concurrently experiencing challenges with housing and/or other vulnerabilities.
- Of the 42,871 total episodes of care, it is estimated that between 6,400 and 7,997 individuals receive treatment in the NT in any one year for alcohol-related problems. This represents around 2.8% of the NT population. This equates to 5.3 episodes to 6.7 episodes per person per year.
- The vast majority of the 'specialist' alcohol treatment (provided by NTG, hospitals and specialist NGOs) is provided in Alice Springs (45%) and Darwin (42%).
- The experience of service providers suggests that RRS are being used as a means to secure temporary housing and accommodation for clients (particularly those clients exiting detention or seeking refuge from DFSV), rather than the primary focus of providing intensive treatment and therapeutic support. An increased investment in supported accommodation and public housing options, to complement alternative community-based alcohol treatment options, is worth further investigation.

Demand for Alcohol Treatment Services

- There is a large unmet need for screening and brief intervention, mostly delivered in non-specialist treatment settings by GPs, primary health care providers, ACCHOs and self-help groups. There is significant potential to address this unmet need by highlighting the potential of these non-specialist treatment settings to assist people with problematic alcohol use.
- Innovative and culturally responsive treatment approaches were frequently discussed by interviewees. The modelled projection of total demand for alcohol treatment in any one year (excluding screening and brief intervention) was between 5,723 and 7,745 people. This modelled projection of demand for treatment is consistent with the number of people currently receiving alcohol treatment in the NT.
- Strategies to build local workforce capacity and/or recruit and retain capable staff are important areas for investment. The modelled estimate from DASPM predicted 187 residential rehabilitation beds; there are currently 158 residential rehabilitation beds available in the NT for people with alcohol disorders. Further investigation of optimal bed usage is needed for future service planning.

Pathways into Treatment

- The most common pathway into treatment is self-referral combined with cross-referral between services.
- Motivation to begin treatment include influence by significant others or service providers, or due to legal matters.
- The Health Pathways project being implemented by NTPHN will provide useful information about clinical decision-making about AOD treatment referral pathways between acute and community-based treatment services, such as those offered by GPs and ACCHOs. This may guide the development of future treatment pathways; and may also help to identify under-utilised pathway options, with subsequent workforce development requirements.

Referrals from the Criminal Justice System

- According to the AODTS National Minimum Data Set (which represents 8% of alcohol treatment episodes), RRS is the most common referral pathway used by the criminal justice system, followed by assessments and counselling. Using a three-year average, there are 209 closed episodes of RRS per year resulting from community-based Corrections referrals; and 85 closed episodes of RRS per year resulting from lawyer referrals.
- The 'other' category for source referrals from Corrections (as defined through MHAOD ESPCS) represents the highest proportion of referrals across all treatment types. This is problematic for understanding exactly who is making a referral. Further investigation about who is represented as 'other' is warranted. This has implications for service planning.
- The establishment of a more robust alcohol treatment service response within (rather than external to) the Corrections systems is warranted. This is particularly important for sex and serious violent offenders, where there is a clear service gap.
- An exploration of ways to promote more cost-effective treatment options for clients transitioning into, and out of, the criminal justice system is warranted. This could include more intensive family support programs to prevent child removal, including targeted alcohol harm minimisation strategies; and restorative justice practices combined with community-based alcohol treatment programs.
- Integrated approaches between health, housing, and justice systems to support clients entering and exiting alcohol treatment services are important. There are some examples of intensive throughcare and case management support being provided, but are heavily reliant on an appropriate supply of accommodation.

Implications of Remoteness

- Hospital, withdrawal or RRS (located in larger towns) or culturally focused programs (located on outstations) reflect a small proportion of the current treatment service system in the NT.
- For those living remotely, the costs of travel to major urban centres can be a barrier to accessing these intensive models of treatment.
- Interview data indicates that:
    - Transport costs can be a barrier for, and in some instances there is inadequate funding to support, Fly-in Fly-Out/Drive-in Drive-Out alcohol treatment service delivery to remote and very remote locations.
    - Community-based treatment options are highly valued, particularly for clients with mild and moderate needs. This applies to both urban and remote contexts.
    - The use of technological options, such as tele-health, could be significantly enhanced to meet the needs of remote clients with alcohol-related health concerns.

AOD Treatment Service System Workforce Considerations

- The intergenerational nature of alcohol-related trauma in the NT, particularly among Aboriginal clients, requires both generalist and specialist skill development across the alcohol treatment services system.
- The NTPHN has recently commissioned an NT AOD Workforce Strategy to identify the needs of the specialist NGO AOD workforce. However, the workforce needs of specialist government services and non-specialists such as GPs, primary health care providers, ACCHOs and volunteers with self-help groups, must also be considered in order to meet the unmet demand for brief interventions and screening, particularly for people with mild and moderate alcohol concerns.

Improving Data Systems

- Further work is required to promote and track the use of AUDIT-C in primary health care settings, particularly among GPs. This may help to increase referrals between GPs and alcohol treatment services. It will also aid future analyses of alcohol treatment demand.
- Episodes of care by region are difficult to ascertain for ACCHOs through the Online Services Report (OSR). This is a significant limitation for regional health planning across the NT and highlights the importance of reviewing and improving the OSR data system.
- This study should be seen as the first comprehensive approximation of met and unmet demand for alcohol treatment services in the NT. It provides new data for treatment services planning, and has highlighted ways to improve future estimations.

Chapter 1: Background

Sarah Clifford, Donna Stephens, James A. Smith, and Peter d'Abbs

Alcohol consumption in the Northern Territory

Based on wholesale alcohol supply data, the estimated per capita consumption of alcohol in the NT is decreasing, from 13.4 litres per person in 2010 to 11.55 litres per person in 2017 (NT Department of Attorney-General and Justice, 2018a). It is worth noting that the amount of alcohol purchased only decreased marginally (2,734,608 litres reduced to 2,619,364) alongside an increase in population, with population estimates increasing from 204,098 to 226,737 across the same timeframe (NT Department of Attorney-General and Justice, 2018a). Despite this small decrease in consumption, a recent report indicated that the total social and economic costs and harms of alcohol consumption in the NT equates to $1.38 billion, with tangible costs of $701.3 million, and intangible costs of $685.5 million (Smith, Whetton, & d'Abbs, 2019). At an individual level the estimated total social cost of alcohol in 2015/16 was $7,577.94 per adult (excluding the costs of alcohol dependence to the dependent drinker and their family) (Smith, Whetton, & d'Abbs, 2019).

The NT has some of the highest rates of cancer mortality (AIHW, 2018a), the highest suicide rates (ABS, 2017), the highest rates of stillbirth (AIHW, 2018b), and the lowest life expectancy in Australia (ABS, 2018a). The crime rates in the NT also exceed the national average (ABS, 2019), as do the child removal rates (Children Family Community Australia, 2017). Excessive alcohol consumption has been identified as both a major contributing factor to these issues, and a common coping strategy for those who are affected by the trauma of these experiences (White & Gooda, 2017; Wild & Anderson, 2007). Alcohol is responsible for almost half of the deaths on NT roads (costing $57,626,900), between 4.5% and 11% of child abuse and neglect cases (costing $170,912,745), a significant health burden (costing $100,177,195) and 114.6 premature deaths per year. Of these deaths 55.7 were Aboriginal males, 51.6 were non-Aboriginal males, 18.9 were Aboriginal females, and 11.9 were non-Aboriginal females (Smith, Whetton, & d'Abbs, 2019). A key foundation for curbing alcohol related harm is a sufficiently resourced alcohol treatment services system (Cmwlth Department of Health, 2017, p. 19).

The social and demographic context of the NT

The social context in which alcohol is consumed is important. It is well recognised that individuals need to be at an appropriate place in the cycle of change to be receptive to alcohol treatment, but this is mediated by societal attitudes, norms and values regarding alcohol use. The cultural and peer group normalisation of harmful alcohol consumption is a risk factor for the development of alcohol use disorder (Connor, Haber & Hall 2016), and therefore a factor in driving demand.

The NT, as the least populous jurisdiction in Australia, is often considered to embody the Australian outback – that is, a 'frontier' aesthetic and rural identity (Ennis & Finlayson, 2015). This Western discourse, is exemplified by a celebration of "alcohol, crocodiles, sex and violence" (Ennis & Finlayson, 2015, p. 60), reinforcing an alcohol centric culture in the NT. Indeed, an NT Tourism campaign is currently promoting the NT as an opportunity to participate in "the world's longest pub crawl" from Darwin to Uluru. Yet, there is also a separate narrative that celebrates the longstanding history and culture of Aboriginal and Torres Strait Islander people in the NT. These two different lenses are a reflection of the complex social and demographic context of the NT. Of the 247,300 people living in the NT (estimated residential population June 2018: ABS 2018b), approximately 30% identify as Aboriginal and/or Torres Strait Islanders (ABS 2018c). Of this population, 78.3% live in remote and very remote locations[1] (ABS, 2018c). Noteworthy, is that being 'on country' is considered to be a protective factor from the harms of alcohol consumption (David et al., 2018).

[1] Categorisation of remoteness denoted by ABS remoteness structure (Australian Bureau of Statistics, 2016). Darwin is outer regional; Katherine and Alice Springs are remote; Nhulunbuy, Tennant Creek and all other areas are very remote.

Historically studies have indicated that men drink more regularly and consume larger quantities than women (Wilsnack et al. 2009). This could partially explain the higher levels of alcohol consumption in the NT, as there is a higher proportion of males in the NT (ABS, 2018a). However, recent studies show this sex difference in consumption is reducing (Slade et al., 2016; Yusuf & Leeder, 2015). The high numbers of military and mining employees in the NT is another contributing factor (Taylor & Winter, 2012; Taylor & Carson, 2014), with both industries exhibiting workplace cultures that have historically glorified alcohol consumption (Ames & Cunradi, 2004; Iversen et al., 2007; Tynan et al., 2017), despite workplace health and safety regulations.

The population distribution of the NT, and associated concepts of rurality, are important to understand. There have been associations noted between alcohol consumption and 'rural values' of mateship, hardiness and self-reliance. This is compounded by local sports or community clubs (and the respective sale of alcohol) often being the only social venue in small towns (National Rural Health Alliance, 2014). The prevalence of risky alcohol consumption in both outer regional and remote/very remote areas is substantially higher than urban areas Australia wide. In both outer regional NT[2] and very remote NT, 29% of people aged 14 or older drink alcohol at levels that place them at harm over a lifetime. This is the second highest proportion across Australia (with remote Western Australia sitting at 36%) (AIHW, 2019). Similar to lifetime risk, outer regional, remote and very remote areas of WA and NT have the highest proportions of people who binge drink.[3] This evidence suggests that the demand for alcohol treatment should be higher in the NT, comparative to other jurisdictions.

Across Australia, Aboriginal and Torres Strait Islander people are more likely to abstain from alcohol than their non-Aboriginal counterparts (31% compared with 23%), while the proportion who engage in lifetime risky drinking is similar in both cohorts (9.8% Indigenous compared with 9.7% non-Indigenous; age-standardised) (AIHW, 2018b). Aboriginal people living in regional and remote regions are significantly more likely to exceed their lifetime risk guideline than Aboriginal people living in urban areas (AIHW, 2019).

The National Drug Strategy Household Survey (NDSHS) data for 2016, shows that the rate of lifetime risky drinking in the NT is 1.62 times higher than the national average, and single occasion risky drinking in the NT is 1.66 times higher than the national average (NDSHS, 2016).

Alcohol use disorder is the clinical definition of alcohol abuse and dependence. It is a single disorder, with difference classifications based on severity (American Psychiatric Association, 2013). There is a strong correlation between trauma and alcohol use disorders (Substance Abuse and Mental Health Services Administration, 2014). Aboriginal Australians experience some of the highest level of trauma in the world, with a history of massacres, dispossession and attempted eradication, as well as continuing policies of systematic oppression (Krieg, 2009). The modern social and cultural context regarding alcohol consumption in Aboriginal communities is complex, and while this report recognises that Aboriginal language groups and communities are not homogeneous, there are certainly some similarities which affect alcohol consumption and harm in many communities, particularly in remote NT. This may include kinship structures, which can impact people's ability to abstain if requested by certain family members; and 'humbug', a form of demand sharing. 'Humbug' and family pressure has also been identified as a preceptor and perpetuating factor for mental illness and substance use (Nagel & Thompson, 2010). Aboriginal Territorians may experience a more detrimental effect from alcohol due to the historical (and continued) inequities they have faced and should be viewed as a priority group when considering treatment services.

[2] Categorisation of remoteness denoted by ABS remoteness structure (Australian Bureau of Statistics, 2016).
[3] Defined as more than 4 standard drinks on one occasion (National Health and Medical Research Council, 2009).

Alcohol treatment

Defining the scope and what is meant by "alcohol treatment" is a key consideration. There is a narrow definition of alcohol treatment that could be used – clinical interventions that are aimed at changing alcohol consumption. This definition generally considers withdrawal, counselling, residential rehabilitation and pharmacotherapy (such as naltrexone) as the key alcohol treatments. A broader definition includes clinical, social-welfare and other services which aim to both reduce alcohol consumption and support the person in a holistic, person-centred way. This definition includes brief interventions in primary care, and social and emotional wellbeing services provided in the context of reducing alcohol consumption.

Understanding the links between national and NT policy contexts relating to alcohol treatment

The *National Alcohol Strategy 2017–2026: Consultation Draft* (Cmwlth Department of Health, 2017) was released for public consultation in early 2018. It has three pillars: demand reduction, supply reduction and harm reduction. The pillar relating to demand reduction makes numerous references to treatment. This includes the overarching goal of treatment as "supporting people to recover from dependence through evidence- informed treatment"; with a priority action of: "enhance access to evidence informed, effective and affordable treatment". This priority action is accompanied by the following evidence-informed approaches:

- Increasing access to pharmacotherapy demonstrated to reduce drug dependence and reduce the health, social and economic harms to individuals and the community arising from unsanctioned opioid use.
- Outpatient, inpatient and community based treatment services, and post treatment support programs to reduce relapse.
- Assessment and brief intervention by GPs, nurses, allied health professionals and in other settings (including justice).
- Subsidised medications.

There is also a listing of alcohol treatment approaches in the appendix, including:

- Outpatient, inpatient and community based treatment services
- Medication assisted treatment for alcohol dependence
- Family-support programs that can positively impact on patterns of drug use (including intergenerational patterns)
- Post treatment support programs to reduce relapse

In recent times, the Australian Government has developed a range of other intersecting strategies that relate to alcohol treatment. For example, the *National Alcohol and Other Drug Workforce Development Strategy 2015-2018* (Intergovernmental Committee on Drugs, 2015) includes key outcome areas relating to:

- Understanding the specialist AOD prevention and treatment workforce
- Creating a sustainable specialist AOD prevention and treatment workforce by addressing recruitment and retention issues

It also discussed broader issues of high relevance to the NT alcohol treatment services sector, including the need to:

- Improve child and family sensitive practice
- Increase the capacity of the workforce to respond appropriately to AOD issues among Aboriginal and Torres Strait Islander peoples

- Enhance the capacity of generalist health, community, welfare and support services workers to prevent and reduce AOD harm
- Continue to develop the criminal justice workforce to prevent and reduce AOD harm

Similarly, the *National Fetal Alcohol Spectrum Disorder Strategic Action Plan 2018-2028* emphasises the importance of the "delivery of specialist drug and alcohol treatment by appropriate assessment and treatment services" (Cmwlth Department of Health, 2018, p.13). Whilst the action plan has a strong prevention focus, treatment services to address FASD are encompassed in the section relating to 'support and management', which specifically advocates for evidence-based social, behavioural and pharmacological interventions. The action plan also outlines the importance of investing efforts priority populations such as Aboriginal and Torres Strait Islander peoples, and people involved in the justice system.

Importantly, the Australian Government has recently commissioned the development of a National Treatment Framework. This was being drafted at the time of undertaking this study, and will be of high relevance to the outcomes of this study once released. The NT Government (NTG) has shown a strong commitment to alcohol policy development in response to the *NT Alcohol Policies and Legislation Review* released in October 2017 (Riley, 2017; Smith et al 2019). This has led to the development and implementation of the *NT Alcohol Harm Minimisation Action Plan 2018-2019*; and *Addressing Fetal Alcohol Spectrum Disorder (FASD) in the Northern Territory 2018-2024* (NT Department of Health, 2018a), which resulted in a national award for excellence in alcohol policy development and implementation by the National Alliance of Action on Alcohol. Both of these strategies acknowledge the importance of alcohol treatment to improve population health and to curb the social and economic harms of alcohol in the NT.

At an operational level, the NTG commissions alcohol treatment services. This includes purchasing a range of services through Top End Health Service, Central Australia Health Service, Non-Government Organisations (NGOs) and Aboriginal Community Controlled Health Organisations (ACCHOs). This includes 10 Residential Rehabilitation Services (RRS); 9 services that provide withdrawal; 14 counselling and community-based support services; and 5 Sobering Up Shelters. The National Partnership Agreement on NT Remote Aboriginal Investment (NPA NTRAI) has also provided capacity to fund new and innovative alcohol treatment services. This has included the development of Individual Support Programmes in Katherine and Alice Springs; and community-based Aftercare Treatment Services for up to six months post discharge. These services are delivered through ACCHOs in Darwin, Katherine and Alice Springs for clients all over the NT. The NPA NTRAI has also supported the Remote Alcohol and Other Drugs Workforce (RAODW) program, an Aboriginal front line workforce, who provide individual and family AOD interventions and support, alongside a focus on community development. Where possible the roles are held by local community members. The service is currently delivered in 40 communities across the NT, usually through primary health care centres/clinics.

In addition to the NTG investments outlined above, alcohol treatment services often also receive funding for specific programs though the Department of Prime Minister and Cabinet, and the NT Primary Health Network (NTPHN). This includes a substantial contribution to Social and Emotional Wellbeing (SEWB) services delivered by ACCHOs across the NT. The NTPHN also fund manages the Better Access program, and other initiatives targeted at GP intervention and intersections with more acute and intensive services.

The NT alcohol treatment services system also intersects with a range of other service systems both within and external to the broader health system. These span government, non-government, ACCHO and private service setting in mental health, child protection, police, justice, education, and housing sectors. A common thread in public policy responses relating to these service systems is the need for

action on the social determinants of health. This focus is reflected in the following NTG policy responses:

- *Connected Safe, Thriving and: Generational Change for Children and Families 2018-2023* (NTG 2018a).
- *Domestic, Family & Sexual Violence Reduction Framework 2018-2028* (NTG 2018a)
- *Starting Early for a Better Future – Early Childhood Development in the NT 2018-2028* (NTG 2018c).
- *The Best Opportunities in Life: NT Child and Adolescent Health and Wellbeing Strategic Plan 2018-2028* (NT Department of Health, 2018b).
- *NT Chronic Conditions Prevention & Management Strategy 2010-2020* (NT Department of Health and Families 2009).
- *NT Health Promotion Framework* (NT Department of Health and Families 2013).

Introducing the Demand Study of Alcohol Treatment Services in the NT

The Demand Study of Alcohol Treatment Services in the Northern Territory involves an assessment of how much treatment is currently provided; how much should be provided to meet current demand; and the challenges, barriers and opportunities associated with the planning and delivery of alcohol treatment services in the NT. It forms part of a suite of alcohol-related harm minimisation actions arising from the Riley Review (Riley, 2017). The review outlined a number of recommendations relating to alcohol treatment services, including:

- The Department of the Chief Minister co-ordinate the development of a demand study for alcohol treatment services in the NT. The study should draw on ABS data, the Chief Health Officer's report, the Criminal Justice data collection, the Menzies School of Health Research data, emergency department presentations, hospital admissions, data from the AMSANT and other relevant reports that have been presented to the review. The demand study should take into account the need to provide services locally where it is clinically safe and effective to do so. (4.1.3, p. 23)
- The demand study should inform a multi-agency alcohol services plan which would meet the demand for alcohol treatment across the range of services types. This services plan should be developed by the Department of Chief Minister and should include a workforce plan and an asset plan. (4.1.4, p. 23)
- In line with recommendation 4.1.3, p. 23, the demand study includes a needs assessment for family rehabilitation facilities. (3.7.18, p. 21)
- Where appropriate, external expertise be sought to complete the demand study, mapping of services and gap analysis and evaluation of services (4.1.6, p 23)

In response, the Northern Territory Government (NTG) Department of Health (DoH) commissioned Menzies School of Health Research (Menzies), in partnership with the Drug Policy Modelling Program (DPMP) at the Social Policy Research Centre at the University of New South Wales to undertake this research. This study is modelled on two recent national demand studies. The first was completed by DPMP and involved a review of treatment service systems across Australia (Ritter et al., 2014). The second was completed by the National Drug Research Institute (NDRI) and involved a qualitative analysis of treatment services involving Aboriginal and Torres Strait Islander people (Dennis Gray et al., 2014). The research design has been adapted to meet the unique population distribution, geography and service delivery context of the NT. It also builds on a review of AOD services (AADANT 2017a); and service mapping of youth AOD services across the NT (AADANT 2017b), both conducted by the Association of Alcohol and Other Drug Agencies NT.

Objectives

The objectives of this study included:

1. To clearly define what is meant by alcohol treatment services in the NT.
2. To identify, quantify and describe met and unmet demand for alcohol treatment services in the NT.
3. To identify the main pathways into treatment for people in the NT.
4. To assess the impact of treatment referrals from the criminal justice system on demand for and accessibility of treatment services for self-referrals and other voluntary referrals.
5. To assess the impact of remoteness and dispersed settlement patterns on treatment accessibility in the NT.
6. To identify the challenges, opportunities and potential solutions associated with planning, delivering and evaluating effective and economically viable, and contextually and culturally responsive, alcohol treatment services in the NT.
7. To inform the development of an alcohol treatment services plan.

It is beyond the scope of this study to discuss the effectiveness and efficacy of individual alcohol treatment programs provided by various services across the NT.

Structure to the report

Chapter 2 provides a description of the methods and results associated with quantifying the amount and nature of alcohol treatment currently provided in the NT. Chapter 3 describes the method and results for assessing the extent to which current service provision meets demand in terms of the numbers of people being treated and the number of beds and services. Chapter 4 qualitatively explores the challenges facing alcohol treatment services from the perspective of people working across the sector. Chapter 5 summarises the strengths and gaps in alcohol treatment service provision, and concludes by identifying key areas for rapid improvement.

Chapter 2: Quantifying and describing alcohol treatment currently provided in the NT

Alison Ritter and Richard Mellor

Aims: quantifying and describing current alcohol treatment

This component of the "Demand Study for Alcohol Treatment Services in the Northern Territory" aimed to establish the extent of alcohol treatment currently being provided in the NT (i.e. met demand).

The research questions which informed this component were:

- How much treatment is provided?
- To whom? Where? And of what type?
- For how many people?

Alcohol treatment is defined in Chapter 1. Two workshops were held in July 2018 with key stakeholders (including government, service providers and sector representatives) to identify and define 'alcohol treatment'. These workshops concluded that 'alcohol treatment' needed to be broadly defined for the purposes of this project, and that treatment provided in multiple settings and of varying types and intensity (ranging from brief interventions in primary care, and Sobering Up Shelters (SUS) through to long-term residential rehabilitation) should be captured if we were to establish the full extent of treatment provision ('met demand').

When we define alcohol treatment more broadly (and consistent with a person-centred care and holistic approach), we understand the number, type and spread of treatment differently. It also means we need to collect data across multiple databases, not just those that collect the narrow definition of alcohol treatment.

There has not previously been an attempt to comprehensively measure current alcohol treatment being provided in the NT. We set out to explore, for the first time, what alcohol treatment looks like when a broad definition is used, and when we look beyond the "specialist" alcohol treatment as recorded in the Alcohol and Other Drug Treatment Services-National Minimum Data Set (AODTS-NMDS).

Methods: quantifying and describing current alcohol treatment

There is not one single database that contains information about alcohol treatment in the NT. This is because the settings, service providers, and types of treatment are diverse, and report into multiple different databases. For example, some treatment is provided in hospital settings (which uses the National Hospital Morbidity Database), some in Aboriginal Community Controlled Health Organisations (ACCHOs) (which report through the Online Services Report, OSR) and some in dedicated AOD treatment services (which report into the AODTS-NMDS). In some cases, such as in GP settings, there is no standardised data collection.

In this study, we used the following data sources (Table 1) to obtain a comprehensive picture of all alcohol treatment in the NT.

Table 1: Data sources used to derive current met demand for alcohol treatment in the NT

Treatment	Data source	Type of data
Treatment provided by government funded specialist AOD agencies: NTG-run services and NGO services. Some of the specialist NGO AOD services are ACCHOs.	Alcohol and Other Drug Treatment Services – National Minimum Data Set (AODTS-NMDS)	Number of people and closed treatment episodes for alcohol.
Treatment provided by hospitals	National Hospital Morbidity Data-NMDS	Number of separations by DRG code: V60A Alcohol Intoxication and Withdrawal with complications V60B Alcohol Intoxication and Withdrawal without complications V62A Alcohol Use and Dependence V62B Treatment for alcohol disorders, same day, See Attachment 2
Treatment provided in government run community mental health care agencies	Community Mental Health Care National Mental Health Care National Minimum Data Set (CMHC-NMDS).	Number of contacts by ICD code: F10 (mental and behavioural disorders due to alcohol).
Sobering Up Shelters	Sobering Up Shelter System	Number of people to each shelter, who were provided with a brief intervention, as recorded in the database. (This represented 69% of all episodes of care)
Treatment provided by organisations funded by the federal government, in the holistic (SEWB) setting "Data collected from organisations funded by the AG Department of Health and/or the Department of Prime Minister and Cabinet to provide one or more of the following health services to Aboriginal and Torres Strait Islander people: primary health care; maternal and child health care; social and emotional wellbeing services; and substance-use services" (OSR dataset). The majority of the agencies in this collection are ACCHOs.	Online Services report (OSR). Data provided by AIHW; 7 residential services and 12 non-residential services in the NT	Number of people receiving "substance use treatment" as coded by agencies in the OSR (Note: only provides 'clients' not episodes). Note: the OSR data provided by AIHW included all substances, no separation for alcohol. We used the AODTS-NMDS NT published data (2016/17) to identify the proportion with principle drug of concern as alcohol, which was 55%, so we reduce the OSR numbers by 45% to take out substances other than alcohol, with the assumption that the ratio of alcohol to other substances in the AODTS-NMDS is not dissimilar in the OSR. While the data are provided as 'clients' not EOC, the 2015-2016 Key Results summary report published by AIHW provided some national data on EOC, which was used to approximate EOC in the NT.
Treatment provided by GPs	Published research, assumptions and own calculations	Number of encounters for alcohol use disorders. See Attachment 3

Drink drive programs (educational intervention)	Data provided by the four NT providers	Number of people undertaking "Back on Track" per annum
Self-help AA SMART Recovery	Estimate # of attendees by # of meetings and average size of meetings	Number of attendances. See Attachment 4.

Key data concepts

Three types of data are used for this analysis of met demand for alcohol treatment in the NT:

1. Episode of care (EOC) – this is a record of the amount of care received. The definition of an EOC differs between the datasets. For example, the AODTS-NMDS definition of an EOC is a closed course of treatment (that may involve many contacts). For the GP data, it is a single 'occasion of service'. The episodes of care (EOC) data can inform us about the amount of treatment being provided, and the types of treatment or care that is being delivered.

2. Person – this is a record of the number of people within each dataset who receive care. It eliminates double counting of the same person within each dataset, but does not eliminate double counting across (or between) datasets. The person data can inform demographic information (including the age of treatment recipients, the Aboriginal and Torres Strait Islander status).

3. Unique individuals - The person data describes the number of people receiving care within each dataset, but double counts between datasets. The number of 'unique individuals' is calculated to represent the number of people who uniquely receive care in the NT in any one year, irrespective of where that care is provided or how many times it is provided across the course of a year.

Excluded potential alcohol treatment

Not every source of alcohol treatment was able to be numerated within this project. Sources of alcohol treatment that were not able to be included were:

- Prison-based alcohol treatment
- Health programs such as Better Access and ATAPs
- Treatment provided through the Department of Veterans Affairs
- Alcohol treatment provided through private facilities

See Attachment 5 for more details.

Despite these various exclusions and lack of data, there is confidence that the vast majority of alcohol treatment has been recorded in this project. Clients who may be in diversion programs with the treatment provided by NTG and NGOs are included; all formal alcohol treatment in hospitals, in ACCHOs, in NTG and NGO services and across drink driver education programs and SUS and community mental health are included, as is an estimate for self-help.

So this work should be seen as the first approximation, providing new data but also the opportunity for future work to improve on the estimates herein.

Ethics

The project was approved by the Human Research Ethics Committee (HREC) of the Northern Territory Department of Health and Menzies School of Health Research (2018-3223), Central Australian Human

Research Ethics Committee (CAHREC) (CA-18-3234) and granted reciprocal ethics by UNSW Human Research Ethics Committee (2018-3223).

Results: quantifying and describing current alcohol treatment

The results proceed as follows: the EOC data, the person data, and then the unique individual's data.

Episodes of care

Each database collects and defines an episode of care differently. These are variously referred to as episodes of care, encounters or occasions of service. For the AODTS-NMDS, an episode of care is a closed course of treatment (which may be 1 day, 1 week or 3 months of care). In the SUS database, an episode of care is an admission to the SUS. In GP data (usually referred to as encounters), it is a single session appointment with a GP. For these reasons, caution must be used in interpreting the EOC data across multiple datasets.

Note: All data refer to 2016/17 because this was the year for which all datasets could provide data (for example, the OSR data was not available for 2017/18).

Table 2 provides the count of the episodes of care, across multiple treatment settings and data types. Table 3 provides the count of the encounters across multiple treatment settings and data types.

Table 2: Alcohol treatment in the NT 2016/17 episodes of care

	Episodes of care	Total
Treatment provided by NTG government specialist AOD services ("NTG specialist AOD")	388	388
Treatment provided by specialist NGOs under NTG funding ("NGO specialist AOD")[1]	2811	2811
Treatment provided by hospitals ("Hospitals")	1409	1409
Treatment provided within Community MH ("Community MH")[2]	94	94
Treatment provided by Aboriginal and Torres Strait Islander organisations under federal govt funding (OSR data). Note: OSR data for 2016/17 provided for clients not episodes, but conversion from AIHW 2015/16 report. ("ACCHOs")[1]	17,377	17,377
Drink Driver education programs ("Back on Track")	625	625

Table 3: Alcohol treatment in the NT 2016/17 encounters

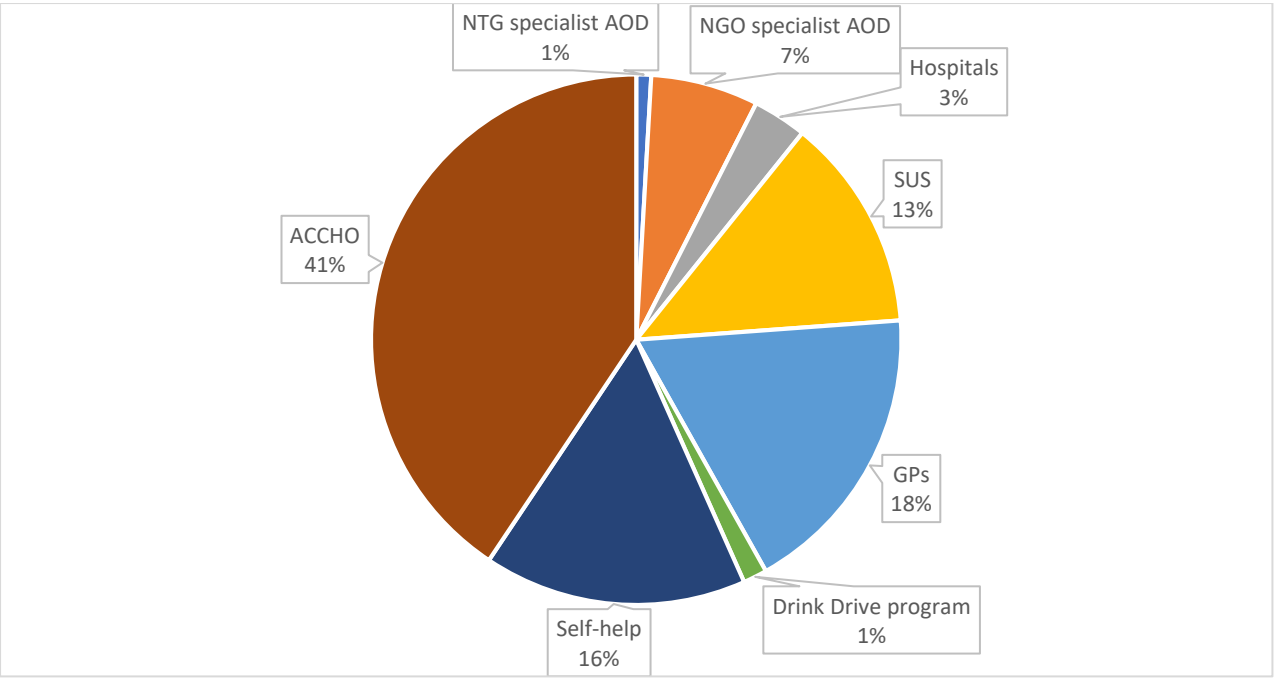
	Encounters	Total
Sobering Up Shelters (where BI provided)	5589	5589
Treatment provided by GPs	7714	7,714
Self-help, unfunded	6864	6,864

Total number of episodes or care and encounters in the NT 2016/17 = 42,871[3]

Notes:

1. While labelled "NGO specialist AOD" some of these services may be ACCHOs. But the label "ACCHOs" has been used here for the federal government funded services as collected within the OSR, and representing the SEWB programs.
2. The Community MH data are clients, not episodes, so this is an under-count of episodes/encounters
3. The 43,532 episodes of care includes a conversion of the OSR data from clients to EOC, based on the AIHW 2015/16 report which noted that clients of OSR-reporting non-residential services had an average number of episodes of 5.6.

Figure 1: Alcohol treatment in the NT: Proportions of care by provider types (episodes of care)



Key findings: episodes of care/ encounters

There were 42,871 episodes/encounters for alcohol treatment in NT in 2016/17. This equates to about 117 encounters every day across the NT. The AODTS-NMDS (only) accounts for 8% of all episodes/occasions of service. This is a salutary reminder that much alcohol treatment and care is provided in settings other than within the specialist care system.

ACCHO episodes represent the highest number of encounters (41%; 17,377).

The next highest is GP encounters (18%; 7,714). This is a signal that these settings may be vital for picking up and referring people into treatment. It should be noted though, that the typical GP encounter is 15 minutes, whereas the treatment provided by specialist AOD (NTG and NGO and ACCHOs) record "episodes" not encounters and an episode may occur over many weeks of intervention.

Self-help provides a substantial amount of alcohol treatment (and third highest in terms of episodes/encounters: 16%) in the NT.

Brief interventions provided as part of the SUS are the fourth highest number of episodes/encounters (13%). This suggests ensuring that every opportunity for intervention and referral is made wherever possible in this setting.

Treatment types received

Across the 42,871 episodes/encounters, what kinds of treatments were received? We applied six categories of treatment type (in order to match with the later, DASPM total demand estimation):

- Brief intervention; Assessment only; Information and Education
- Withdrawal inpatient
- Withdrawal unspecified
- Residential rehabilitation
- Counselling (outpatient)
- Other

Table 4: Six categories for treatment types, and data source inclusions

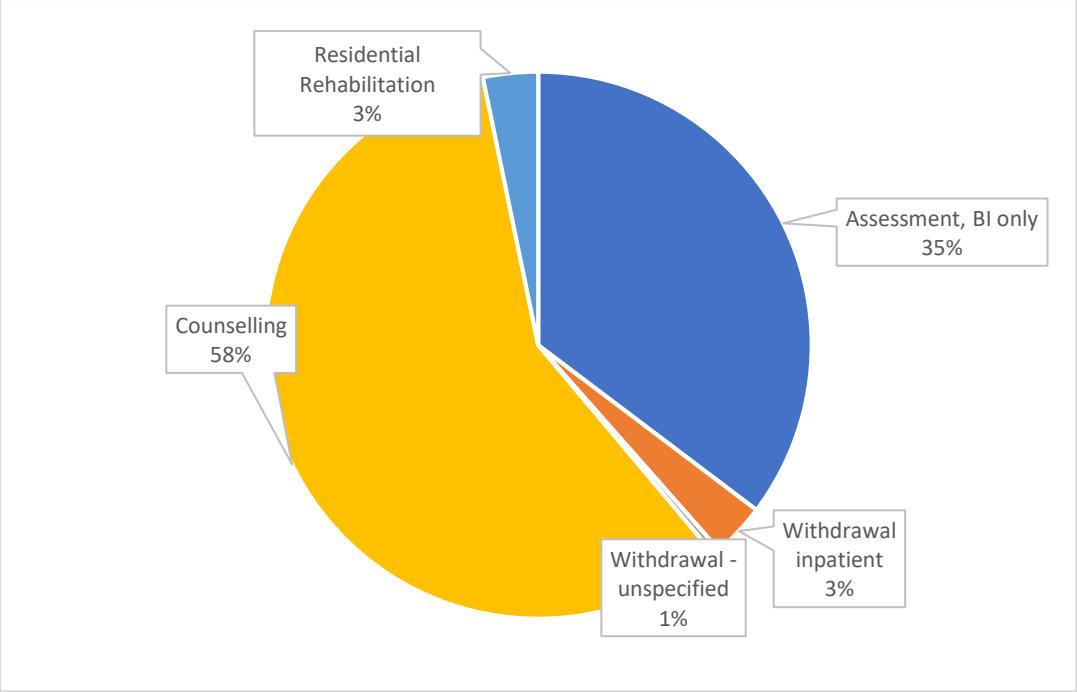
Treatment type	Notes
Brief intervention (BI); Assessment only; Information and Education	This included SUS intervention where BI delivered, all GP interventions, the drink driver education programs plus the AODTS-NMDS coded as assessment only; Information and Education only
Withdrawal inpatient	Where specified as inpatient (e.g. hospital data)
Withdrawal unspecified (may be residential or outpatient)	All other withdrawal unspecified, this included AODTS NGO and NTG services
Residential rehabilitation	All residential rehabilitative services
Counselling (outpatient)	AODTS-NMDS support and case management only; AODTS-NMDS Counselling; OSR non-residential substance use services; Self-help
Other	All other treatment types not classified above (and to use as a cross check that analysis is accurate).

Applying these treatment types across the eight different data sources, resulted in the following distributions (Table 5):

Table 5: Treatment types received, by episodes of care (2016/17)

	NTG	NGO	Hospital	CMH	SUS	ACCHO	GP	DD	Self-help	TOTAL EOC	%
Assessment, brief intervention only	164	1004			5,589		7714	625		15096	35.2%
Withdrawal inpatient			1368							1368	3.2%
Withdrawal - unspecified	84	84								168	0.4%
Counselling	114	812		94		16,869			6,864	24753	57.7%
Residential rehab	19	861				508				1388	3.2%
Other	7	50	41							98	0.2%
	388	2811	1409	94	5589	17,377	7714	625	6864	29015	

Figure 2: Alcohol treatment in the NT: proportions of treatment types (by episodes of care)



The majority of alcohol intervention in the NT is Counselling (58%) This counselling is largely provided through ACCHOs (and as reported via the OSR administrative data) and is likely to be in the context of holistic and social and emotional wellbeing care, and tailored to the client's needs at that point in time, delivered by a trained AOD worker. The AIHW have advised that "the definition of 'non-residential' service/client … refers to not only the treatment services but also follow-ups, aftercare of residential services, assessment and education, etc" (email 15/1/19).

The second highest type of treatment being received (by episode) is "Assessment and BI only".

If we concentrate only on those services that are funded by governments, and hence exclude self-help, the percentages reflecting the treatment mix are as follows (Table 6):

Table 6: Summary of treatment types by episodes of care (excluding self-help)

	TOTAL EOC	%
Assessment, brief intervention only	14471	42%
Withdrawal inpatient	1368	4%
Withdrawal – unspecified	168	0%
Counselling	3938.35	49%
Residential rehab	1388.2	4%

This confirms that the majority of episodes are focused on counselling (49%), followed by assessment, BI only (42%).

As noted earlier however, this analysis of types of treatment by episodes/encounters conflates a single encounter (e.g. 15-minute brief intervention) with a residential rehabilitation stay that may last some weeks.

Person data

While episodes of care/encounters provide an assessment of the volume of alcohol treatment being provided in the NT, it does not reflect the number of people receiving this treatment, nor their

demographic characteristics. Most people receiving alcohol treatment will be in receipt of multiple episodes of care in a year, or have many repeat presentations to a SUS or an ACCHO.

Table 7 provides notes on the methods for ensuring the count of persons is unique to that dataset. (Note: this is not yet unique individuals, i.e. the same individual may be counted in the NGO specialist AOD and in ACCHO or GP treatment, or SUS i.e. between different datasets. At this point we are only removing double counting within each dataset, where there is not a unique ID for each individual).

The methods for converting from episodes of care to persons is given in the below table.

Table 7: Converting from episodes/encounters data to # of individuals (within each dataset).	Notes on methods
NTG specialist AOD	This dataset uses a unique identifier (SLK key) so the number does not require any conversion
NGO specialist AOD	This dataset uses a unique identifier (SLK key) so the number does not require any conversion
Hospitals	DRG codes were used, so the same individual could appear more than once in the hospital data. We requested "unique individuals' NHMD data, so we assume a unique identifier was applied, and that this number therefore requires no conversion.
Community Mental Health	These data were clients, so the number does not require any conversion
SUS	The data provided were for "unique persons", so no conversion is required.
ACCHO	A unique identifier is not used with these data (provided as number of clients). However the explanatory notes to the national spreadsheets, state "Clients are counted once only, regardless of how many times they were seen". Therefore a conversion is not required.
GPs	On average, Australians visit a GP five times per year (Harris & Lloyd, 2008, p. 5). Is it reasonable to use the Australian average or is there reason to believe that people with alcohol problems see their GPs more or less frequently than the statistical average? Proudfoot & Teesson (2009) examined this question in their analysis of the *2007 National Survey of Mental Health and Well-Being* and found that those with alcohol dependence were no more likely to see a GP than those without, except for those with comorbidity. (See Table 1 and Table 4: Proudfoot & Teesson 2009). While it is likely that the clients here have comorbidities, there is no further information on a different average number of visits per annum, so we have retained the average of 5 visits per annum.
Drink driver education programs	It is highly unlikely that the same individual will undergo more than one drink driver education course in a year, especially given the cost associated with undertaking these courses. We have assumed therefore that there is no double-counting within those in receipt of drink driver education programs.
Self-help	See Attachment 4. Assumptions were used to convert from the number of episodes of AA attendance, to the number of individuals: 6 people in 2 meetings per week = 6x2x52 = 624

The results are shown in Table 8.

Table 8: Numbers of individuals receiving alcohol treatment in NT (2016/17), within each dataset

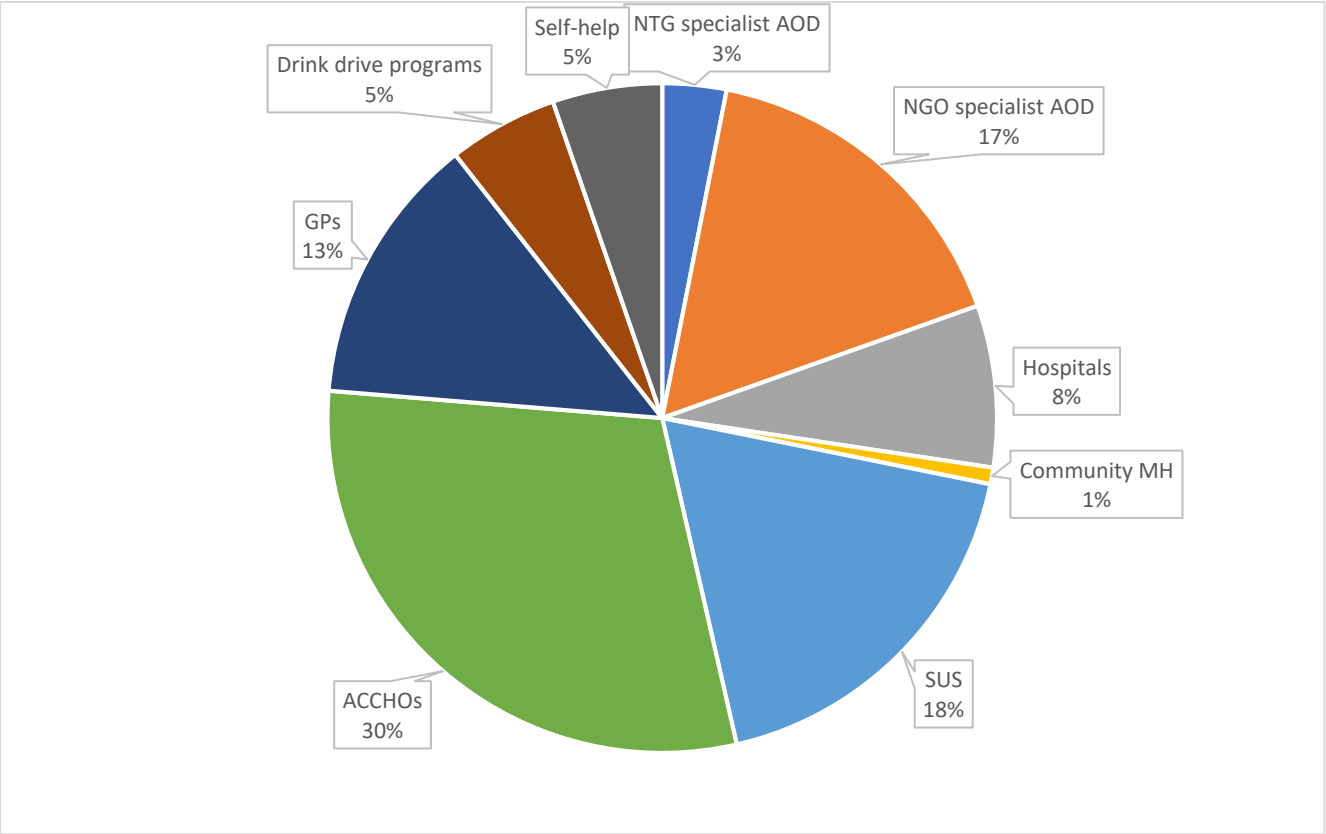
	Aboriginal	Non-Aboriginal	Unknown	Total
NTG specialist AOD	114	245	5	364
NGO specialist AOD	1540	400	0	1,940
Hospitals[1]	754	160	7	921
Community MH	56	37	1	94
SUS[2]	2122	29		2,151
ACCHOs - Residential	487	20	2	508
ACCHOs - Non-residential	2818	193	2	3,012
GPs			1543	1,543
Drink drive programs			625	625
Self-help			624	624
				11,782

Notes:
1. The NHMD for count of persons did not include the DRG codes, and in the DRG codes used for episodes, opioid dependence (representing 2 episodes of care) were mistakenly included. We have now excluded them but because the DRGs were not listed for the count of person we cannot confirm they only used alcohol DRGs. Likely very minor error if at all.
2. The person counts within the SUS data did not specify whether a BI was provided or not, but the person data did provide Aboriginal and Torres Strait Islander status. So a hand calculation was made of the proportion of all EOC where a BI was provided (69%) and then that 69% was applied to the person data.

Of those where Aboriginal and Torres Strait Islander status is known (i.e. excluding GP encounters, drink drive education program attendees and self-help, see Table 8) this represents 88% of persons receiving alcohol treatment in the NT.

The largest number of people receive care in the ACCHOs services (30%: 3,521 people in total, and the majority in non-residential care). The second largest number of people are presenting through the Sobering Up Shelters (18%) and almost the same number of persons in NGO specialist AOD (17%).

Figure 3: Persons receiving alcohol treatment: proportions by provider type



Examination of the age ranges of people receiving alcohol treatment showed that the vast majority of people receiving alcohol treatment are aged between 18 and 64 years (87%), with 12% for people under 18 years of age (the vast majority of those clients under 18 years of age come from AG-funded ACCHOs) and 1% for people over the age of 64 (See Table 9).

Table 9: Age ranges for persons receiving care (where available, selected datasets)

AGE	<18	18-64	>64	Total
NTG specialist AOD	2	344	18	364
NGO specialist AOD	191	1729	20	1940
Treatment provided by hospitals (DRG)	16	879	26	921
Community MH (ICD code: F10 block)	0	91	3	94
SUS[1]	5	3068	44	3117
ACCHOs	970	2551		3,521
TOTAL	1184	8662	111	
%	12%	87%	1%	

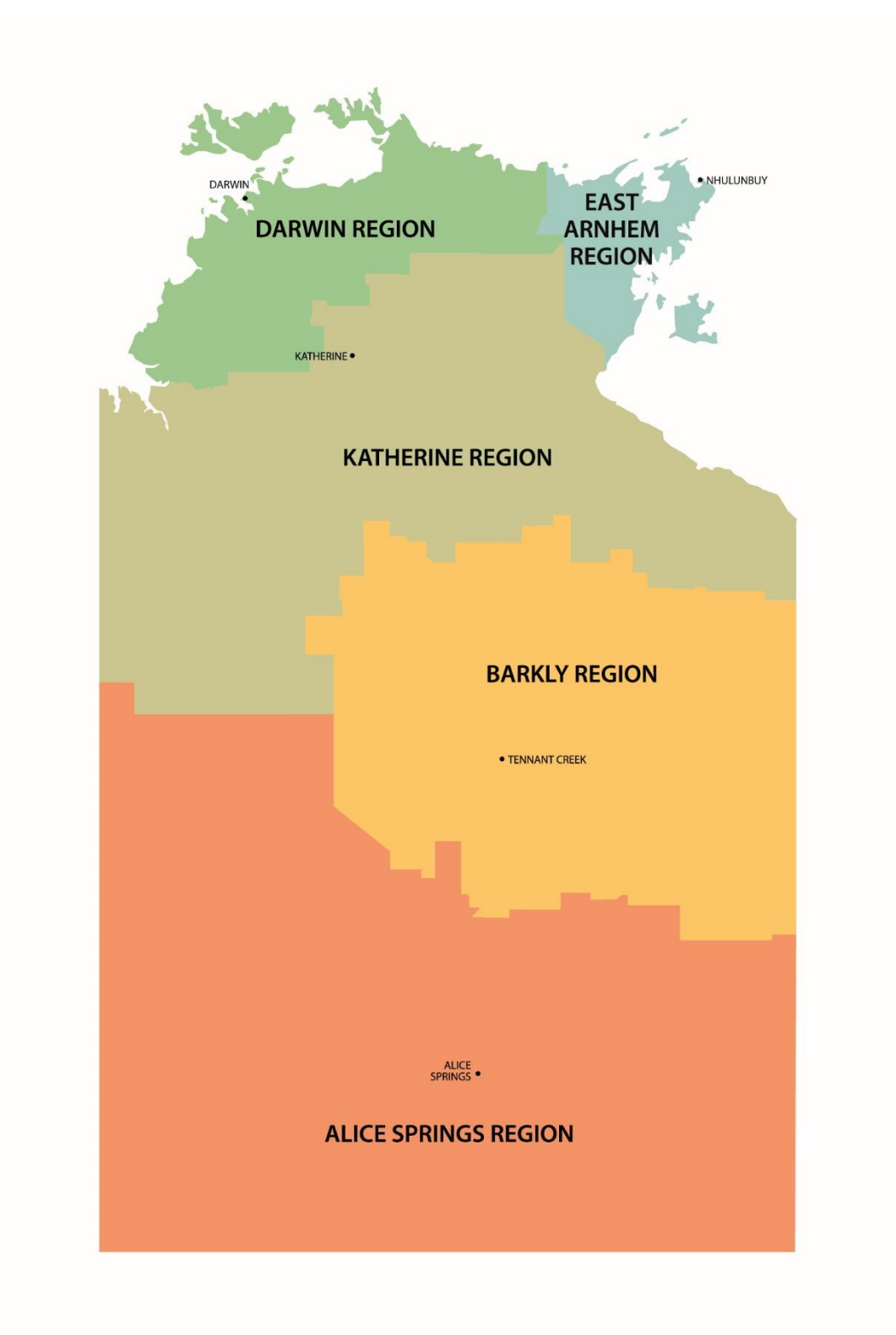
Notes:

1. The SUS data on age was not broken down by whether a Brief Intervention was delivered or not. Hence the numbers here (N=3117) are of all presentations to SUS, not just those receiving a Brief Intervention. It is assumed that the age breakdowns between those receiving BI and those not are similar.

Geography

Data were available with reference to five regions in the NT: Alice Springs region, Darwin region, Katherine region, Barkly region and East Arnhem region. Figure 4 outlined the boundaries of these regions.

Figure 4: Five regions in the NT, geographic boundaries



The data on geography were only available from the following datasets:

- NTG specialist AOD
- NGO specialist AOD
- Hospitals

It was not available for GPs, self-help, and most importantly the ACCHOs data, which as noted earlier, comprised 41% of all episodes of care; and 30% of all persons receiving care. Therefore, the analysis of geography must be treated with extreme caution.

The geographic data that are available is split between: the service provider location (applies to episodes data) and client residence/usual town or community (for persons data). Both are reported below, as they provide different perspectives on the geography of alcohol treatment. Contextual issues relating to geography are discussed further in Chapter 4.

Table 10: Episodes of care by the geographic location of the service provider

	NTG	NGO	NHMD	TOTAL	%
Alice Springs	30	1279	771	2080	45%
Darwin	296	1145	501	1942	42%
Katherine	0	162	38	200	4%
Barkly	31	225	80	336	7%
East Arnhem	31	0	19	50	1%
	388	2811	1409	4608	

The vast majority of alcohol treatment as provided by NTG, hospitals and specialist NGOs in the NT is provided in Alice Springs (45%) and Darwin (42%). Note again, that this does not include the SEWB ACCHO programs that made up a substantial number of episodes of care and client numbers (see earlier), so this picture is skewed by the limited data available. This highlights the importance of reviewing and improving the OSR data.

In terms of where clients of alcohol treatment usually reside, the picture is somewhat different, as summarised in the below table.

Table 11: Individual clients by the geographic location (usual town/residence) of the client

	Aboriginal and Torres Strait Islander clients	% distribution regions	non Aboriginal and Torres Strait Islander clients	% distribution regions	% within each region that are Aboriginal and Torres Strait Islander
Alice Springs	1041	43%	217	27%	83%
Darwin	475	20%	517	64%	48%
Katherine	335	14%	14	2%	96%
Barkly	277	12%	14	2%	95%
East Arnhem	233	10%	31	4%	88%
Interstate & other/unknown	47	2%	12	1%	80%

For Aboriginal and Torres Strait Islander clients, the majority usually reside in the Alice Springs region (43%), followed by Darwin region (20%). 14% and 12% of Aboriginal and Torres Strait Islander clients come from Katherine and Barkly regions respectively, yet when this is compared to the service provider geography (Table 11 above) it is noteworthy that only 4% and 7% of services (respectively) are located in these regions. This would suggest that there is a lack of locally-based services to meet needs in these two regions. The vast majority of non-Aboriginal and Torres Strait Islander clients come from the Darwin region (64%). These data suggest a mismatch between where services are located

and where clients usually reside. NOTE: there are two important caveats on this interpretation. Firstly, it excludes the ACCHOs (OSR data) and so will under-represent some regions (although we do not know which ones). Secondly, this only represents the number of services, and does not pertain to size of services. So, Darwin may have more smaller specialist services; and services in other regions may be larger.

The last column of Table 11 shows within each region, the proportion of Aboriginal and Torres Strait Islander to non-Aboriginal and Torres Strait Islander clients receiving alcohol treatment. In Darwin it is about 50:50, whereas in every other region the vast majority of clients are Aboriginal and Torres Strait Islander people (in the order of 80-96%).

Unique individuals

In order to establish the number of unique individuals receiving alcohol treatment in the NT in any one year, we need to remove double counting of individuals across different treatment settings. For example, the same individual may receive care for alcohol problems in an NGO in the same year as they receive care in SUS, or with her/his GP.

This is an exercise in making assumptions about treatment pathways, and how people move between treatment settings over the course of a year. It is approximate, and relies on research evidence to assist in the process of obtaining an estimate of the number of unique individuals in any one year.

Removal of the double-counting between data sources is a significant challenge. Whilst we know anecdotally that people with alcohol problems seek care from multiple settings/services either simultaneously or within the same year, it is very difficult to precisely ascertain the extent of this, especially as it concerns different treatment service systems. The problem is not unique to AOD; in the mental health field, endeavours to account for double counting between different treatment service systems demonstrate the challenges (Harris, Buckingham, Pirkis, Groves, & Whiteford, 2012; Whiteford et al., 2014).

We need to move from an estimate of 11,782 people to unique treatment recipients across all data sources. Our assumptions are detailed in Attachment 6 and set out in Table 12. Table 12 also summarises the overall calculations.

Table 12: Moving from # of persons, to # of unique individuals in any one year: results and method notes

	Total	Low new total	High new total	Notes
ACCHOs	3520	1760	2640	High applies 25%; low applies 50% to exclude individuals repeated across other datasets
GPs	1543	339.46	339.46	Retain 22% (rest receive care elsewhere as well)
Treatment provided by hospitals	921	644.7	644.7	Retain 70%, remove 30%
Treatment provided by specialist NGOs under NTG funding	1940	2152	2152	A unique identifier between the NTG funded AOD services and the NGO AOD services is available. This means that the 1940 persons in NGO and the 364 persons in NTG are known to represent 2152 unique individuals.
Treatment provided by specialist AOD agencies in NTG DHS services	364	-	-	See above – the 1940 + 364 share a unique identifier, resulting in 2152 unique individuals
Community MH	94	47	70.5	High applies 75%; low applies 50% that do not receive any other services in that year
SUS	2,151	1075.5	1613.25	High applies 75%; low applies 50% that do not receive any other services in that year
Drink driver programs	625	312.5	468.75	High applies 75%; low applies 50% that do not receive any other services in that year
Self-help	624	68.64	68.64	Research evidence: 11% have not received any other care
	11,782	**6,400**	**7,997**	

The results suggest that between 6,400 and 7,997 individuals receive treatment in the NT in any one year for alcohol-related problems. This represents around 2.8% of the NT population.

Given the 42,871 total episodes of care, and with between 6,400 and 7,997 individuals receiving care, this suggests that the numbers of episodes per person per year ranges from 5.3 episodes to 6.7 episodes per year.

Discussion

This comprehensive picture of current alcohol treatment in the NT reveals a number of novel findings:

The **numbers of episodes of care** are around 42,871 each year. Only 8% of all of this care is provided in the "usual" alcohol treatment facilities (those provided by the NGO sector and the NTG and as counted within the AODTS-NMDS). This suggests that there is much more treatment being provided than has been previously appreciated given the usual focus on the AODTS-NMDS as the primary data source.

The results also show that the ACCHO sector are playing a significant role in providing alcohol treatment. ACCHO alcohol treatment comprises 41% of all episodes of care; and 30% of all persons receiving care in any one year.

The significance of brief intervention settings is also noteworthy. In the episodes of care data, 31% of the 42,871 episodes are provided either in SUS (where a BI is delivered) or through GP's in primary care.

Note that the GP data were derived from our own calculations of some dated BEACH data. It would be worth investing in NT-specific research on the role of GPs in both ACCHO and non-ACCHO services and analysis of the extent of brief interventions for alcohol that occur.

The estimate of self-help was approximate, but it recognises that a sizeable amount of care is accessed through these settings (16% of EOC). While not funded by governments, and anonymous, the role and significance of these services in supporting reductions in alcohol-related use and harm should not be underestimated.

The episodes of care data reveals a perhaps unexpected finding in relation to the **types of treatment** being received. While the perception is that residential rehabilitation is the predominant treatment type, the data reported here do not support that impression.

When a broad definition of alcohol treatment is used, the vast majority of alcohol intervention in the NT is counselling (58% if one includes self-help; and 49% if self-help is excluded), all provided on an out-patient basis. Residential rehabilitation comprises only 3-4% of all episodes of care.

Counselling provided through ACCHOs (and as reported via the OSR administrative data), is likely to be in the context of holistic and social and emotional wellbeing care, and tailored to the client's needs at that point in time, delivered by a trained AOD worker. The role of the Commonwealth funded ACCHOs who provide social and emotional wellbeing is revealed as highly significant. These services self-nominate the provision of "substance use treatment" in the OSR database. It appears that this is substantial amount of care.

In terms of the **number of persons** (within each treatment setting) who receive care, there were around 11,780 persons receiving care. This means that on average people receive around 2.5 episodes of care from the same provider each year. When calculations are undertaken to remove double-counting from across different datasets (recognising that most people receive care multiple times but not just from the same care provider), we estimate that between 6400 and 7,997 unique individuals participate in alcohol treatment in the NT in any one year.

The **demographic profile** of these people receiving alcohol treatment in the NT confirms that most care is given to people who are Aboriginal and Torres Strait Islander and aged between 18 and 64 years. Of those where Aboriginal and Torres Strait Islander status is known (i.e. excluding GP encounters, drink drive education program attendees and self-help, see Table 8) this represents 88% of persons receiving alcohol treatment in the NT. This raises questions about whether there is hidden unmet demand for non-indigenous Territorians, or whether these services are being accessed interstate or overseas for this population.

Examination of the age ranges of people receiving alcohol treatment showed that the vast majority of people receiving alcohol treatment are aged between 18 and 64 years (87%), with 12% for people under 18 years of age (the vast majority of those clients under 18 years of age come from ACCHOs) and 1% for people over the age of 64. (See Table 9). Administrative data on gender were not obtained due to limitations of DASPM. Issues surrounding gender are subsequently discussed in Chapter 4 (pg. 52).

There are many things left unanswered by these analyses of treatment data: the extent of polydrug use; particular issues for women, children and families; access to care (including transport issues); and many others. These are best analysed through interviews with stakeholders, as provided in Chapter 4. Before moving to that data, however, we first consider whether the quantum of treatment being provided as assessed here in Chapter 2, matches the estimate of total demand for alcohol treatment in the NT.

Chapter 3: Estimating total demand and unmet demand for alcohol treatment in the NT for adults

Richard Mellor and Alison Ritter

Aims: estimating total demand

The aim of this component of the "**Demand Study for Alcohol Treatment Services in the Northern Territory"** was to estimate total demand for alcohol treatment, by types of alcohol treatment (e.g. brief intervention, withdrawal, residential rehabilitation and so on). The estimates include modelling of the number of people requiring alcohol treatment in any one year, the number of treatment beds and the clinical resources required to meet demand for alcohol treatment for adults in the NT. Total demand as modelled can then be compared to the amount of alcohol treatment currently being provided, and the relationship between the two can inform service planning.

This chapter proceeds as follows: the methods describe a pre-existing planning model that was used for this project and how it was modified to be 'fit-for-purpose' in the NT, based on workshops held with NT stakeholders. The results of the modelling exercise are then reported, followed by a section which compares the modelled total demand with existing treatment provision.

Methods: estimating total demand

Drug and Alcohol Services Planning Model (DASPM)

The only model available to estimate demand for alcohol treatment is the Drug and Alcohol Services Planning Model (DASPM). DASPM is a national planning model developed between 2010 and 2013. DASPM is a decision-support tool to predict resources, not a service system configuration tool.

The treatment demand numbers produced by DASPM reflect the numbers of people that "should" receive treatment for a given year. The calculation of treatment demand is based on population figures, rates of alcohol problems (split into mild, moderate, and severe), and treatment rates.

By applying the various "care packages" to the population in demand of treatment, a set of resource estimates and costing estimates are produced. Care packages are made up of components of care which an individual receives in a one-year period. The level of care that is specified in a care package is deemed adequate, anything less is considered unsatisfactory. For alcohol, there is one care package for mild, one for moderate and 15 different care packages for severe. The care packages do not resemble what is actually provided: they were developed by a group of clinical estimates in order to predict resource requirements. As such they are only configured for the purposes of resource prediction, not for the purposes of designing a treatment service system.

Resource estimates reflect the level of resources needed to provide enough care to the treated population for a one-year period. These estimates include "numbers of beds" and number of Clinical Staff FTE. There are also costing estimates modelled – including, salaries, bed overheads, transport costs, prescription medicine costs, and diagnostic testing costs.

The national DASPM assumes an average population unit of 100,000 people, and includes five different drug types. It covers young people (12 to 17 years of age), adults (18 to 64 years of age) and elderly people (65 years of age and older). The original national model also estimates the resources required for an 'at-risk' population (prior to the development of alcohol problems). The model operates on the assumption of averages (that is it does not predict resources for any one individual but for an average of individuals, spread across a range of alcohol problem severity and a range of different types of treatment).

For more details on the DASPM please see Attachment 7.

The national model does not include consideration of alcohol treatment for Aboriginal and Torres Strait Islander populations. An adaptation of the DASPM was undertaken in 2014/2015 (Gomez et al., 2014) which provides revised treatment types (care packages) and adjusted resource estimates to take into account Aboriginal and Torres Strait Islander needs and culturally safe and secure treatment.

There are six key parameters to be established for the meaningful application of the DASPM to the NT. These are:

1. The population
2. The alcohol epidemiology
3. The distribution of severity (mild, moderate, severe)
4. The treatment rate (how many people 'should' be treated?)
5. Allocations to care received ("care packages")
6. Resource estimation (salary rates, transport)
7. Adjustments for Aboriginal and Torres Strait Islander populations

The above parameters were established through a combination of reviewing NT-specific research; checking and building on the assumptions used in the national model; and receiving expert advice from service providers and government officials in a workshop held on Friday 23rd November, 2018.

We discuss each of the parameters briefly in turn.

NT population figures

The original national DASPM produces estimates across different age groups: infants (0 to 11 months), children (1 to 11 years), teenagers (12 to 17 years), adults (18 to 64 years) and the elderly (65 years and over). DASPM operates on the assumption of averages (that is it does not predict resources for any one individual but for an average of individuals, spread across a range of alcohol problem severity and a range of different types of treatment). As such, the model requires a minimum population of 100,000 to ensure validity. The only age-group in the NT which has a population over 100,000 is the 18 to 64 year age group (see Table 9). Therefore, to ensure the validity of the output, only the 18-64 year age group was modelled.

Table 13: Estimated resident population Indigenous and Non-Indigenous, 30 June 2016 Northern Territory (ABS, 2018b).

Age range	Indigenous NT Pop.	Non-Indigenous NT Pop.	Total NT Pop.
0-11 months	1,395	2,688	4,083
1-11 years	16,310	23,766	40,076
12-17 years	8,660	9,850	18,510
18-64 years	45,487	120,566	166,053
65+ years	2,694	14,262	16,956
TOTAL	74,546	171,132	245,678

Source:
http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/3238.0.55.001June%202016?OpenDocument

The estimated resident population of the NT aged between 18 and 64 years (as of the 30th June 2016) was 166,053 (ABS, 2018). This was the population figure used in the modelling.
As noted in Chapter 2, this represents 87% of all current treatment episodes (see Table 9, age of clients in alcohol treatment in the NT).

Alcohol use disorders (diagnostic rate)

DASPM relied on the notion of a 'diagnosis' of Alcohol Use Disorder in the national model, in order to derive the starting figure for the number of people in potential need of alcohol treatment. The diagnostic rate in the national model was 6.35%, as taken from the Australian Burden of Disease (Begg et al., 2007) which in turn relied on the National Survey of Mental Health and Wellbeing (NSMHWB) administered in 1997.

As discussed in Chapter 1, it appears that alcohol misuse is 1.64 times higher in the NT than the national average. Therefore, the alcohol epidemiology applied to the NT Model should be 1.64 times higher than the diagnostic rate of 6.35% used in the national model. This equates to a rate of 10.4% (6.35% x 1.64). The diagnosed population modelled for the NT is therefore 17,270 people, when 10.4% is applied to the adult NT population of 166,053.

Severity distribution

DASPM distributes the diagnosed population into three groups based on severity (mild, moderate, and severe). The reason for dividing the alcohol problem population into these three groups is to increase the validity of the model outputs – not everyone experiences the same level of severity of problem, and the type of treatment best suited to someone will depend on their level of severity. If some have relatively mild alcohol problems, they will not require a six-month residential rehabilitation intervention, nor withdrawal, but will be responsive to an outpatient psycho-social intervention. Hence the divisions into mild, moderate and severe then determine the allocations to the types of treatment in DASPM. They are also important in determining the treatment rate: not everyone with mild alcohol problems will necessarily require treatment, but for those with severe problems, it is highly likely they will require treatment. In summary, the division of the population of people with alcohol use disorders into three categories of mild, moderate and severe is solely for the purposes of the model veracity (and should not be taken as a systems configuration approach per se).

In the national model the severity distribution was:

- Mild: 67%
- Moderate: 22%
- Severe: 11%

Expert discussion at the workshop indicated that the 11% allocated to the severe category is likely too small for the NT. This is supported when looking at alcohol attributable hospitalisations in the NT. The age-standardised rate of alcohol attributable hospitalisation in the NT for 2005-06 (157.7 per 10,000) was 2.54 times higher than the national rate (62.2 per 10,000) (Skov, Chikritzhs, Li, Pircher, & Whetton, 2010). Given that alcohol-attributable hospitalisation should be considered a severe presentation, we can say that the severe allocation of 11% (as used in the national model) should be 2.54 times higher in the NT (which equates to 27.94%). It was noted in the workshop that the percentage of people in the mild category may be too high, thus when allocating the additional 16.94% to the severe category, the 16.94% was taken out of the mild category.

Therefore, the final (rounded up) severity distribution used in the NT model was:

- Mild: 50%
- Moderate: 22%
- Severe: 28%

As above, the diagnosed population figure for the NT was 17,270. In applying the NT severity distribution to this, the following alcohol use disorder population split for the NT is:

- Mild = 8,635 people
- Moderate = 3,799 people

- Severe = 4,836 people

Treatment rate

In theory the maximum treatment rate would be 100% – that is everyone with mild and moderate and severe alcohol use disorders should receive treatment. This is unrealistic because many people will not require treatment to remit from their alcohol problem (and in some instances will prefer informal treatment (e.g. Alcoholics Anonymous), and many people will not see the benefit of treatment in meeting their needs. In order to provide realistic and practical estimates of projected treatment demand it is important to model projections with more suitable treatment rates. In the original DASPM, deliberation across a series of meetings, which was informed by earlier research on a maximum and ideal treatment coverage of 51% for alcohol use disorders (across severity distribution), led to the original DASPM expert reference group to the following treatment rates for alcohol:

- Mild: 20%
- Moderate: 50%
- Severe: 100%

For the NT, there appeared no logical reason to adjust these treatment rates**.** Therefore the national treatment rates were modelled for the NT. This meant that 20% of people with mild alcohol disorders were allocated to treatment in any one year, 50% of people with moderate alcohol disorders were allocated to treatment in any one year, and 100% of people with severe alcohol disorders were allocated treatment in any one year. Basically, this means that the model projects treatment for everyone who has a severe alcohol problem, but only half of those with a moderate alcohol problem (and 20% of those with a mild problem). For planning and resource estimation, it is reasonable to predict 100% treatment for all those who have severe problems.

There remains a separate exercise in estimating the numbers of people requiring Screening and Brief Interventions (SBI). SBI refers to care in which advice and information is provided to people 'at-risk'. This is modelled in DASPM as 1 x 15 min screening delivered by a Nursing and Allied Health worker in an ambulatory setting. In DASPM the SBI treatment numbers are not calculated from the diagnosed population (as people do not need to have an alcohol use disorder in order to benefit from SBI). Instead the SBI treatment number is calculated based on the assumption that 15.4% of the non-diagnosed population (over 12 years of age) are 'at-risk' of developing an alcohol disorder, and therefore require screening and brief intervention.

Care packages

The care packages in DASPM describe treatment over the course of one year, for the purposes of estimating resources. In the DASPM original national model, there are more than 90 different care packages (across the five drug types). For alcohol, there is one care package for mild, one for moderate and 15 different care packages for severe alcohol use disorder. The level of care that is specified in a care package is deemed adequate, anything less is considered unsatisfactory. The care packages in DASPM do not reflect current alcohol treatment provision in the NT (or elsewhere in Australia for that matter). They were developed for the purposes of resource estimation only.

The care package for those with a mild alcohol problem comprises 5 x 15 min primary care assessment. In the moderate care package, the person receives primary care (1 x 30 min primary care medical assessment and referral; 2 x 15 min medical monitoring by primary carer; and 1 x 10 min liaison between medical primary) as well as a psycho-social intervention (1 x 50 min assessment plus 5 x 50 min of psychosocial interventions). The severe care packages represent much more comprehensive treatment programs, as can be seen in Attachment 8, which describes the 15 severe care packages for alcohol interventions.

The allocation/assignment to care packages is a complex exercise of expert judgement. Table 14 describes the allocation used in the original DASPM, for the 15 care packages for people with severe alcohol problems. In summarising the allocation of the severe care packages, 35% of people with severe alcohol problems receive psychosocial care packages, 56% of people with severe alcohol problems receive withdrawal care packages, 1% of people with severe alcohol problems receive a day program, and 8% of people with severe alcohol problems receive residential rehabilitation care packages.

Table 14: NT adapted care package allocation category, as derived from the original DASPM allocation

Name of care package	Original DASPM allocation	NT Applied Category
1. Psychosocial Interventions – Without Relapse Prevention Pharmacotherapies – Standard	12.0%	Psychosocial
2. Psychosocial Interventions – Without Relapse Prevention Pharmacotherapies – Complex	5.5%	Psychosocial
3. Psychosocial Interventions – With Relapse Prevention Pharmacotherapies – Standard	12.0%	Psychosocial
4. Psychosocial Interventions – With Relapse Prevention Pharmacotherapies – Complex	5.5%	Psychosocial
5. Withdrawal Management - Home Based - Without Relapse Prevention Pharmacotherapies – Standard	4.8%	Withdrawal (outpatient)
6. Withdrawal Management - Daily Outpatient - Without Relapse Prevention Pharmacotherapies – Standard	14.0%	Withdrawal (outpatient)
7. Withdrawal Management - Daily Outpatient – With Relapse Prevention Pharmacotherapies – Standard	4.8%	Withdrawal (outpatient)
8. Withdrawal Management - Daily Outpatient – With Relapse Prevention Pharmacotherapies – Complex	10.0%	Withdrawal (outpatient)
9. Withdrawal Management - Residential – With Relapse Prevention Pharmacotherapies – Standard	11.7%	Withdrawal (resi)
10. Withdrawal management - Residential – with relapse prevention pharmacotherapies – complex	5.1%	Withdrawal (resi)
11. Withdrawal Management – Drug And Alcohol Hospital Bed – With Relapse Prevention Pharmacotherapies	5.6%	Withdrawal (outpatient)
12. Rehabilitation – Day Program – 25 Days – Standard	1.0%	Day program
13. Residential Rehabilitation 8 Week Stay	2.5%	Resi rehab
14. Residential rehabilitation – 13 week stay, 13 weeks aftercare and 13 weeks outclient program	3.0%	Resi rehab
15. Residential rehabilitation – 26 week stay, 13 weeks of after care/transition/re-entry and 10 weeks outclient program	2.5%	Resi rehab

The critical question when applying DASPM to the NT in order to predict resources, is the distribution of these care packages. Given these were based on expert judgements from the original DASPM project, no changes were made to the care package distributions for the purposes of predicting resources required

Resource estimation methods

Resources estimation represents the amount resources needed in order to sufficiently treat the population in demand of treatment for a one-year period, given the care as described in the care packages. Resource estimates include “bed numbers” and Clinical Staff FTE. There are also costing estimates which represent the amount of money required to fund the resources and treatment

services – including salaries, bed overheads, diagnostic testing costs, prescription medicine costs, and transport costs.

Four salary types were specified in the DASPM: doctor (Addiction Medicine Specialist); Nurse/Allied Health; an Alcohol Tobacco and Other Drug (ATOD) worker; and a GP. The architecture of the model prevented us from including a fifth salary type – that of Aboriginal Health Practitioner, the salary of which is likely to sit somewhere between the ATOD worker and the Nurse/Allied Health worker.

For the calculation of the costs associated with clinical staff time, the original DASPM used the following assumptions and calculations to derive the costs for the clinical staff FTE.

- 38 hour week, 6 weeks annual leave
- Direct care time: 2/3rd (67%)
- Indirect care time: 1/3rd (33%) (see below)
- Plus on-costs (28% WorkCover, payroll tax, superannuation etc)
- Plus administration overhead (HR, CEO, reception, clerical support) add 10% to salary

In the Aboriginal Adaptation project, the expert advisory group to that project reviewed the DASPM clinical staff time methodology. While there were arguments put forward to increase the amount of time for case note writing, it was determined that there was little rationale for more time for case note writing for Indigenous care than mainstream care. Furthermore, there appeared to be no rationale for varying the methods for salary calculations (see above, number of direct care hours, etc.) for the Alcohol and Other Drug (AOD) Worker, as these reflected a Social and Emotional Wellbeing (SEWB) worker. Following the findings of the Aboriginal Adaptation, no adjustments were made to the formula for the salary calculations, with the exceptions of updating the base salary to reflect current NT salaries for the three position types.

Table 15 describes the salaries applied in the NT model.

Table 15: NT salaries applied in the DASPM

	Base salary	**28% on-costs**	**10% admin overheads**	**Total**
Doctor – Addiction Medicine Specialist (AMS)[a]	280,000	78,400	28,000	386,400
Nurse/Allied Health [b]	95,000	26,600	9,500	131,100
AOD worker [c]	67,187.26	18,812.43	6,718.73	92,718.42

(a) salary of 280,000 (220,000 base + 60,000 allowances) provided by TEHS

(b) average salary base of $95,000 provided by TEHS

(c) The average (across the four levels) ANT SCHADS award rate for level 4 support works (CERT IV) is $67,187.26. This is supported by feedback from the sector, in that CERT IV entry level staff are paid between $58,000 and $71,000 as provided by AADANT

Client transport costs were not included in the original DASPM. But in the Aboriginal Adaptation (Gomez et al., 2014) projected transport costs were included. Many studies have identified transport as a critical issue for Aboriginal clients. Many clients do not have their own transport - no license, no vehicle, and/or no cash for transport (Helps & Moller, 2007). Geographical distances and lack of transport (in both urban and non-urban regions) are significant barriers to accessing drug and alcohol treatment (Gray et al.2010). Many Aboriginal clients require supported referral (that is facilitating /helping/ensuring their attendance) due to their complex needs. Compliance with treatment attendance is enhanced if transport is available or provided (Brett, Lawrence, Ivers, & Conigrave, 2014). In 2005/06, 37 out of 40 Australian Government funded Aboriginal and Torres Strait Islander

substance use specific services that responded to the Drug and Alcohol Services Report (DASR) provided transport services to clients (OATSIH, 2007). This finding illustrates the role the provision of transport services plays in the accessibility of drug and alcohol treatment services to Aboriginal clients. Provision of transport also facilitates rapport and relationship building between clinician and client in a non-clinical and less confrontational setting.

The details of the projected transport costs associated with delivering the care as specified in the DASPM care packages is given in Attachment 10.

Aboriginal and Torres Strait Islander peoples

The majority of episodes/encounters of alcohol treatment in the NT are for Aboriginal and Torres Strait Islander peoples, representing 88% of all episodes/encounters (see Chapter 2). The national model did not include consideration of alcohol treatment for Aboriginal and Torres Strait Islander peoples. An Indigenous adaptation of the DASPM was undertaken in 2014/2015 (Gomez et al., 2014) which provided revised treatment types (care packages) and adjusted resource estimates to take into account Indigenous needs and culturally safe and secure treatment. Descriptions of the revised care packages are given in Attachment 9. However, the Indigenous adaptation and respective care packages may look different for the NT.

The Indigenous adaptation of the DASPM project focused on 7 of the 15 severe alcohol care packages, and accounted for the needs of Aboriginal and Torres Strait Islander peoples by: (1) calculating the cost per person per care package in the original DASPM; (2) calculating the cost per person per care package for Indigenous peoples (when taking into consideration the need for culturally safe and secure treatment – which includes extra time to deliver care and transport provisions); and then (3) calculating a multiplier, which would reflect how much extra resources are required for Indigenous people (see Table 16).

Table 16: Indigenous multipliers for each of the care packages

Care Package Alcohol (18-64 years)	**Average cost per package/person DASPM original**	**Average cost per package/person Aboriginal care package**	**Multiplier – ratio of resource estimate between mainstream and Indigenous**
Mild intervention	$120	$1,507	12.6
Moderate care	$1,396	$7,862	5.6
Psychosocial interventions – with relapse prevention medications – complex	$5,896	$19,010	3.2
Withdrawal outpatient – with relapse prevention medications – complex	$6,811	$21,160	3.1
Withdrawal management – residential – complex – with relapse prevention pharmacotherapies	$8,976	$23,001	2.6
Day Program – 25 days – standard	$3,753	$19,110	5.1
Residential rehabilitation – 13 weeks residential and 13 weeks ongoing care	$31,565	$59,009	1.9

Because 88% of all episodes/encounters of alcohol treatment in the NT were for Aboriginal and Torres Strait Islander peoples, 88% of the resource and costing estimates were drawn from the Indigenous adaptation model and 12% were drawn from the national model.

Results: estimating total demand

There are three different results sections. First is the projected estimate of the total number of people requiring alcohol treatment in the NT in any one year (18-64 years). Second is the predicted bed numbers and Clinical FTE predicted by DASPM given the care packages as specified. Third is the costs associated with providing that care (including: bed overheads, Clinical FTE salaries, bed overheads, transport, prescription medicine, and diagnostic testing).

The population in demand of alcohol treatment

For the NT, DASPM projects a total of 8,325 people require alcohol treatment in any one year – of which 1,762 have mild alcohol disorders, 1,900 have moderate alcohol disorders, and 4,663 have severe alcohol disorders. (See Attachment 7 for the descriptions of the care required for these people in each of the three categories).

For the NT, DASPM projects a total of 27,342 people require some form of alcohol intervention in any one year. This 27,342 people comprises 20,607 people requiring a screening and/or brief intervention; and 6,735 requiring alcohol treatment (such as withdrawal, counselling, rehabilitation). (See Attachment 7 for the descriptions of the care required for these people in each of the three categories). The estimated treatment demand of 6,735 people could be lower or higher. Applying the usual uncertainty bounds of 15%, suggests that the true figure could be as low as 5,723 or as high as 7,745.

The total requirements for alcohol treatment, as predicted by DASPM, are summarised in Table 17.

Table 17: Modelled results: DASPM predicted treatment demand numbers, 18-64 years NT

DASPM treatment category	Demand number
Non-diagnosable population to receive screening and brief intervention	18,880
Diagnosable population to receive treatment	
Mild Disorder	1,727
Moderate Disorder	1,900
Severe Disorder	4,835
Total population to receive an intervention	27,342

The predicted number of beds and clinical FTE

The number of beds required to meet the above demand for alcohol treatment for people aged between 18 and 64 years (for a one-year period) and assuming the care is as specified in the care packages was projected to be 219 beds (see Table 18).

In DASPM, bed estimates are split based on detoxification beds (these are beds used for withdrawal management), residential rehabilitation beds, and inpatient beds (these are specialist drug and alcohol beds in a hospital). Most of the beds predicted are residential rehabilitation beds.

Table 18: Predicted Bed numbers for the NT (18 – 64 years) to meet demand

	DASPM prediction
Detoxification	26
Inpatient	5
Residential Rehabilitation	180
TOTAL	211

The predicted bed numbers above closely align with the figures estimated in the Clinical Services Plans developed for Top End Health Service and Central Australia Health Service respectively (Health Projects International Pty Limited, 2018a; Health Projects International Pty Limited, 2018b).

The number of full-time Clinical Staff required to meet the DASPM projected demand for alcohol treatment (given the care as specified) in the NT for people aged between 18 and 64 is estimated to be 398 clinical FTE (see Table 19). DASPM breaks down the clinical FTE projections into: ambulatory (263 Clinical Staff FTE); detoxification (21 Clinical FTE); residential rehabilitation (102 Clinical Staff FTE); and inpatient (12 Clinical Staff FTE). Resources are also reported across four staff types: Nursing and Allied Health (135 Clinical Staff FTE); Alcohol and Other Drug Worker (234 Clinical Staff FTE); Addiction Medicine Specialist (23 Clinical Staff FTE); and General Practitioner (6 Clinical Staff FTE).

Table 19: Clinical FTE projected requirements to meet demand, NT, adults (18-64)

	Clinical Staff FTE
Ambulatory setting	
Nursing and Allied Health	104
Alcohol and Other Drug Worker	135
Addiction Medicine Specialist	21
General Practitioner	3
Sub-total	263
Detoxification setting	
Nursing and Allied Health	20
Addiction Medicine Specialist	1
Sub-total	21
Residential rehabilitation setting	
Alcohol and Other Drug Worker	99
General Practitioner	3
Sub-total	102
Inpatient setting	
Nursing and Allied Health	11
Addiction Medicine Specialist	1
Sub-total	12
Total Clinical Staff FTE	398

These numbers of full-time equivalent clinical staff are the projections from DASPM given the level of care described within the care packages (see Attachment 7 for care package descriptions). The high levels of FTEs arise because of the extent of treatment provided within the care packages.

The projected costs

The projected costs associated with treating 8,462 people and screening another 18,880, through providing 398 clinical staff, and 219 beds includes the costs associated with salaries, transport, prescription medications, overhead/infrastructure costs and so on (see DASPM technical manual for

details on costing methods (*Drug and Alcohol Service Planning Model for Australia: Technical Manual* 2013). As described in the methods section, these have been adjusted from the original DASPM to ensure suitability for the NT. Table 20 provides the projected cost estimates.

Table 20: Projected costs to meet alcohol treatment demand in NT

		$(mill)
BED COSTS	Beds	
Detoxification	26	$1.77
Inpatient	6	$0.37
Residential Rehabilitation	187	$2.52
Total	219	$4.66
CLINICAL STAFF COSTS	Clinical Staff FTE	
Ambulatory setting		
Nursing and Allied Health	104	$13.61
Alcohol and Other Drug Worker	135	$12.53
Addiction Medicine Specialist	21	$7.98
General Practitioner	3	$0.83
Total	263	**$34.95**
Detoxification setting		
Nursing and Allied Health	20	$2.67
Addiction Medicine Specialist	1	$0.49
Total	21	$3.16
Residential rehabilitation setting		
Alcohol and Other Drug Worker	99	$9.22
General Practitioner	3	$0.88
Total	102	$10.10
Inpatient setting		
Nursing and Allied Health	11	$1.49
Addiction Medicine Specialist	1	$0.38
Total	12	$1.86
Total Clinical Staff FTE	398	**$50.08**
DIAGNOSTIC TESTING	Tests	
Urinary Drug Screen	3,032	$0.07
Urea, Electrolytes, Creatine	2,645	$0.05
Liver Function Tests	2,645	$0.05
Full Blood Examination	2,645	$0.05
Total	10,967	**$0.22**
PRESCRIPTION MEDICINE	Doses (mill)	
Thiamine for relapse prevention	1.31	$0.16
Naltrexone	1.01	$4.55
Acamprosate calcium	0.53	$0.98
Tobacco Interventions: 21mg patch	0.28	$0.67
Thiamine for withdrawal meds	0.23	$0.04
Disulfiram	0.13	$0.26
Tobacco Interventions: Buproprion	0.06	$0.13
Diazepam - 5mg counted as per dose	0.03	$0.02
Tobacco Interventions: Varencline	0.004	$0.01
Total		**$6.82**
TRANSPORT	Clinical Staff FTE	
Clinical Staff Costs	151	$15.90
GRAND TOTAL		**$77.67**

Comparisons between modelled results (total demand for alcohol treatment) and currently met demand

How do the DASPM projections for the total number needing treatment compare with the numbers currently being treated?

In Chapter 2 we provided an estimate of the number of people currently receiving alcohol treatment in the NT. These met demand results ("what is") can be compared to the DASPM results for total demand (what "should be"). In order to compare the met demand results with the DASPM output, we need to adjust the met demand results in order to align with the way in which the DASPM model operates. Firstly, the DASPM produces unique individuals, so the correct comparator is with Table 12 in Chapter 2. This provides us with a total met demand of between 6,400 and 7,997 individuals. We need to take out those <18 years of age and those over 64 years of age, as the total projected demand modelling could only focus on the 18-64 year olds. Table 9 (age analysis, Chapter 2) shows that 87% of clients were aged between 18 and 64 years, so the figure is reduced by 13%, resulting in a total demand figure of between 5,568 and 6,958 people, as detailed in Table 21.

Table 21: Adjusted met demand figures to account for 18-64 year olds only, for comparative purposes

	Total	New Total		87% (aged 18-64)	
		Low	High	Low	High
ACCHOs	3,520	1,760	2,640	1531	2297
GPs	1,543	339	339	295	295
Treatment provided by hospitals	921	645	645	561	561
Treatment provided by specialist NGOs under NTG funding	1,940	2,152	2,152	1872	1872
Treatment provided by specialist AOD agencies in NTG DHS services	364				
Community MH	94	47	71	41	61
SUS	2,151	1,076	1,613	936	1404
Drink driver programs	625	313	469	272	408
Self-help	624	69	69	60	60
TOTAL	11,782	6,400	7,997	**5568**	**6958**

The DASPM distinguishes between the number of people receiving Screening and Brief Interventions (including those receiving the mild care package which is also a brief intervention). Therefore, we need to separate the above figures into two groups – the numbers of people receiving SBI and the remainder (who are receiving treatment interventions). Also, DASPM does not include self-help treatment, therefore the 60 individuals receiving self-help need to be removed for comparative purposes. If we regard the GP, SUS and drink drive education services currently being provided as SBI (a reasonable assumption), then we derive the following met demand figures for adult treatment of alcohol in the NT, as detailed in Table 22.

Table 22: Adjusted met demand for alcohol treatment in the NT (18-64 year olds) for comparative purposes

Care received	# receiving treatment	**Notes**
SBI	1,503 to 2,170	295 (GP) + 936-1404 (SUS) + 272-408 (DD)

Alcohol treatment (withdrawal, rehabilitation, counselling and so on)	4,065 to 4,851	1531-2297 (ACCHOs) + 561 (hospitals) + 1872 (NTG and NGO AOD) + 41-61 (CommMH)
TOTAL	5,568 – 6,958	

Notes; many caveats on these numbers, see Chapter 2 for the assumptions underpinning these estimates

The figures in Table 22 provide the adjusted figures for current met demand suitable for comparison with the DASPM projected result. The findings are given in Table 23.

Table 23: Modelled unmet demand for alcohol treatment in the NT	Current met demand estimate	DASPM modelled total demand	Unmet demand
SBI	1,503 to 2,170	20,607[1]	18,437 to 19,104
Alcohol treatment (withdrawal, rehabilitation, counselling and so on)	4,065 to 4,851	6,735[2]	1,884 to 2,670

1: people with mild alcohol disorders (n=1,727) are allocated to 5 x 15 min primary care assessment in DASPM, and therefore included in the SBI number

2: people with moderate (n=1,900) and severe disorders (n=4,835) are allocated various types of counselling, withdrawal, and rehabilitation, and therefore make up the alcohol treatment number

This suggests that there is a large unmet demand for screening and brief intervention, in the order of 18,500 to 19,000 people who, under the DASPM model of care, require a brief intervention each year and who are not currently receiving it. In DASPM, SBI refers to care in which advice and information is provided to people 'at-risk', and is modelled as a 15 minute screening delivered by a Nursing and Allied Health worker in an ambulatory setting.

For the provision of alcohol treatment (be it counselling, withdrawal, and/or residential rehabilitation as described in the DASPM care packages), the model projected an estimate of 6,735 people needing to be treated in any one year. The comparative numbers currently being treated are between 4,000 and 4,800. This suggests there may be an unmet demand gap of around 2,000 people aged between 18 and 64 years. However, once uncertainty is applied to these figures (see discussion below), there is likely to be only a small gap, if at all, in the numbers of people needing to be treated who are not currently.

How do the projections for the numbers of beds, clinical FTE and costs compare to the current beds, FTE and costs being utilised in the NT?

The comparator available to us was the number of beds currently provided in the NT (the clinical FTE and the total costs were not available). We were advised that there are currently 236 residential rehabilitation beds provided in the NT. However, this does not distinguish alcohol from other drugs. In order to estimate the current number of residential rehabilitation beds for alcohol, we used the AODTS-NMDS data. According to the AODTS-NMDS, in 2016-17 in the NT 67% of all clients receiving rehabilitation reported alcohol as their primary drug of concern. Applying 67% to the 236 beds currently provided in the NT across all drugs, we estimated that there are currently 158 residential rehabilitation beds provided in the NT for people with alcohol disorders. This is below the modelled estimate of 187 residential rehabilitation beds.

Discussion

There are a number of significant limitations to the DASPM and the associated projections for the NT. We had to approximate the alcohol use disorders taking into account NT conditions. A more recent survey of alcohol use disorder in the NT to establish accurate population prevalence estimates would

be very valuable. The focus on 'diagnosis' within DASPM may be misplaced (and derives from its history as a parallel model to the MH-CCP; Mental Health has much clearer diagnosis). Some people may need and receive care who do not formally meet diagnostic criteria for alcohol use disorder. Likewise many people with a diagnosed alcohol use disorder do not seek or receive care. However, this latter is taken into account in DASPM through the treatment rate parameter. Gender was not included in the original DASP, a limitation given the known differences in treatment seeking between males and females (Green, 2006). DASPM works on averages, and this includes within the care packages. Given that some people will drop out of treatment early, and others will stay longer than the specified length in each care package, it is assumed that the 'law of averages' evens this out. This is also true for relapse and readmission rates within the year. There are no readmission rates built into DASPM. The assumption is that the number of people who relapse and are readmitted to care within a year is approximately equal to the number of people who receive additional care beyond that prescribed in the care packages. There is no way to test these various assumptions.

The care packages describe and account for a substantial amount of care in the course of one year. It is highly unlikely that this level of care is being provided (either in the NT or any other Australian jurisdiction). This means that the projections for clinical FTE, beds and resources are at the upper bounds. Notably, the DASPM care packages (and hence the resource estimates) are largely configured around medically oriented services. This may not fit with the more integrated, holistic nature of alcohol treatment in the NT. However, DASPM is the only model available that can project both the numbers of people needing to be treated in any one year, and the resources associated with providing that care according to the care packages in DASPM. The DASPM treatment rates are a sensitive parameter: the projected results here reflect a 100% treatment rate for those with severe alcohol use disorder; a 50% treatment rate for those with moderate alcohol use disorder; and a 20% treatment rate for those with mild alcohol sue disorder.

As with all modelling exercises, the figures are highly approximate. The estimated treatment demand of 6,735 people could be lower or higher. The usual uncertainty bounds that are applied are 15%, so the figure could be as low as 5,725 or as high as 7,745. A similar uncertainty range should be applied to the met demand figures (range = 5,568 to 6,958). As these ranges overlap[4] it is plausible that the number of people receiving treatment in the NT is close to the projected total demand for alcohol treatment.

The level of clinical FTE predicted to meet the care as specified in DASPM is well above the current clinical FTE in the NT. This suggests that while the numbers of people being treated may be about right, the intensity and the level of care is not configured in a way that might best meet needs. So while the DASPM results regarding the number of people needing treatment in any year is very close to the actual number of people receiving treatment in a year in the NT, the types and configurations of that treatment in DASPM (and hence the clinical FTE, transport costs and so on) bear no relationship to what is currently being provided. The DASPM attends to configuring services for a larger number of people in the mild and moderate levels of severity; whereas the current alcohol treatment services in the NT appears more focussed on the severe end (see Table 23, where the largest gap is in Screening & Brief Interventions). The results here also suggest that more residential rehabilitation beds are not necessarily required, given that the gap between the projected demand from the DASPM model and the actual numbers of beds is small.

A key consideration is where and to whom treatment is being provided. So whilst total demand may be close to being met, there may be geographical areas where unmet demand is high, and others

[4] The upper bound of the met demand is 6,958 people currently being treated and the lower bound of the modelled total demand (people needing to be treated) is 5,725.

where there may plausibly be an over-supply of treatment. DASPM provides no 'geography' in its projections so it is not able to identify areas of over or under supply of treatment. The interviews with stakeholders can, however, inform some of the issues related to the geographic spread of services and where gaps might exist. The DASPM cost projections assume that residential rehabilitation care is in the order of 16 weeks of intensive alcohol treatment interventions. It is likely that not all NT residential rehabilitation is provided at this level of clinical intensity. Contextual considerations are discussed further in Chapter 4.

Chapter 4: Understanding challenges facing the alcohol treatment services system in the NT: perspectives from across the sector

Sarah Clifford, Donna Stephens, James A. Smith, Katinka van de Ven, Danielle Dyall, Benjamin Christie and Matthew Stevens

Aims: defining NT alcohol treatment services and identifying the main pathways into treatment

This component of the "Demand Study for Alcohol Treatment Services in the Northern Territory" aimed to identify what is meant by alcohol treatment services in the NT and identify the main pathways into treatment, including assessing impact of treatment referrals from the criminal justice system and of remoteness and dispersed settlement patterns on treatment accessibility in the NT. The research questions which informed this component were:

- What constitutes alcohol treatment services in the NT?
- What factors impact what demand is being met?
- What are the key pathways into treatment for people in the NT?
- How do treatment referrals from the criminal justice system impact on the demand for and accessibility of treatment services for self-referrals and other voluntary referrals?
- How does remoteness and dispersed settlement patterns impact on treatment accessibility in the NT?

Methods: qualitative interviews and focus groups with the alcohol treatment sector

This study was modelled on Gray et al.'s (2014) qualitative research examining the Aboriginal and Torres Strait Islander alcohol and other drugs treatment services sector in Australia. We conducted semi-structured interviews and focus groups with relevant stakeholders from across the alcohol treatment services sector in the NT.

Ethics

As for the quantitative elements described in Chapters 2 and 3, ethics approvals were obtained from the Human Research Ethics Committee (HREC) of the Northern Territory Department of Health and Menzies School of Health Research (HREC-2018-3223), Central Australian Human Research Ethics Committee (CA-18-3234) and the UNSW Human Research Ethics (HC 2018-3223). In addition to these ethics approvals there were additional governance processes required by several organisations to enable the interviews and focus groups to take place. This included the Aboriginal Medical Services Alliance NT, Top End Health Service, and Central Australian Health Service.

In some instances, the timeframe of the research prevented some organisations from participating due to organisational review requirements or moratoriums on research that exceeded the period of the study.

Data collection

Semi-structured Interviews and Focus Groups

An interview schedule was developed to capture the data required in response to the study objectives and both phases of the study (Attachment 11). The interview schedule was developed through several consultation processes including an industry workshop discussion, a desktop literature review of relevant key government reports, industry documents, and recommendations outlined in the Riley Review.

The semi-structured interview schedule was divided into 12 key areas with a range of questions aimed at probing for depth in responses. Questions were not always asked in sequence and were predominantly provided as a guide for the interviewers.

Participants had the opportunity to participate in either individual interviews or focus groups. This depended on organisational and personal preferences. Interviews and focus groups were recorded with consent of the participant(s); with only one participant requesting not to be recorded. In this instance, field notes were taken by the researchers which were included in the analysis.

The interview and focus groups were transcribed verbatim via a professional transcription service and returned to each of the participants for review. Reviewed transcripts were then analysed thematically.

Selection of respondents

A desktop service mapping exercise was used to identify key stakeholders and support early engagement across the Alcohol Treatment Services across the Northern Territory. This included seeking feedback from the Project Advisory Group (PAG).

There were 86 individuals that participated in the study. Forty-four participated in one of nine focus groups; and 42 were involved in individual interviews. Participants were drawn from 24 organisations/services, comprising;

- 32 participants from ACCHOs (52%)
- 3 participants from legal services (4%)
- 7 participants from commissioning organisations (8%)
- 13 participants from Government services (15%)
- 18 participants from NGOs (21%)

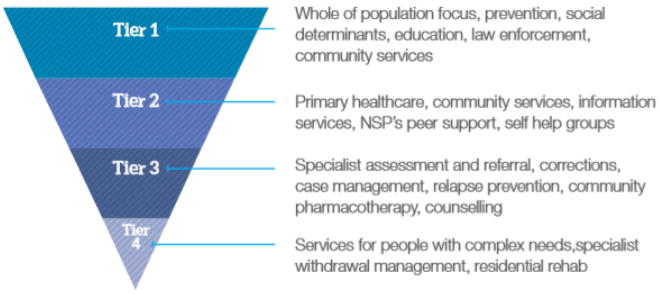
Data was collected across all five health regions of the NT depicted in Figure 4 in Chapter 2. Most interviews were conducted face-to-face, taking approximately 75 minutes each. Interviews were conducted between mid-October 2018 to January 2019.

To preserve anonymity and confidentiality, participant numbers have been randomly assigned. Respondents have also been denoted by the type of organisations which they were employed by at the time of participation (Gray et al., 2014):

Of the 24 services involved, six delivered RRS; seven delivered community-based AOD counselling (in some cases this was included within the context of a Social and Emotional Wellbeing framework); two were correctional or legal services; three delivered community support services; two were medical services; and four were services which dealt with funding and commissioning of treatment services.

The interviews therefore represent a broad spectrum of service providers and workforce spread across 4 tiers of the alcohol service system:

Figure 5: Range of workers involved in preventing and responding to AOD harms in Australia (Intergovernmental Committee on Drugs, 2015, p. 11)



Despite having a relatively balanced sample, with almost equal representation of both RRS and community-based services, the interview and focus group discussions were overwhelmingly skewed towards RRS. This is surprising given that only 3.2% of episodes of alcohol treatment in the NT are RRS (see Chapter 2). This is a study of alcohol treatment services for the whole of the NT, however there was significant discussion about Aboriginal and Torres Strait Islander clients. Several organisations specifically catered for Aboriginal and Torres Strait Islander people. Most, however, provided care for multicultural clientele; and of these, most specified high rates of Aboriginal clients.

Data analysis

A framework analysis approach was used to analyse the qualitative data. (Srivastava & Thomson, 2009). Framework analysis includes five key stages: familiarisation, identification of emergent themes and issues, charting or viewing data in relation to headings and sub-headings, mapping, and interpretation (Srivastava & Thomson, 2009, p. 76). Qualitative data were analysed using the data analysis software NVivo 12.

Results

Alcohol treatment services in the NT

This section addresses research aim 1; to clearly define what is meant by alcohol treatment services in the NT. As mentioned in Chapter 1, there is no clear definition for what encompasses alcohol treatment services in the NT. For the purpose of Chapters 2 and 3, and after considerable discussion at a stakeholder workshop at project commencement, key stakeholders defined alcohol treatment services as brief interventions through to RRS, consistent with those included in DASPM care packages (see Attachment 7). However, the explorative component involved probing the definition of alcohol treatment services among a cross-section of sectoral stakeholders (expanding responses to research question 1). In doing so, a much broader definition surfaced. This included health promotion, community development, non-clinical outreach service delivery, and case management where alcohol may be a concern but not the primary reason for engagement. This broader definition does not align with contemporary definitions of alcohol treatment in Australia (Cmwlth Department of Health, 2017). However, it does align with holistic views of health adopted in the *Northern Territory Health Promotion Framework* and the *Implementation Plan for the National Aboriginal and Torres Strait Islander Health Plan* (Cmwth Department of Health, 2015; NT Department of Health, 2013). As such, alcohol treatment services may be conceptualised as existing across a continuum (Rush & Urbanoski, 2019). Elements at the start and end of this continuum surfaced more prominently throughout interviews and focus groups (i.e. health education and RRS). We sequentially present this 'treatment continuum' below – from less intensive to most intensive treatment options (to align, as best as possible, with the mild, moderate and severe treatment categories used in DASPM).

Preventative health interventions

In the NT, the relaxed attitude to excessive consumption (previously discussed on pg.12 and 13), was noted as challenging, because it allowed for extensive harms to occur before severe alcohol consumption was considered problematic by clients and/or their loved ones. In some instances, participants commented that individuals with severe alcohol problems had remained high functioning for a number of years, as their ability to continue in employment and engage with mainstream society had tempered concerns, with ongoing chronic use ultimately resulting in serious health concerns: "*People are allowed to become a raging alcoholic before anyone ever tries to intervene".* [Participant 19: Commissioner]. Similarly, academic evidence suggests that individuals with higher education, and who do not have a co-occurring mood disorder are less likely to seek treatment (Cohen et al. 2007). The unmet demand highlighted by Participant 19 is consistent with DASPM estimations that individuals who require screening and brief intervention (SBI) represent the largest gap in treatment. Preventative health interventions were therefore considered key in order to identify these clients before serious health harms occur.

> *I think we need a big culture push on what is normal, what are actually safe drinking levels, what are healthy drinking levels. It was so interesting when the minimum floor price came in, listening to the radio driving in and this woman on the phone going - "This is outrageous, I'm being discriminated against, my husband and I, we drink three casks of wine a week and we don't have a problem with alcohol" - and it's like yes, you do actually, that's not an appropriate level of drinking. Just because you're not out on the street bashing people up, doesn't mean that you're not stuffing up your health.* [Participant 37: Commissioner]

The appetite and demand for increased investment in targeted health promotion interventions to challenge the normality of harmful alcohol consumption in the NT was emphasised throughout interviews. This is consistent with evaluation recommendations relating to the Banned Drinker Register, and research findings associated with the report on the social costs of alcohol consumption in the NT (Smith & Adamson 2018; Smith, Whetton & d'Abbs 2019). Targeted preventative health approaches, must reach the most vulnerable population groups. Whilst Aboriginal people are over-

represented in the use of all types of alcohol treatment services, additional preventative health interventions for Aboriginal people with mild alcohol problems could help to reduce the potential escalation to more intensive treatment options. However, Aboriginal people are not the only population group that need to benefit from targeted preventative health interventions.

> *Whether you be – it doesn't matter what colour you are. You look at any cultural group in this town. Most people are big drinkers. Because there's nothing else to do.* [Focus Group 3: NGO]

There was an interesting point made by a few participants regarding the lack of discourse and consideration of women, particularly white middle class women.

> *Q: Alcohol is an issue that tends to be a bit racialised but we do know that the people who drink the most in the Territory are middle aged Caucasian men and it's perhaps not as -*
>
> *A: Not Caucasian men, Caucasian men and women. And I'm going to add that in specifically - because we keep – we look to the men and there's this huge group of women who are under recognised.* [Participant 32: Gov]

This is consistent with recent national trends identifying on ongoing decrease in the gender gap of consumption (Slade et al., 2016; Yusuf & Leeder, 2015), indicating an increased demand for treatment services targeting all genders. As another participant explained:

> *So, the families that are here feel quite isolated…because they might not know many other women with kids and able to socialise as they would in, say, Adelaide or Sydney or Melbourne or wherever. So, the women have that kind of isolation issue going on there as well, like that not having their girlfriends around, other people who understand what the life is like up here, being away from your mother and the grandparent's kind of thing.* [Participant 5: NGO]

The NT has transient population, which hosts military and mining families, as well as offering lucrative short-term contracts in a number of professional fields. This means many non-Aboriginal people living in the NT do not have a strong social and familial circle supporting them. For those who work, there is forced social interaction, but this is removed for parents who remain at home with small dependent children (and despite shifting societal norms, the stay at home parent remains overwhelmingly the mother) (Australian Institute of Family Services, 2018). There is some international evidence to suggest that wives of expatriated men experience significant isolation and subsequent harmful alcohol consumption (Kupka & Cathro, 2007). Women are less likely than men to seek alcohol treatment (Cohen et al. 2007), and this is potentially an important area of unmet demand in the NT.

While outside of the scope of this study, community development projects that focus on protective factors are an integral part of the alcohol services system. Protective factors for alcohol abuse include; positive family relationships, meaningful employment and education, social connectivity, and connection to culture and Country (Gray et al. 2010). An example of these projects would be the Alcohol Action Initiatives, which fund local projects such as men's sheds, culture camps, FASD and AOD workshops, and strong women's groups, among others (National Partnership Agreement, 2016; NT Department of Health, 2018c). The integration of health promotion and education with community development has the potential to act as a prevention and early intervention mechanism which may target and alleviate multiple social issues.

Strengths:

There is evidence of targeted preventative health interventions in the NT, particularly towards Aboriginal people living in remote communities. The Remote Alcohol and Other Drugs Workforce, and Social and Emotional Wellbeing staff, play a pivotal role in this regard.

There is a general awareness among the alcohol treatment services sector about the harmful impacts of alcohol among other vulnerable population groups.

Gaps:

There are minimal preventative health interventions targeted at non-Indigenous Territorians, particularly women, and middle-aged and older Territorians.

While GPs are providing 18% of alcohol treatment in the NT, preventive health efforts to raise awareness of the harms of alcohol consumption could be bolstered.

Targeted education campaigns outlined in the Alcohol Harm Minimisation Action Plan 2018-2019 could be expanded beyond Fetal Alcohol Spectrum Disorder and the Banned Drinker Register.

Screening and brief interventions

Screening and brief interventions (SBIs) are a form of treatment which may exist in isolation or be associated with further referrals. In the DASPM care packages, BIs are specified as a short conversation (15 minutes) between a patient and a nurse or allied health worker, who provide advice and information to people 'at-risk'.

DASPM predicts the largest treatment gap to be in the mild interventions, which are these 15-minute single screening and BIs (see Table 23, pg. 45), estimating that between 18,500 and 19,000 people require a SBI every year and are not currently receiving it. We explored the qualitative data to assess whether a similar gap was perceived by the respondents.

In general practice (GP) settings, this was certainly the case:

> *GPs are pretty key in people's lives so that's a gap for me, to not be able to have a GP that I can refer to confidently knowing that they're going to be reinforcing the messages that we're working through…* [Participant 5: NGO]

> *I see GPs as part of that treatment process as well. An important area that we need to tap into a bit more… [organisation] are working on care pathways or treatment pathways with the GPs…I'm surprised they didn't work on that earlier.* [Participant 38: Commissioner]

The other setting for BIs is within the Sobering up Shelters. Approximately 70% of all clients attending a SUS receive a BI (see Chapter 2). Respondents from SUS services likewise noted the importance of providing BI within that setting (for more information on SUS see the recent evaluation; PricewaterhouseCoopers Indigenous Consulting Pty Limited, 2018)

There is also evidence from the interviews of brief interventions and motivational interviewing occurring between a parole officer and an individual. This form of motivational Interviewing(MI)/brief intervention is likely to be more intensive than the 15-minute primary health care practitioner type interventions specified in DASPM, and more akin to a moderate intervention.

> *We certainly get trained into brief [intervention roles], what they call motivational interviewing. Where we can move people on from pre-contemplative to the action*

stage to get them ready [for further treatment]. There's significant training involved. [Participant 13: Gov]

Importantly, several services also conducted "informal" SBIs in that this form of treatment may not (always) be officially recorded in their services as such but formed an essential part of their outreach activities and building rapport with potential clients. For example, in small towns, SBIs were often described by services as a very informal chat, which is also beneficial to the rapport building essential in these environments, and could be conducted at any opportunity.

We see them in community and we go, "How are you, you want to come up and see us, come up for a cup of tea and a biscuit." Because they'll all have their milky tea, three sugars and a biscuit. And we talk brief intervention and off they go again. I can be sitting in the footpath with them. I'll go to get a coffee and [end up] sitting there talking to them. [Participant 36: Gov]

Services which offered counselling and RRS also discussed outreach components of their service which involved provision of education and advice, alongside rapport building. These are described as forms of brief intervention, occurring off-site from the specialist AOD service at social or health services in the area, or in relevant public spaces. This also allowed for relationship building between potential clients, as well as between services.

There was a kind of soft engagement where the AOD liaison officer would sit up at the clinic and try and engage through this, and through that, which had one or two successes of people being like 'okay, I will talk to someone'. So that was quite good, nice soft approach. [Focus Group 7: ACCHO]

One of the challenges with both quantifying the extent of SBIs being delivered, and with establishing perceptions of this form of alcohol treatment is that few data are systematically collected. More consistent use of the AUDIT-C tool, a brief 10 question screening tool that reliably identifies patients who are considered to be hazardous drinkers, or have active alcohol use disorders, should be encouraged to improve relevant staff's confidence in conducting, and awareness of the need for, SBIs. International studies demonstrate that this tool is reliable amongst a range of ethnic and cultural groups (Frank et al., 2008; Gache et al., 2005).

Strengths:

SBIs are being conducted in GP and SUS settings, though the frequency of these could be improved.

There is evidence that correctional staff are also conducting SBI/MIs, though this is not captured in the met demand component (Chapter 2).

Evidence suggests that outreach staff and RAODWs provide SBIs on an ad hoc basis.

Gaps:

The DASPM modelling notes that SBIs reflect the greatest treatment gap. Investment in training and awareness for all relevant staff to undertake SBIs is crucial. This is particularly important for those staff working in SUS and GP settings.

More diligent documentation of MIs in the correctional setting will help to quantify (and plan for) the current alcohol treatment service provision for people in detention, particularly those assessed as having mild or moderate alcohol problems.

Counselling

As explained in Chapter 2, counselling accounts for the majority of alcohol treatment in the NT (49%). Participants noted that the majority of counselling was provided by psychologists, AOD workers, and SEWB workers.

Counselling was described as client centric and, even in a 'program' or group setting, based on achieving client goals. In larger population centres, there were counsellors who specialised in different cohorts; such as youth, family, and dual diagnosis. Adjustments were made, where appropriate, to include the involvement and accommodation of families; such as working with young people and their parents, working with multiple harmful users within one family, and providing spaces for children's entertainment while parents (particularly mothers) were in counselling sessions.

> *Whereas some of the chronic, older, really, generational entrenched drinking stuff - our families - where we're working with grandma, mum and kids – we are working with three generations.* [Participant 30: NGO]

This is consistent with evidence presented in Chapter 2, which indicated that a significant component of counselling is provided by ACCHOs and therefore focused on holistic and social and emotional wellbeing care, tailored to the client's needs at that point in time. Explorative data suggests that this format of care appeared to be highly regarded and utilised by NGOs as well.

In a very remote setting, the Remote Alcohol and Other Drug Workforce (RAODW) provided much of the general counselling and support service, with in kind specialist support often provided ad hoc by drive-in-drive-out (DIDO) and fly-in-fly-out (FIFO) workers. Some of the larger very remote communities do have other services, both NGOs and ACCHOs, providing AOD counselling. The need for local alcohol treatment service provision in Aboriginal communities, such as counselling, was deemed to be important.

> *[The 24hr AOD helpline] a very useful service but again, people need to choose to engage in it and I think that sometimes – that face to face stuff is really, really important, that's why the Remote AOD Workforce do such great work…If people can't nominate a close family member that is going to be supportive and not drink, it's really hard to, but the Remote AOD Workforce do that great.* [Participant 10: Gov]

For more information on the RAODW see pg. 79. There was a deeper consideration of cultural norms and protocols regarding family involvement in these very remote locations, consistent with community development approaches appropriate for this context (Allan, Ball, & Alston, 2007; Calabria et al., 2013) Indeed, there was an emphasis on including multiple family members in treatment.

> *What we do there is generally group work, most of the community is group work… then with the whole family we encourage them to come in and start looking at it a bit deeper.* [Participant 5: NGO]

The protective aspects of family and culture should be encouraged in the development of an alcohol treatment framework. It is also envisaged this may assist in sustaining connection to country and culture for Aboriginal clients.

Case management was often offered as part of counselling, particularly for clients who had been referred (or in some cases mandated) by government agencies.

> *It's predominantly therapeutic counselling. However, when there's case management indicated – like there's a gap in a service or something like that, I'll work with the client. I work with Corrections clients as well as clients referred by all sorts of different sources – hospitals, Territory Families [and school]. Sometimes doing some advocacy work if it's within our capacity.* [Focus Group 1: NGO]

In many cases for complex clients there was no definitive answer as to who the lead agency should be or who was best trained and positioned to provide comprehensive case management. The exception to this was when government agencies had duty of care[5] to the client (such as Territory Families or Corrections), in which case they assumed the comprehensive case management role. For clients who were not under a duty of care, the case management was ad hoc and based on the staff's workplace relationships and case management training. Identified case managers who were appropriately trained and had the capacity to be involved long term with client's continuum of care was discussed as important.

> *But [I think we need] a proper holistic response with patient as a centre. We need to actually have a decent hub and a decent inter agency meeting that is actually given priority. And it's not based on goodwill and individuals. We need to have case managers who actually understand case management, that whole social work component we are missing terribly.* [Participant 32: Gov]

Counselling services were generally perceived to be appropriate and effective, for clients who had social supports. The structural and operational requirements of these services meant that clients who did not have permanent addresses, phone numbers, or the ability to consistently make appointments often 'slipped through the cracks'. Some organisations recognised this and had implemented steps to respond to the extra time and resources it took to appropriately support individuals who were experiencing severe poverty and subsequently disconnected from mainstream society.

> *I think sometimes we find that people close cases a bit early maybe because people are really hard to find. That was part of why they [started] our program, or part of it being assertive outreach, because it's important for us to keep looking for people. Until they tell us, "No, stop looking for me," but yeah, it's a really important part not to go, "Oh their phone is not ringing, we've tried a few times."* [Focus Group 8: ACCHO]

Larger organisations were often able to offer relevant inhouse support via programs run by other divisions (i.e. parenting programs, financial literacy, emergency support etc.). To this end those organisations that have a range of treatment and care options co-located or in relative close proximity to each other, seem to report less difficulty with managing high need clients. This does not suggest that each organisation should be a 'one stop shop' but a more integrated approach is beneficial.

For clients who were high need, and if counselling services did not have staff capacity to provide the additional support required, RRS were often explored as an option. This is discussed further on pg.59.

Strengths:

For clients who had good social supports counselling was perceived as accessible, appropriate and effective; this is reflective of Chapter 2, which found counselling was the most common treatment type in the NT (49%; based on episodes of care).

Many services reported tailoring their counselling programs effectively for a variety of client needs, particularly regarding family involvement.

[5] Duty of care denotes an organisation's legal responsibility for the safety of an individual.

Heightened investment in the provision of community-based counselling was encouraged by most participants, particularly those in regional and remote settings. This reinforces the importance of investing in local solutions when clinically safe to do so.

Gaps:

In some instances, services who deliver counselling are attempting to undertake what would usually be considered to be case management functions, due to a perceived absence of appropriate social supports that sit outside of the remit of the alcohol treatment services system. Better co-ordinated case management is therefore required.

Lack of transport and other social supports among vulnerable clients impinges on their access to some counselling services. This requires better cross-sectoral co-ordination and management.

Withdrawal

Withdrawal services were mentioned but rarely focused on by participants, with Chapter 2 noting both inpatient and unspecified withdrawal accounting for 3.6% of EOC. Withdrawal services were typically provided by the local hospital who would then liaise with other alcohol treatment services as part of discharge planning, whether that be counselling, RRS or other treatment types. Conversely, RRS would also send clients to withdrawal services, both medicated and non-medicated, prior to entry if required (usually if the program mandated abstinence). That is, as well as being a form of treatment, withdrawal also provided an important client pathway between different types of treatment services.

In a very remote setting, where there are small populations but high turnover of staff (particular doctors), liaison with community-based treatment services and hospitals was viewed as paramount to ensure client safety and appropriate management.

> *If we get clients that we know are going to be unwell in hospital, we liaise with the head doctors in ED and we go, "Look, we've know this fella, we know in the past when he withdrawals he needs to go straight through [to larger hospital]"…Because some of the doctors go, "Oh yeah, we'll manage them here." And then it's too late if they're withdrawing. Especially if they're blowing high threes and we know. Like, we've got a guy, he can be an active withdrawal and still blowing high threes and he's a little fella. So we know to get him out real quick.* [Participant 36: Gov]

There was some evidence presented that withdrawal programs were more accessible for individuals with jobs, when compared to RRS, because they were short term and could include the provision of a medical certificate to explain absences.

> *What we find good is patients that work and have mortgages can get a [medical] certificate for their boss while they're there and so then there's not that income burden.…Nine days is considered to have completed the program… but it's fairly flexible [based on implementation of discharge plan].* [Participant 10: Gov]

Strengths:

Engagement in withdrawal services makes other alcohol treatment service pathways (both less intensive and more intensive therapeutic options) more visible to clients.

Withdrawal services act as a catalyst for client engagement in other alcohol treatment services, such as RRS, counselling or day programs.

Withdrawal services (and associated medical documentation) made alcohol treatment more accessible to clients in employment, when compared to the longer duration of RRS.

Gaps:

Limited access to withdrawal services in remote locations was considered to be problematic. It frequently hampered point-in-time engagement, and consequently impacted the immediate safety of clients and significant others. The provision of locally based withdrawal services in remote locations, where adequate clinical supervision can be guaranteed, should be considered.

There is an opportunity to build on emerging evidence showing that withdrawal services explicitly linked to, or co-located with, other types of alcohol treatment services can help to streamline the client journey, and potentially improve client outcomes.

Utilising the expertise of GPs in managing withdrawal, in tandem with other social supports, could be promoted more assertively.

Day programs

Day programs were only discussed by participants in the context of provision by an RRS. That is, individuals would attend the program run by the RRS, at the RRS, during the day, but return home overnight. This was perceived as appropriate for clients with caring responsibilities, particularly children, that made a residential program impractical.

When the program being run was appropriate some services encouraged women to bring their young children along, *"[The Friday session] is based around women and children. So the ladies can have their babies there if need be*" [Focus Group 3: NGO]. Understandably it was not always appropriate to have babies and young children attending, and this was a significant gap in service provision for mothers.

> *I had a woman who wanted to go [day program] and she couldn't go because she had a baby and at that point, she couldn't get the baby in [to child care]. So yeah, we need support for people with children, not having to go all the way to Darwin for rehab with their kids.* [Focus Group 8: ACCHO]

Strengths:

Some RRS recognised that residential options were not always appropriate for clients and offered a non-residential option to some clients. This was considered particularly important for clients with children.

Gaps:

Moderate to high intensity, non-residential, alcohol treatment options could be expanded. This would better cater for (potential) clients that find it difficult to access RRS, but that require more intensive therapeutic support than that currently provided through community-based treatment options.

Clients with children (both males and females) face multiple barriers in accessing alcohol treatment services, including day programs, withdrawal services and RRS. Stronger partnerships with education and child protection systems could benefit these clients, particularly the provision of more accessible short-term child care options.

Child and Family Centres (in communities where they exist) could be better utilised for engaging parents with alcohol problems, particularly women at-risk. Preventative health interventions could also be bolstered through these facilities.

Residential rehabilitation

As outlined in Chapter 2, 3.2% of EOCs in NT are provided by RRS. It should again be noted that an EOC for counselling means a single session (so multiple EOCs usually occur) but an EOC for RRS accounts for the entire stay.

As discussed previously on pg. 56, many participants discussed a particularly high-risk group of clients for whom community-based services were deemed inadequate, due to the clients' extremely disadvantaged and dysfunctional lives. Entrenched poverty, disadvantage, and oppression, are high-risk factors for problematic alcohol consumption and vice versa.

> *That [excessive drinking] is obviously a coping mechanism for someone that is so disadvantaged. And I think that the treatment will not change anything.* [Focus Group 6: ACCHO]

> *I think alcohol and drug addiction is pretty clearly a symptomatic outcome of hopelessness and no other option.* [Participant 20: Commissioner]

The harms of alcohol in the NT is much higher comparative to other jurisdictions, much of which is due to high levels of endemic poverty and disadvantage (Smith, Whetton & d'Abbs, 2019), and many community-based services spent a substantial portion of interviews discussing their high-risk client group. RRS appeared to be perceived as a location which allowed clients a period of time away from incredibly stressful lives, allowing treatment to be more consistent.

RRS provides clients with the basic provisions for good health (e.g. consistent meals), monitored medication and medical appointments and, albeit sometimes brief, cessation of alcohol consumption. The management of chronic diseases and risk factors were discussed as a positive by-product of this supported environment.

> *They come in and they've probably been spending a lot of their money on alcohol, and we feed them very well here, and they actually look quite healthy and they take their medication regularly. Their actual chronic disease is not what we're meant to be doing, but just by providing one of those environments that give access to those things is quite significant. Regularly eating, regularly taking medication and regularly not drinking, health improves quite quickly.* [Participant 41: ACCHO]

The majority of RRS clients were noted as unemployed and on welfare (Centrelink). The cost of RRS was discussed as not being well understood or publicised, and that realistically clients had to be on Centrelink in order to attend. This was also important in the conversation around economic and social responsibilities such as mortgages and children.

> *I always say to a people when they say, "I want to go residential rehabilitation," it costs money because people are shocked that they have to pay and don't want to go if they have to pay.* [Participant 10: Gov]

> *Apart from the fact that rehab life doesn't suit everybody, the actual system doesn't suit everybody, because if you've got a mortgage or you're paying rent or you've got kids or whatever else, you can't take 12 weeks out of your life and not pay for anything while you're in a rehab. It's perfect for people on Centrelink or people who have got very rich parents. We've never seen anyone with very rich parents, but we've had a lot of people on Centrelink.* [Participant 7: NGO]

By virtue of the requirements for accessing RRS, clients either had to be; very disadvantaged; receiving welfare; have no children (or have children in care); and have no purchases requiring repayments. We highlight that individuals had to both be on Centrelink and have no economic responsibly to family, because when Centrelink money was redirected to RRS, families could be severely disadvantaged.

> *Yes, it's a financial issue because they have to pay for it. If they're not working and they don't get an income…But we have also the people on benefits that go in and 95 per cent of their funding goes into supporting the program which means the family is not supported.* [Focus Group 4: Gov]

Certain clients were noted as cycling in and out of RRS multiple times. This was mentioned by all RRS included in the study.

> *We had one client – he's passed away now – but 33 admissions over like 20 years, but it equalled seven years of sobriety. So, 33 admissions equalled seven and a bit years. So, he died at age 60. If he hadn't had [RRS] it might have been 50, do you know what I mean?* [Participant 26: ACCHO]

This highlights the long-term nature of alcohol treatment, which can be conceptualised as a chronic disease (Dennis & Scott, 2007; McLellan, 2002). That is, the progress of many clients consists of multiple cycles of recovery, relapse and repeated treatment (Dennis & Scott, 2007). Appropriate recognition of this is vital in an effective and realistic alcohol treatment services system.

There was regular discussion about perceived 'waitlists' for some RRS clients. However, there was a lack of consensus among participants about 'waitlists', with contradictory evidence presented between different stakeholder groups. Tensions were evident between commissioners and RRS service providers; and between participants from Corrections and health sectors. Commissioners often focused on unoccupied beds to suggest 'waitlists' were fictional using reported data to verify claims; whereas RRS service providers usually focused on the operational issues faced when allocating and/or holding beds (perceived to cause a 'waitlist' pipeline), which depended on referral pathways, client motivation, and the cultural obligations of Aboriginal and Torres Strait Islander clients. Some participants argued that 'waitlists' were indicative of RRS privileging different client groups, perceived to be driven by either the source of funding or personal circumstance and social context of clients. The majority of participants perceived that self-referrals into RRS were generally given the highest priority; followed by health system referrals; then followed by Corrections referrals. However, two commissioners argued the occupancy rates of RRS did not substantiate these claims.

Strengths:

RRS were regularly perceived to be the preferred treatment option for clients with severe alcohol problems, particularly those without adequate social supports. Most participants considered that current NT-based RRS appropriately met client needs

Some clientele were noted as cycling in and out of RRS, the benefits of this repeated care (across their lifecourse) were considered to be important and appropriate.

Many RRS providers also deliver a broader range of alcohol treatment services.

Gaps:

The financial burden of both treatment and transport costs (explored further on pg. 76) was a barrier for accessing RRS.

Different understandings about waitlists for RRS are apparent. Further investigation of optimal bed usage is needed for future service planning.

The role of RRS as part of a stepped model of care is important. Early cross-sectoral and multi-agency engagement was identified as a gap and was considered to be critical for the health and wellbeing of RRS clients, particularly when exiting care.

Continuing care

Numerous participants raised concerns that treatment should not stop when RRS care ceases. Continuing care is an essential part of what constitutes alcohol treatment. Such care relates to both the ongoing support aimed at reducing the harms of alcohol consumption (i.e. part of an alcohol treatment services system) and intensive social supports and services (i.e. part of a broader social services system). If both do not work in tandem, client health and wellbeing outcomes can be jeopardised.

Service providers frequently discussed concerns about the ability of clients to maintain a reduction in, or cessation of, alcohol consumption upon exiting RRS. This was often linked to the stressful and complex lives clients continued to be exposed to post engagement with RRS.

> *But the unmet need would be, well, what happens when they go back? And you see the – well some of the clients I'm sure have been here many times over the years. And then they return back to the wider community. And then I suppose it's probably quite tough to live a structured life out there. Because, you know, they don't have the same protections.* [Focus Group: 3 NGO]

There were some positive practices in place including referrals to a client's local service provider and the provision of transitional housing after completion of RRS programs.

> *Yes, so we have the remote AOD [workforce]. We make contact with remote AOD to see if they can provide that external support once our clients have exited.* [Focus Group 2: ACCHO]

> *We have another site at the town which is the aftercare…They can stay there…look for employment, and we have our aftercare manager there helps them with all those things.* [Participant 3: ACCHO]

> *So for instance people leaving Residential Rehab, we actually take them to the Sobering Up Shelter whilst they're a client and show them around the facility and say, "Look, this is a safe place [if you get intoxicated]."* [Participant 1: NGO]

Not all RRS facilities offered transitional units, and not all service providers considered that clients found that option suitable - particularly if they had families or communities they wished to return to. Problems also emerged when clients discharged from RRS early, before exit planning had been completed; when, in a remote setting, there was not an available service to be referred into and when collaborative case management was executed poorly. In some cases, there was little engagement between community services and RRS aside from referrals, and as such, clients occasionally fell through the gaps when moving between treatment and social services.

Continuing care within a community setting occurred with greater ease, with an 'open door' policy in many services allowing for variation in intensity of care. The amount of outreach involved in following up with clients in a community setting was heavily dependent on the funding and capacity of the service.

The National Partnership on Northern Territory Remote Aboriginal Investment provides funding for aftercare treatment services in remote communities upon exit from AOD treatment (National

Partnership Agreement, 2016). These services are currently provided by FORWAARD (Darwin), Danila Dilba (Darwin), Kalano Community Association (Venndale)(Katherine), BRADAAG (Barkly) and Central Australian Aboriginal Congress (Central Australia). This significant investment aims to address these complex client needs particularly those living in remote communities, where extensive support is required to follow up with individuals who may not have a permanent address or method of contact.

Strengths:

Continuing care and discharge planning (from RRS) occurred regularly, with evidence of providers linking with community-based social services at the local level to meet client needs.

Gaps:

Issues with the provision of continuing care arose when clients exited RRS early; when there were gaps in staffing; and when clients were not properly engaged with external services prior to discharge from RRS.

The provision of continuing care for clients living in remote locations was considered to be challenging. The tyranny of distance meant such care was perceived to lack the intensity and continuity required to achieve desired health and wellbeing outcomes.

There are insufficient staff with the necessary skills to support the scope of cross-sectoral engagement required to support continuing care. The skills and expertise of the non-clinical AOD workforce, such as the Remote Alcohol and Other Drugs Workers and Social and Emotional Wellbeing Workers, could be better utilised to build and sustain strong cross-sectoral partnerships that enhance both preventative health interventions and continuing care across the alcohol treatment services continuum.

Factors impacting demand

The following sub-sections describe factors perceived to impact demand. They relate to most treatment types and highlight issues for consideration in the development of an alcohol treatment services framework, rather than specific service gaps.

The intersections between alcohol and other drugs treatment

As previously noted in Chapter 1 the remit of this report was to examine demand for alcohol treatment. However, all specialist services who offer alcohol treatment also offer treatment for other substances, which both acknowledges, and appropriately accommodates, polydrug-use. This was particularly relevant to the reported use of alcohol and cannabis ('ganja'). Conjoined AOD services were subsequently discussed as necessary and appropriate. However, there was frequent discussion about which drug was identified as the primary reason for seeking treatment, and participants reported this was often based on social acceptability. One participant discussed the dismissal of alcohol use by some clients because of its social acceptability, while another noted the nomination of alcohol use or cannabis use because of its social acceptability comparable to other substances, such as methamphetamine use.

> *I've always worked with polydrug users, just having an alcohol problem seems non-existent. Sometimes alcohol is not necessarily listed as their primary drug of concern, so they come in for cannabis use or whatever and there's harmful alcohol going on with it. But they might not see that as their primary drug use, they might see it as cannabis.* [Participant 5: NGO]

> *Most of our people in our rehab are polydrug users. Probably all of them, really, I'd say.* [Participant 7: NGO]

Individuals may receive alcohol treatment by virtue of their referrals to treatment services for other substances. That is, alcohol treatment can be an inadvertent outcome, rather driven by demand.

High levels of complex trauma

The association between trauma and alcohol and substance misuse is well established; the majority of people experiencing alcohol misuse have experienced at least one episode of trauma (Husain, Moosa, & Khan, 2016; Van der Kolk, 2017).

> *There's a lot of trauma, as we know that comes with drug and alcohol, people don't use harmfully for no reason.* [Participant 5: NGO]

> *But we're finding that at least probably about 80% of the [clients] here are carrying a significant trauma burden, and we're not talking about intergenerational trauma. We're talking about quite serious trauma and that has quite serious development consequences.* [Focus Group 9: ACCHO]

There was continued evidence presented that the standard definitions of 'severe' and 'complex' clients were commonplace in the NT. This was appropriately modelled in Chapter 3. This may be due to a number of identified cohorts across the Territory who experience higher rates of trauma than the general population.

> *[Aboriginal people] are a huge population in the Territory and they've got a lot of trauma and absolutely we need skills to work with that. The Territory's [also] got a long history with alcohol and fly-in/fly-out people…there's also Defence and…our first responders/emergency personnel.* [Participant 4: NGO]

Defence personnel and their families account for approximately 5% of the NT population, with the ratio highest in Katherine – where Royal Australian Air Force (RAAF) families make up 25% of the population (Department of Trade Business and Innovation, 2018). This study did not have access to Defence health system data and as such cannot explicitly comment on uptake and use of treatment services among this cohort. However, evidence suggests that current and previous military personnel exhibit disproportionately high rates of PTSD and alcohol abuse compared to the general population (Head et al., 2016; McFarlane, 1998). The FIFO mining lifestyle has likewise been associated with alcohol abuse, attributed to the trauma of absences from family and frequent family violence, break-ups and parenting problems (Stockwell et al., 2001). The rural and remote workforce, particularly those who work in response roles such as primary health care professionals and police, also experience greater exposure to violence and higher rates of PTSD than their urban counterparts (Barratt, Stephens, & Palmer, 2018).

Aboriginal clients were noted as often having experienced very intense trauma, usually comprising multiple components. Remote Aboriginal communities have one of the highest recorded rates of survivors of specific traumatic events in the world. Subsequently the rates of PTSD, alcohol abuse and self-medication are also extremely high in these communities (Nadew, 2012). In the Aboriginal long-grassing population of Darwin, individuals had personally experienced an average of 10 traumatic events across their lifetime (Holmes & McRae-Williams, 2008).

> *A lot of my women are [affected by] domestic violence, pregnant, homeless, with addictions, lost their kids to Territory Families. That's a massive trauma case.* [Focus Group 3: NGO]

> *Our clients are not even heavy-duty, they are super-duper heavy-duty with complex issues.* [Focus Group 6: ACCHO]

An important aspect of this complex trauma is its intergenerational nature, furthering the complexity of service provision for these clients.

> *Yeah, co-existing comorbidity issues. And not only do they include, mental health, we also have an identified area of trauma being associated with the drug and alcohol use. And then you get into dynamics of interpersonal trauma and intergenerational trauma. And we then have a cycle of continual use within that family.* [Participant 18: ACCHO]

The high levels of trauma experienced by clients of the alcohol treatment system in the NT are well documented, and the subsequent recognition of this by the alcohol treatment sector is encouraging. Training about trauma informed care has been incrementally embedded into professional development opportunities across the sector, with concurrent changes in practice. However, further strategies for acknowledging and addressing the impact of trauma must be planned with, and adopted by, the NT AOD treatment sector. Staff who work with groups that have experienced high levels of trauma should be supported with relevant training; this includes most frontline staff, both within and outside of, the alcohol treatment sector.

Accommodation needs

Housing was a large concern for many clients "*It's very rare we have a client who's not telling us to help them with their accommodation at some stage"* [Focus Group 8: ACCHO]. Particularly for RRS, clients were often homeless. There was a tension noted in RRS regarding a client's motivation to enter residential services; whether it was for a bed, or whether they were committed to treating their alcohol dependence.

> *Before they were saying it was countrymen and the wet season[6] and somewhere to sleep and stuff like that. I mean, we still have that situation but that's now a year-round situation for us. Lots and lots of homeless people.* [Participant 17: ACCHO]

> *For some yes, it's more a housing need.* [Focus Group 2: NGO]

This raises questions about the provision, availability and accessibility of other supported accommodation options for these clients. Arguably, there are alternative forms of accommodation that could be cheaper and less therapeutically intense than RRS, if treating alcohol dependence is not the primary reason for using the treatment service.

Availability of housing was likely to play a key role in a decision to enter RRS. For people who are deeply disadvantaged, having accommodation and the ability to access supports for eight to twelve weeks, was an important component in making significant changes in their life:

> *People often have a desire to fix their lives kind of thing, that they'll hold onto and that might be a number of things all mixed together in terms of getting housing, getting other sorts of supports, counselling supports and alcohol support altogether. So, yeah, I think it's individual. But, without a doubt, it plays a factor, yeah. Someone said to me last week, I really want to go to rehab, have you looked out there, see the clouds.[7]* [Participant 19: NGO]

The National Partnership on Northern Territory Remote Aboriginal Investment provides the funding for individual support programmes in Katherine and Alice Springs (National Partnership Agreement, 2016). The Katherine Individual Support Program (KISP) is an innovative intensive service being provided to high need individuals, targeting people who are homeless and have an alcohol use disorder. Tangentyere Council Individual Support Program (ISP) provides assertive outreach, case management, and therapeutic peer support groups to Alice Springs Town Camps and surrounding areas.

[6] 'Wet season' refers to the tropical monsoonal season experienced in the Top End of NT.

[7] This interview was conducted in November, during the tropical monsoonal season.

Programs of this nature may help to reduce the number of clients seeking alcohol treatment at RRS, by providing the social supports for them to seek treatment in their communities. Separate evaluations of both programs are underway, but were not available publicly at the time of writing this report. The Housing Accommodation Support Initiative currently being piloted by Anglicare for clients with mental health concerns may also provide a useful model.

Safety

Avoiding high levels of interpersonal violence resulting from harmful alcohol consumption was a factor in individuals seeking alcohol treatment options that included an accommodation component, such as SUS and RRS:

> *We have some people that actually go to work each day but choose to stay at the Sobering Up Shelter for the night because they know that they've been out and that they're intoxicated. They know it's a safe place where we'll actually get them up to be able to go to employment the next day, and they know they're not going to be involved in drunken domestic violence or anything like that at their property.* [Participant 1: NGO]

> *There's a real need for mothers and children without that male. So, we've got a few women that have been through the program that I know that when they're out they're not really safe. And I know that's a lot of pressure on them and they're here for their children, that's their motivating reason for being here [in RRS] and yet we release them out there with no real safety net. They want to be with their children, but they know that sooner or later he's going to come knocking on the door and the cycle starts all over again.* [Participant 18: ACCHO]

The safety of women experiencing a violent situation could be a deciding factor for referrals to a RRS that was a significant distance from the client's home. Participants consistently indicated that their male clients were seeking support from an alcohol treatment service as a result of assaults committed while intoxicated (most which had caused engagement with the criminal justice system as well). Domestic, family and sexual violence (DFSV) is a significant precursor and perpetuating factor in alcohol misuse, and vice versa (Livingston 2011; Murphy & Ting 2010; Phillips & Vandenbroek, 2014).

In the NT the rate of DFSV is three times higher than any other jurisdiction; and eighteen times higher for Aboriginal people than for non-Aboriginal people (NTG, 2018b). This needs to be accommodated during the development of alcohol treatment services framework, and intersections with the *NT Domestic, Family and Sexual Violence Harm Reduction Strategy* made explicit (NTG, 2018b).

As both SUS and RRS are providing safe accommodation for people who are at high risk of DFSV in the community, strong links between these services and local DFSV services are required. The significant concerns raised about client safety upon return to their community needs to be an essential element of continuing care, particularly in regard to referrals to existing safety-oriented services in communities. The cross over between both offenders and victims of DFSV, and clients of all alcohol treatment services should also be recognised. The relevant agencies and community safety organisations should be considered in the development of a treatment framework.

Culturally responsive services

Given the high uptake of alcohol treatment by Aboriginal clients (88%) it appears that many services are providing culturally appropriate care. While ACCHOs provide a large proportion of this care (44% of EOCs; servicing 30% of people receiving treatment; see Chapter 2), it is does not account for all Aboriginal clients, indicating that NGOs and Government services are also providing appropriate care. Cultural safety and security were acknowledged as being important for client recovery, and thus an inherent part of the way treatment services are conceptualised in the NT. Many examples were shared by participants who described how they had shaped their alcohol treatment services to be more culturally responsive to client needs. Examples included:

- The employment of Aboriginal staff, particularly those who were local and/or spoke language
- Engaging traditional healers (Ngangkari)
- Allowing leave for Sorry Business or cultural ceremonies (in a RRS)
- Involvement of relevant local Aboriginal external services

The impact of gender and kinship structures was particularly poignant for treatment provided in RRS, and could cause tensions.

> *The men and the women being so close, particularly for Indigenous women, that's a very difficult environment to live in. Because there are Caucasian men that you don't know and are not related to. Even for Aboriginal men, it can be hard because they come out and they get accused of jealousy…But it's also tricky with the double up because you'll get one service that's Indigenous-focused that is delivering an identical service to somebody else but you're a non-Indigenous person that doesn't feel comfortable with that.* [Participant 10: Gov]

Importantly, overall cultural and family responsibilities were noted as potential protective factors, and in some cases, were discussed as a form of detox.

> *I mean even one man that we thought, okay if anyone is actually really an alcoholic and their body is really relying on alcohol, it's this bloke. His brother passed away and they had a funeral and there was 'business' to attend to out at [remote area]. He ended up out there for two and a half months and was totally fine.* [Focus Group 8: ACCHO]

This does not mean that cultural obligations or being on country automatically acts as a detox process for all clients. Rather this highlights the importance of culture as a healing modality for Aboriginal clients (David et al., 2018; Munro et al., 2017; Rowan et al., 2014). Further investment in this space should be prioritised.

Despite these positive indicators, there was a narrative regarding the Westernised nature of the overarching alcohol treatment service system; "*I think we still work from a pretty Euro-centric framework"* [Participant 24: ACCHO]. In many respects, Aboriginal clients are expected to accept these at face value:

> *The main clients would be Aboriginal and Torres Strait Islander. Or Caucasian Australian. But the [Aboriginal clients] that engage with me, have usually been – had their feet in both cultures, if that makes sense.* [Focus Group 1: NGO]

The lack of consistent family involvement in the current alcohol treatment service system in the NT was noted as problematic for some Aboriginal clients, because of cultural structures which favour a collective (rather than individualistic) approach. Concerns regarding the treatment of individuals with no concurrent family involvement or support, were noted by several participants.

> *There's very little family involvement. It's predominantly focused on the individual and the person to be responsible for recovery rather than looking at an all-family approach…And family have very little say on their concerns for when it comes down to a loved one with addiction issues. They have no input at all because our system is so geared bureaucratically towards confidentially rather than encompassing the whole cultural side of family and connectivity.* [Focus Group 7: ACCHO]

> *It can't be individuals, because everybody operates as a collective unit and family and an extended area.* [Focus Group 5: ACCHO]

Cultural pressures, such as humbug, can be damaging for some Aboriginal clients. It was also noted that the support provided through close-knit familial and kinship structures is often an important factor in supporting successful outcomes. Services that can better accommodate familial and kinship ties, particularly for vulnerable cohorts such as young pregnant Aboriginal women, were perceived as important.

> *A1* *And that's certainly something that people talk about when you ask was there a time when you don't drink or you feel more supported, it's often when I'm out with family in community or on country or out at the outstation…..*
>
> *A2* *Yeah and I know that [service name] have been pushing to have, or trying to have accommodation for women who are pregnant but going back again to that being a place where Aboriginal women feel safe and okay to go, especially young women.*
>
> *A3* *Who need the company of their sisters and mums and their grandmothers and that sort of – for young women.*
>
> *A2* *Absolutely, having it easy for people to visit.* [Focus Group 8: ACCHO]

The employment of Aboriginal workers across the alcohol treatment system in the NT was regularly identified as an important feature of building and sustaining a culturally responsive treatment services system. Most ACCHOs described the importance of Aboriginal leadership and governance in providing culturally responsive alcohol treatment services. Family focused counselling services, that accommodate cultural and kinship ties, could be expanded; alongside community-based treatment provision delivered in close proximity to the client's family and country in tandem with the support provided through the Remote Alcohol and Other Drug Workforce program. Treatment services predominantly focused on individual care - such as BIs, counselling, SUS, withdrawal, and RRS - could be reconfigured to include collective practices and decision-making to provide a more culturally responsive service system.

Pathways into treatment

This section addresses research aim 3; identify the main pathways into treatment for people in the NT. The main pathways described below are based on the descriptive accounts from interviews and focus groups. As such, the main pathways described below may deviate from the somewhat linear pathways that typify alcohol treatment services in Australia. It is acknowledged that other methods, such as pathway mapping, would provide a different account to those provided below. However, this has not been part of this study.

Administrative data regarding referral pathways from the justice system into NGO and ACHHO alcohol treatment services, specifically those funded by the NT Department of Health, was reviewed. This data refers to the count of closed episodes in the AODTS NGO sector where the principal drug of concern is alcohol. This data was categorised by referrals from either community based Corrections; police diversion – other; court diversion – other; lawyer; prison; pre-release program; court diversion - BDR related; or other. Noteworthy, the data used indicates that the majority of referrals for all treatment types are referred by 'other'.

Numerous pathways into alcohol treatment services were discussed by participants, though some were acknowledged as being more common than others. Referral pathways into alcohol treatment services were often perceived to be initiated by clients themselves, through primary health care services, hospitals, other government agencies (such as Territory Families and Corrections), social services and other alcohol treatment services. Safety has been included as a common factor in many pathways to alcohol treatment services, which should be appropriately recognised and catered for.

Self-referral pathways

Some participants indicated that non-Aboriginal clients were more likely to self-refer to community-based counselling services, but not necessarily for RRS.

> *So, a lot of my Aboriginal clients, most of them are referred from other agencies, but the non-Aboriginal there's quite a number that are actually self-referral. They walk through the door, they give us a call.* [Focus Group 1: NGO]

For some self-referrals for some clients, there was a narrative regarding the role of external services, such as case workers or lawyers, 'recommending' alcohol treatment, particularly RRS, as a way to navigate child protection concerns, such as reunification; and to avoid longer (or any) periods of detention. In the NT, lawyers refer an average of 85 people into RRS, 9 people for counselling and 238 people for an assessment only per annum (data supplied by NT Department of Health, average calculated using last three financial years; 2015/16-2017/18).

Recurrent engagement with services

As discussed on pg. 60, the clinical management of alcohol use disorder has been compared to the management of other chronic diseases, with multiple cycles of recovery, relapse and repeated treatment (Dennis & Scott, 2007; McLellan, 2002). Many services recognised this and actively promoted an 'open door' policy as a pathway to treatment. Recurrent engagement with services was evident through multiple pathway options, including self-referral.

> *So, we do see a few regulars. We do have our regulars and of course, we always try and help them.* [Participant 33: ACCHO]

> *It takes a few times. You may not do it the first time. You've really got to have the ability that you can keep going back. And you know, not having so many restrictions on how many times you can come into this facility within a year or two years or – so making sure that there's an open door.* [Focus Group 7: ACCHO]

Levels of unexpected cessation of treatment are the greatest in remote and very remote areas (31%, compared to 18% in major cities), indicating that for the NT this pathway is particularly important to encourage better continuity of treatment (AIHW, 2019).

Primary health care pathways

Primary health care providers, including GPs, have already been discussed on pg. 53 as they can offer a range of treatment options, including SBI, withdrawal management, ongoing substitution treatment, referrals to other treatment services such as counselling or RRS, and address other co-morbidities.

Clients could also be referred to GPs by other treatment services, often for more clinical support in treatment, and assistance in managing mental and physical comorbidities.

> *We do a lot of work with the doctors at [local clinic] [regarding managing client's mental health].* [Participant 36: Gov]

> *I mean there are some medical treatments like anti-craving drugs that do make some difference.* [Participant 31: ACCHO]

This study has not revealed the extent or efficacy of referral pathways from GPs into treatment services in the NT, and vice versa. The NTPHN is currently mapping multiple AOD treatment pathways as part of its *Health Pathways* project. This system enhancement initiative is designed to support clinical decision making to ensure clients get the right care, in the right place, at the right time.

Sobering up shelter pathways

Similar to GPs and other primary health care providers, SUS can act as both a treatment (SBIs) and referral pathway to other treatment types.

> *Someone will assess them and if they want to go through like the rehab process, they can refer them forward. If not, they can wake up the next morning and just go out.* [Focus Group 1: NGO]

> *[At SUS] we can make referrals through to our outreach services manager or to our mental rehab manager so that people can get some additional support either in the community or in a residential facility.* [Participant 1: NGO]

In some regions, SUS and other forms of treatment are co-located and/or managed by the same organisation. This was recognised as particularly effective as it was perceived to support a more streamlined delivery of care.

Hospital pathways

Many treatment services were receiving referrals from emergency departments and hospital admissions, for individuals who required tertiary medical care as a result of both chronic and acute alcohol harms. The intersection between illness and abstinence was noted as being difficult in a number of situations.

> *Younger people who might have pancreatitis or something like that who just are desperate not to drink and know the health consequences and have been in ICU and extraordinarily unwell. But they're a 20 something-year-old Australian male. How do you look forward to a life of not being able to drink even though you really intend to? The sad thing is we often see them coming being very angry and frustrated with themselves because they have lapsed and the situational circumstances around those people are very, very difficult.* [Participant 10: Gov]

Given the serious consequences of harmful alcohol consumption, attention to this pathway is crucial. This sentiment is echoed in the draft National Alcohol Strategy which emphasises the lack of co-ordinated pathways to care and opportunistic interventions in hospital settings (Cmwlth Department of Health, 2017). As noted above the Health Pathways project is aimed at enhancing this area of intersection, and there is capacity to monitor the pathways used by hospital clinicians through this tool, to assist with future alcohol treatment services planning and workforce development

Referrals between treatment services

Treatment provision may also include a pathway to another form of treatment. As mentioned in the counselling section (pg. 55) this service refers RRS, while RRS will similarly refer to counselling services as part of continued care (pg. 61). This is similar to a step up step down model of service used in some jurisdictions' mental health service delivery (Mental Health Commission, 2017), though notably less formal and as such encounters some administrative difficulties.

> *We've found with rehab [is that you] need to get [a] consent process done before you refer, because once the client is in rehab we've got really stuck - we've made a referral to rehab, but can't get any information back because the client hasn't necessarily put us down on their phone list as someone [the rehab] can contact. So, then it gets really, 'I don't know how to do this' because you can't talk to the client. And exactly that, you want to know how they're progressing; if you think they're about to discharge and they're coming back to community that we can pick them up straight away and help support them through that discharge process.* [Participant 5: NGO]

Being cognisant of confidentiality restrictions, and thus getting appropriate consent, allowed services to better manage clients in the 'step up/step down' model. Small changes in practise can make a substantial difference in client pathways between services.

Mandated treatment pathway

Treatment can be mandated by the judicial system, which is explored in the next section. From 2013-2017, the NT implemented a program called Alcohol Mandatory Treatment (AMT), which has since been abolished. AMT required that individuals who were taken into police custody as a result of intoxication three times in two months were mandated to receive alcohol treatment. This could have been; a community treatment order, either in a residential or community setting; a mandatory residential treatment order; or a release or exemption order. In the case of mandatory treatment orders there was also an income management order (for those on welfare). It was not, however, available to those who committed crimes while intoxicated. This naturally limited the scope to individuals who were publicly drinking or drunk and disorderly. An evaluation commissioned by the NTG noted; the tight timeframe and politically charged environment during implementation had resulted in a lack of program logic. This caused issues with interpretation of roles by service providers. The iterant nature of those targeted, without strategies to address their social determinants and risk factors, resulted in many cycling in and out of the program. Very little data integration or follow-up occurred, making it difficult to monitor individual health and social outcomes (PricewaterhouseCoopers Indigenous Consulting Pty Limited, 2017). Further reviews highlighted that the policy was not cost effective, employed dubious application of a medical intervention, and had serious concomitant legal and ethical implications (Lander, Gray & Wilkes, 2015). Several participants expressed similar concerns.

Banned drinker register (BDR) referral pathway

This pathway relates to referrals from the BDR into alcohol treatment and therapeutic services (rather than onto the BDR; for more information see Smith & Adamson, 2018). An objective of the BDR is to ensure individuals placed on the BDR are offered therapeutic options to improve their health and wellbeing. Some participants recognised this:

> *[Those on] the register now have to be offered therapeutic support. Whether they choose to accept it or not, we have to go out and find them…and it's their choice whether they want to take up the offer…If they choose to take up the offer, we then do a comprehensive assessment*. [Participant 35: Gov]

However, there is currently no mandatory recording of treatment uptake for individuals on the BDR, which makes it difficult to track this referral pathway. A recommendation in the 12-month impact evaluation was "that BDR registration be captured in all Department of Health corporate client systems, including those relating to Sobering Up Shelters (SUS) and other alcohol treatment services. This will enable data-matching between SUS and other alcohol treatment systems" (Smith 2018). At this stage, the ability to track referral pathways of individuals on the BDR is only through their willingness to self-identify to their treatment provider. The 6-month BDR evaluation noted a concern among some stakeholders regarding the promotion and uptake of therapeutic care in this cohort and recommended investment in strategies to encourage engagement with treatment services in this group (Smith & Adamson, 2018).

Referral Pathways used by other government agencies

There were strong links made between engagement with both Corrections (explored further on pg. 71) and Territory Families, as parental alcohol abuse is a common factor in engagement with the child protection system (Smith, Whetton & d'Abbs, 2019).

Female clients of RRS were frequently noted as having their child(ren) removed by Territory Families through substantiated claims of child neglect. Engagement with treatment services, both counselling and RRS, was perceived as a way to provide evidence of rehabilitation to negotiate their return.

> *I think there's a decent portion that gets told by Territory Families that they do need to undergo a program to be able to address what their actual issues are with drugs or alcohol.* [Participant 28: ACCHO]

> *If they've been referred by Territory Families because they've had their children taken off of them, they'll start attending because they want to have the kids back.* [Participant 36: Gov]

There were some concerns that mothers who sought treatment as a path to reunification did not fully comprehend the requirements of this, viewing the process as linear and simple. Service providers reported it was often assumed that once a client had completed a program, child(ren) would be promptly returned under their care. However, this was seldom the case. Discussion in one focus group raised that this approach was damaging, as it raised expectations about reunification, which was usually much more complex and often involved extended timeframes that treatment services (particular RRS, given their more extensive case management) were required to support and resolve. It also means that the motivation for attending a treatment service is not necessarily about reducing the consumption of alcohol, rather it is about maintaining the care of, and/or connection to, a child(ren). At this stage, client motivation is not currently a mediating factor for accessing treatment services.

> *It gets to the fact where Territory Families feels the children are still at risk, they're taken and put into long term care. And you have clients come in and go, "Oh no, I want my child back now. I'm going to do this. And I want to talk to Territory Families now! And I never got a case plan and they never said this and they never did this!"* [Focus Group 2: ACCHO]

Intergenerational abuse is also a concern, as exposure to normalised alcohol use is a recognised risk factor for children to engage in their own harmful alcohol use (Smith & Wilson, 2016). The influence of alcohol in relation to perceived child neglect was frequently discussed, particularly in regard to housing, education and food security.

Family-oriented alcohol treatment services may provide an alternative to child removal. If structured appropriately they could potentially allow parents to retain care of their children, but also ensure the safety and supervision of the child. This could reflect a mix of residential and community-based care options. In addition, providing childcare alongside alcohol treatment services, may allow parents and carers to engage in treatment they may otherwise avoid. This would require an integrated ATS delivery response between health, education, child protection and justice systems in a format that is not currently in place in the NT.

Intersections with and referrals from the Criminal Justice System

This section addresses research aim 4; to assess the impact of treatment referrals from the criminal justice system on demand for and accessibility of treatment services for self-referrals and other voluntary referrals.

Understanding the demand for alcohol treatment services among people within the criminal justice system is complex. Alcohol is a recognised criminogenic factor, and as such the legal system may order offenders to complete alcohol treatment as part of bail conditions, parole or sentencing requirements. Some people require alcohol treatment while in detention; and some people are either mandated by law, or make a personal decision, to access treatment post release. The factors influencing

participation in alcohol treatment are therefore dependent on individual client needs, their criminal history, and their motivation to participate.

In recent years the justice system has moved away from solely punitive approaches and expanded diversionary programs focusing on the causes of criminal and anti-social behaviour, which has resulted in extensive referrals to AOD treatment services. This has occurred in tandem with the development of treatment programs delivered in Corrections settings.

Programs offered in correctional settings may include; *Intensive Alcohol and Drugs Program (IADP*), *Safe, Sober, Strong* Program; and an 'Alcohol and Other Drug Program'. External services are contracted to deliver these programs. *Safe, Sober and Strong* is available to all prisoners, including youth, and those on remand (NTG 2019), while "prisoners who clearly have a chronic alcohol or illicit drug problem will be assessed for suitability to participate in an IADP" (NT Department of Attorney-General and Justice, 2018b, pg. 103). However, commisioners interviewed in this study were less clear about this:

> *Q. Why aren't they getting care while they're in Corrections?*
>
> *A To acknowledge that you have an AOD issue means that you're confessing to your addiction which brings another legal ramification into the sentence…If someone is on remand, they can't say they've got an AOD issue because if they do, that then changes their sentencing if they are found guilty… I think it's called a stronger person's program, that is a very light AOD social and emotional wellbeing program. But they don't call it an AOD treatment program.* [Participant 38: Commissioner]

Despite these investments, a feature of the current criminal justice system in the NT is the ability to mandate alcohol treatment as a rehabilitative measure. However, not all referrals from the criminal justice system are mandated. In a Community Corrections setting individuals may be offered treatment not mandated to complete it. The COMMIT program is available to offenders on a suspended sentence, and targets those with a history of AOD related offending. COMMIT funds RRS beds, alongside access to a non-residential program, counselling and psychologist services in towns and some remote areas of the NT (NT Department of Attorney-General and Justice, 2018b).

Community Corrections has been the referrer for an average of 206 closed cases into RRS, 65 closed cases of counselling, and 301 for 'assessment only' close cases. An average of 11 prisoners per annum are referred to RRS through a pre-release program, and an average of 25 individuals are referred through to RRS court diversion (data supplied by NT Department of Health, average calculated using last three financial years; 2015/16-2017/18). Currently, the Department of Attorney General and Justice fund 15 RRS beds and counselling and psychologist services across the major centres and some remote areas of Central Australia (NT Department of Attorney-General and Justice, 2018b).

People interviewed from RRS frequently discussed that many of their clients were, or had been, engaged with the criminal justice system. Tensions regarding these clients, who some participants saw as putting an unnecessary strain on the treatment system because of either their lack of self-motivation or use of RSS for accommodation support, were evident in numerous interviews.

> *In terms of alcohol rehab for a lot of our clients, it forms part of their post-release plan, particularly if they're leaving prison on an order with Community Corrections…And the cycle of behaviour will change and if a person isn't ready to make that change then a corrections order telling them to go to rehab isn't going to facilitate that.* [Participant 25: Legal Service]

> *The other thing in that gap is that we actually mix correctional with non-correctional community-based people and the two do not actually – are not set to mix because the reason why the correctional person's there is by force. So, you haven't got ability to change that and then when you mix in just a few community-based you actually change the community-based person's desire for abstinence into "well I have to do this". You're changing that whole model.* [Participant 32: Gov]

It is recognised that very few people enter alcohol treatment without significant external life pressures, whether it be housing, child protection or family pressure. Engagement in the criminal justice system is another factor. Therefore, pathways that promote access from Corrections settings into treatment settings are important, with evidence provided that these clients are currently considered differentially.

> *I think it's a bit of a myth that somebody who walks in off the street is internally altruistically motivated as opposed to – they're worried about their kids or all sorts of other things that are happening that may have some form of authoritative oversight, whether it's to do with housing, child protection or civil matters, or anything like that pending. It's been very interesting, because in some of the circles talking with them, and some services have said to us, "Of all the list of people, you guys are prioritised last," and our philosophy has been, "These are people in the community, they should have the same access as anybody else'.* [Participant 15: Commissioner]

> *It's one of the dilemmas we face in the Territory is that, from a social justice perspective…that anybody who is in the community should be entitled to access community-based services. They shouldn't be disadvantaged because of their engagement with the criminal justice system. Access should be judged on need.* [Participant 14: Commissioner]

The excerpts above illustrate that there is an uneasy nexus between both perceived eligibility and motivation to access treatment services, particularly RRS. Therefore, promoting a broader range of alcohol treatment services for Corrections clients post release, rather than just RRS, is an important concept. This will require educating the judiciary of different alcohol treatment options available, including community-based treatment options combined with adequate accommodation and social supports.

Noting the need to diversify treatment options among Corrections clients, the most common mandated entry point into alcohol treatment services in the NT at the moment is through RRS. This triggered some discussion in regard to bed availability across the NT, and perceived waiting lists for treatment. A number of services which referred into RRS were under the impression that mandated clients were given preference on waitlists over self-referred clients, though RRS rejected this narrative and stated they preferentially supported self-referrals (see Self-Referrals pg. 68).

> *So, when people are motivated [self-referred], they're in a space to address, you don't actually have the facility to keep that momentum going and keep them encouraged. You have this waiting list that can be up to three, four months long. And it's only until they're in trouble by the police or mandated to attend that they get immediate access. Or if Territory Families has mandated family, do they get immediate access. So, you have a system that is only geared towards if you do something wrong will you actually get any treatment, rather than encouragement of a person being motivated.* [Focus Group 7: ACCHO]

> *I think the tension that's between the perception that prisoners are filling our beds – "your clients are filling our beds". You can tell I've heard that a few times.* [Participant 14: Commissioner]

Due to the nature of the judicial system, and the role 'commitment to change' can play in a courtroom, there were often individuals being assessed and placed on RRS waitlists during their remand, with lawyers hoping that this would be viewed as a preferred option to incarceration. That is, perceived demand for RRS is, in some instances, being driven by a desired justice outcome, rather than an appropriately assessed therapeutic need. On average, lawyers referred 238 clients for an 'assessment only'; the only referrer with a high number of closed cases in this treatment types was community-based Corrections at 301. This practice was perceived to be skewing waitlists, and creating unnecessary work for assessment and intake staff.

> *Like normally it's just people on remand and they'll get referred. But then sometimes if they are then accepted once they're sentenced, the legal team will be like, "Oh they don't need the bed any more." Because they were obviously hoping for a suspended sentence or a bail condition or whatever before sentencing. So they'll say it's no longer required; it's dealt with; take them off your waiting list.* [Focus Group 2: ACCHO]

Several participants raised the issue of accommodation for released offenders, stating that the lack of safe and suitable housing for offenders was problematic in implementing their release sentences. This reinforces the earlier discussion about a concurrent focus on appropriate accommodation options.

> *One of the other things we see in the rehab space is it being utilised by Corrections as a, I guess a safe place to put an offender for all three months of their post-release sentence.* [Participant 24: Legal Service]

> *I think…[location] has a shortage of accommodation across the board and so where people are coming out of particularly Corrections and they need [an] address in which to be able to take up their parole opportunities, I think the resi-rehab down there gets used as a transitional accommodation service and that creates a bit of a bottle neck in the system as well.* [Participant 37: Commissioner]

> *A lot of it, the reality is bail. So, when you have clients in custody and residential options aren't looking good, we will actually consider [RRS] as an option.* [Participant 29: Legal Service]

In these instances, alternative supported accommodation could be a cheaper and more appropriate option, alongside less intensive therapeutic support, when compared to that provided by RRS (Willis, 2018). This could potentially include a mix of psychosocial, counselling and community-based outreach support delivered in settings that better promote reintegration into family and community life.

Interviews and focus groups did not clearly demonstrate a way of streamlining referral pathways from justice and Community Corrections pathways into alcohol treatment services. In relation to RRS, a tension between 'waiting lists', 'priority client groups', 'available spaces' and 'empty beds' was apparent. These claims have been difficult to quantify through the DASPM analysis, but may warrant a more practical solution. Cross agency and departmental collaboration with clear MOUs may provide some assistance in this regard. For example, a technological solution could include a 'referral' system that provides greater transparency between multiple referring agencies. Similarly, investment in co-commissioning processes for alcohol treatment services between Department of Health and Department of Attorney General and Justice would help to plan and deliver a more innovative and equitable alcohol treatment services system in the NT. This could include the provision of treatment while in custody followed by the provision of continuing care co-ordination post-release. Ideally, this

should also include engagement with Territory Families, particularly for clients with children engaged in child protection system.

Sex offenders and violent offenders

RRS were largely unavailable for a subgroup of offenders – that is, sex offenders and serious violent offenders. This group are often not accepted by RRS because of risk-assessment processes and policies for staff and client safety. Nonetheless, there were strong concerns about the need to address AOD use in this cohort, as sexual offenders are significantly more likely to abuse alcohol than non-sexual offenders (Abracen, Looman & Anderson, 2000).

> *I suppose the other service gap, you would say, in the Territory is that there are no specific services funded to work with sex offenders…sex offenders have to try and access generic services, and that doesn't work because your staff is primarily female, your other clients are vulnerable and your services just go, "We can't take this risk." I think there is co-occurrence with drug and alcohol issues there as well. Some of them take it on a case by case basis, particularly a historic sex offence. But for our more serious sex offenders who do need - have issues - I mean you just can't get assistance for them.* [Participant 14: Commissioner]

> *One of the big challenges that we do have and that is a real concern for us, is clients, sex offenders, and serious violent offenders, and the rehab centres inability or non-acceptance of referrals for that client group, which is significant because that person still has an alcohol or a substance issue, or substance addiction that needs to be addressed. There's just not a facility available for them and that is a huge gap. [Service] are the only rehab that have a little bit of flexibility around that and will look at it on a one on one basis. [Participant 25: Legal service]*

Appropriate alcohol treatment services for this group are therefore more likely to be community based, though it should be recognised that there is a gap for offenders with severe alcohol use disorder, who require more intensive therapeutic interventions. For Aboriginal offenders, there were further concerns regarding payback[8] and the safety of the offenders themselves both in community and in RRS.

> *And a lot of the sex offenders that have offended [in town], I don't think they'd be game to step foot back in for payback.* [Participant 36: Gov]

> *No – we avoid it. If someone's got payback and he's been assessed to come in, and we've got someone here that's part of that payback or whatever, no, he's not – won't be coming in. We avoid it at all costs.* [Participant 34: ACCHO]

Alternatives to RRS, such as accommodation with appropriately linked services, may be more appropriate, particularly if relocation of offender is required due to payback. Another alternative solution could be to bolster the existing alcohol treatment services response within the Corrections system. This is important as high risk drinking behaviours are prevalent in prison populations worldwide (Fazel, Bains, & Doll, 2006; Newbury-Birch et al., 2016), a pattern paralleled in the NT; with alcohol involved in 40.1% of convicted people offences in 2014/15 (Smith, Whetton & d'Abbs, 2019).

[8] Payback is an Aboriginal English word which denotes a traditional cultural practise of (often physical) retribution for crimes or social transgressions. In some scenarios, this many include significant violence.

There was also an acknowledgment that some clients had been both the victim and the perpetrator of sexual or violent offenses over their lifetime, with others speaking about the risky nature of alcohol use disorder and how intoxication may interfere with an individual's protective behaviours. The link between alcohol abuse and assault is a driver of demand, and must be addressed in an effort to reduce harm for individuals and the community.

> *The majority have – and this is quite anecdotal but the majority have had child removal issues and welfare involved from their early 20s and in some of the cases, large sexual assault background. Especially when they're intoxicated, as well as domestic violence.* [Focus Group 7: ACCHO]

Recent evaluation work examining the intersections between police, justice and health system interactions for clients on the Banned Drinker Register could be used to plan and develop more targeted alcohol treatment services, particularly for repeat offenders (Smith & Adamson, 2018; Smith, 2018).

The impact of remoteness and dispersed settlement

This section addressed research aim 5; to assess the impact of remoteness and dispersed settlement patterns on treatment accessibility in the NT. The vast majority of the 'specialist' alcohol treatment (provided by NTG, hospitals and specialist NGOs) is provided in Alice Springs (45%) and Darwin (42%), followed 7% in Barkly, 4% in Katherine and 1% in East Arnhem. This is not consistent with where clients typically reside. For Aboriginal and Torres Strait Islander clients, the majority usually reside in the Alice Springs region (43%), followed by Darwin region (20%), Katherine (14%), Barkley (12%) and Nhulunbuy (10%). Please see pg. 30 for caveats on this data.

The explorative data highlighted a number of different concepts broadly related to the geographic location of alcohol treatment service settings, specific to the NT treatment delivery context. These have a significant influence on the cost of service delivery, the treatment types, transport issues, the cultural responsiveness of services, and ultimately client outcomes.

Services may be delivered in the location community which a client lives (i.e. Remote Alcohol and Other Drugs Workforce Program, Social and Emotional Wellbeing Programs, GPs, self-help, telehealth). Specialist services may also be provided from a central location on a fly-in-fly-out/drive-in-drive-out basis (i.e. Royal Flying Doctors Mental Health Team, TEHS and CAHS AOD outreach teams, telehealth). Some services are only available in population centres (hospitals, withdrawal centres, RRRS) and require air travel or substantial road travel for clients in remote or very remote locations. Another service which can require substantial travel, often off road, are very remote services (i.e. homeland communities/outstations/on country respite and culture camps). These typically include an emphasis on cultural activities that enhance connection to culture and country. There is usually limited infrastructure and a very small resident population.

Transport

As shown in Chapter 3, the DASPM modelling of the projected transport costs, which assumed the care provided was according to the DASPM care packages (not what is currently provided in the NT), was a substantial expense ($15.6 million, see Chapter 3). It models for transport to and from each appointment for all treatment types (2 trips per episode of care). While this figure is a modelled projection with underlying assumptions (see Attachment 10), the interviews did reinforce concerns about the availability of adequate transport options for clients in the NT.

Transport to government services could be covered under Patient Assistance Travel Scheme (PATS), this was most commonly used for transport to withdrawal services. For clients who were referred to alcohol treatment provided by NGO/ACCHO, by a government service, transport costs were identified as a barrier to treatment access. This is particularly poignant for RRS, given the large distances in the

NT. However, it remains relevant for all treatment types. DASPM modelling also includes short trips to appointments at community based care (see Attachment 10). This is in recognition of the dearth of frequent (or any) public transport in many towns which is a recognised barrier to accessing treatment.

> *The other thing that stops them going to resi rehab is they've got to pay…transport. We don't fund it because we're a voluntary organisation.* [Participant 34: Gov]

There are many examples of transport issues. For example, a client living in Tennant Creek seeking a family RRS would be required to go to Darwin. This is nearly 1,000kms away – representing a 10 hour 40 minute journey by road, or a very expensive and relatively infrequent non-direct flight. In Katherine, there is no public transport service, and taxis are expensive. To take a 15-min taxi ride from Binjari (an Aboriginal community 18km outside of Katherine town) to Katherine can cost up to $50 one way. It is a similar scenario for clients travelling from Yirrkala to Nhulunbuy. These travel costs are often not covered. NGO/ACCHO referrers may be able to assist clients with travel costs, but this was dependent on the service budgeting for this, and commissioning bodies allowing this. This poses a major inequity of access for remote and very remote clients.

Clients travelling considerable distances to access RRS was regarded as unavoidable, particularly among those from remote communities and those seeking more specialised treatment services, such as youth and family-orientated services. Indicatively, one RRS estimated their client base to be 50% from the town the RRS was located in, 30% from the remote communities in the region, and 20% from further afield [Focus Group 3: NGO]. However, further investment in community-based services (which include out-reach components) and on-country treatment options could potentially alleviate some of these concerns. While the Patient Assistance Travel Scheme (PATS) subsidises travel and accommodation for access to approved medical specialists, participants advised that clients seeking alcohol treatment provided by an NGO/ACCHO did not qualify for this scheme.

Small population size

We have already discussed the population demography of the NT (pg. 12/13). This creates inherent challenges for the planning and delivery of alcohol treatment services due to the large geographical area and a dispersed population. Past research shows that clients are less likely to engage in self-help or access counselling services in regional and remote communities where people know each other more closely, and where confidentiality becomes a heightened concern (Berends, 2010). Additionally, managing client expectations about the feasibility to plan and deliver specialist clinical treatment services locally for small populations can be difficult.

Clients who were employed typically sought treatment through a community-based service to minimise disruptions with their work and care for their family. However, the difficulty of maintaining anonymity in smaller population centres could be problematic:

> *We do get people in here who don't want to engage with the community services because they work in Corrections, or they work in AOD or their sister works in mental health or they don't want their boss to know because they work in child care and they know that their boss's husband is a nurse that works, or whatever. So, that can be really tough in the smaller communities.* [Participant 10: Gov]

Concerns about confidentiality were a significant barrier to accessing treatment. Online options (such as telehealth and phone services) should be offered and widely promoted to counter these concerns.

One significant challenge of dispersed settlement was the inability of many clients with alcohol concerns to escape dysfunctional family and social contexts where the harms of alcohol have been normalised. This is relevant prior to, during, and after completing treatment. An important aspect of treatment for clients in this situation is equipping them to deal with the social pressures they face; and to provide more holistic family-oriented treatment options that address trauma and crisis at a system level. Because of the higher proportion of Aboriginal residents in remote locations, this social

pressure is compounded by cultural obligations relating to kinship and family ties. This was sometimes a factor in referrals to RRS a considerable distance from individual's homes.

> *Q: Why would clients from other locations come here?*
>
> *A: So their family doesn't bother them.*
>
> [Focus Group 3: NGO]
>
> *But at a practical level, I know that some of our clients are keen to go places because there is a distance.* [Focus Group 6: ACCHO]

This pressure was typically related to humbug and kinship structures.[9] The impact of these cultural aspects are particularly relevant to alcohol consumption which is often perceived as a social activity.

> *"I've told people no but the pressure" and the word they use is "forced to drink or forced to put –" if you're asked put $20 in to help buy a carton of beer and then it arrives you're not likely to say, "No, you go ahead." Do you know what I mean? And that family obligation, not being able to say no…We've had a few people who don't want to be put on [the Banned Drinkers Register] but want the card so when they don't want to be humbugged to drink or a bit pressured they can show people and say, "You can't make me because I'm on that banned list and if you make me, I'll go to the police and they might put you on it" which is a bit naughty because they're not actually on it.* [Participant 10: Gov]
>
> *Clients say that the minute they leave [RRS] they'll have family sending them some alcohol to celebrate their return. And it's not necessarily malicious but it's just like the way you celebrate someone's return.* [Participant 29: Legal Service]

Many clients are escaping family and social pressures by engaging in RRS, which allows them to focus on their treatment. Many RRS recognised this and provided education and support for clients regarding these social pressures. Some community based treatment services offer the option for family based treatment, both in outer regional, remote and very remote settings. Investment in these culturally appropriate community development approaches which incorporate the whole family should continue, and possibly be expanded, to minimise the harms of alcohol.

Staffing

Small population groups also affect the size of the local workforce, and the recruitment and retainment of workforce from other areas (Gardner et al., 2018; Gorham et al., 2018; Wakerman, Curry, & McEldowney, 2012; Zhao et al., 2017). There is a pattern of short term migration, where professionals from other jurisdictions often accept short-term contracts in regional and remote locations for finite periods to gain a cultural experience or enjoy the financial benefit associated with these contracts (Auer & Carson, 2010). Evidence suggests that NT contracts are often viewed as 'temporary adventures', which require substantial lifestyle sacrifices (Auer & Carson, 2010).

> *But living in a remote area, somewhere that's so hot for so long of the year, with nothing really to do, like as in out of work hobbies, stuff like that. It tends to – it starts*

[9]Humbug is an Aboriginal English word which refers to demand sharing. It is often a one-way transaction, with family members who have money and resources pressured to share with those who do not (Kelly, Kickett, & Beesarab, 2016). It can manifest as overcrowding in houses, where families cannot say no to additional guests; as financial contributions to alcohol purchasing; or as social obligations to provide to for family members, which can cause significant stress. Kinship structures influence the obligation individuals may have to respect certain family members and their requests.

> *to get to people, they get bored in town, and obviously it follows onto work, and then they go, I've had enough. And see you later.* [Focus Group 3: NGO]

This was problematic for a number of reasons, particularly in relation to continuity of service provision, effective community engagement and building trust.

> *When you're talking about remote communities and the trust and having to come such a distance for this opportunity, then I do feel that it's really important that it's a name that they've heard of, that they have a family member who can say, "That helped me," that they have a parent who says, "It helped me when things were hard." So because I actually think that counts for a lot.* [Participant 2: ACCHO]

Because of the small population size of some communities across the NT there was not always the ability or need to fund a full-time position. This was particularly relevant in smaller remote communities, and with respect to more specialised positions.

> *I certainly think that although services could benefit from a clinician input at times, but I don't think it necessarily warrants a full-time employed AOD specialist registered nurse…there could be a benefit of having somebody that could cover more than one service or something like that.* [Participant 10: Gov]

> *I think one of the other challenges too is bush caseloads ebb and flow so having a full-time member of staff based in the community could be quite challenging because you can't even guarantee that you're going to have a full caseload for them. And if you put people on part-time you tend to lose them. People want full-time work.* [Participant 24: Legal Service]

To overcome this dilemma, the service system has matured over many years by providing a mix of both community-based roles and Fly In – Fly Out (FIFO) positions, particularly in remote locations. For example, the remote alcohol and other drug workforce (RAODWs) reflect Aboriginal identified community-based roles. However, it was reported that other FIFO roles such as psychiatrists and AOD specialist clinicians were frequently visiting regional, remote and very remote contexts. Because of the frequency of visits by FIFO staff, there were opportunities for rapport to be built in ways that differ markedly from other FIFO service systems across Australia.

> *The other service that provides that kind of support is the Royal Flying Doctors Mental Health team. They're not predominantly drug and alcohol but if people are struggling with substance use then they would argue that that is an emotional kind of thing… They're fly in, fly out but because it'd be the same worker that connects with that community every week essentially, they really can develop good relationships. Whenever I've said, "I reckon that Royal Flying Doctors Mental Health nurse goes out," they go, "I like Jim" or "I like Ann." It's really good. They seem to be all known.* [Participant 10: Gov]

When both RAODW and DIDO/FIFO specialist positions are filled, these roles often work synergistically to support each other. For DIDO/FIFO roles, continuity was key. This is achieved via frequent visits, and planning should account for this frequent transport. Recruitment and retention of a suitably qualified and experienced AOD workforce is a significant challenge, particularly in remote locations. The *National Alcohol and other Drug Workforce Development Strategy 2015-2018* should be considered in the development of an alcohol treatment services framework (Intergovernmental Committee on Drugs 2015).

Targeted workforce development

There is a significant challenge in establishing and maintaining both a non-clinical and clinical workforce for the provision of alcohol treatment in the NT (NCETA, 2018). The projected full-time equivalent clinical staff to meet demand was between 388 and 423 and this was projected based on DASPM care packages; with a further 150 – 169 extra staff required for transport due to the impact of remoteness. It was acknowledged earlier that DASPM is useful for predicting resource requirements, and less useful for informing service system reconfiguration. As such, there is a need to broadly understand the current alcohol treatment workforce configuration in the NT, and how this could potentially be reconfigured in response to meeting client and system needs.

Recognition of the unique and challenging nature of the NT health workforce including high staff turnover; range of service delivery models and organisational characteristics are currently being addressed by Northern Territory Health Workforce Stakeholder Group (NTHWSG) made up of a range of mainstream and Aboriginal and Torres Strait Islander health peak bodies, NTG and Higher Education institutions from South Australia and the NT (NTPHN, 2018, p. 9).

The NTHWSG is responsive to, and provided direction for, a recent report commissioned by NTPHN (NCETA, 2018). The report, *Alcohol and Other Drugs Workforce Development Assessment 2017: Summary Report to NTPHN,* builds on national and local workforce strategy research and reporting (Girdler, 2017; NCETA, 2014; Nicholas et al. 2013; Roche, Duraisingam, Trifonoff, & Tovell, 2013; Roche & Pidd, 2010). The report proposed eight 'action areas' (NCETA, 2018, p. 23)

1. Enhance understanding of the NT AOD workforce
2. Improve recruitment and retention
3. Support workers in remote and rural communities
4. Support the Aboriginal workforce
5. Improve intersectoral collaboration
6. Enhance access to education and training (including clear professional development processes)
7. Enhance clinical supervision and mentoring opportunities
8. Support practice innovations

As part of the consultation involved in the subsequent development of an NT Workforce Development Strategy, NCETA:

- Revised Action Area (#6 Improve professional development processes_
- Identified two additional action areas: (#9 Enhance career pathways; #10 Increase awareness of AOD use and related harms in the NT)

All of these action areas were reinforced throughout the demand study. Rather than addressing the findings of the NCETA workforce assessment report, this section responds to the predicted clinical care estimated by DASPM which is likely to be substantially below what would be described as 'adequate'.

Interview responses indicate that many staff working in alcohol treatment services undertake multi-function and/or multi-disciplinary roles to support the ongoing and daily needs of their clients. However, it was not always clear if they held specific professional qualifications aligned with their roles or more generic qualifications, such as a Certificate or Diploma in Alcohol and Other Drugs. Responses highlighted the diversity of roles that not only included the day-to-day work with individuals or groups of clients, but which also emphasised growing expectations to work as part of

multi-disciplinary teams and to collaborate and co-ordinate service delivery with external agencies, particularly within regional and remote contexts (Murray & Wronski, 2006; Smith et al., 2008)

> *In smaller communities, we do need workforces that can do aged care, AOD, disability, mental health, depending on what the work is that day because we're not going to ever get a resource for individual full-time positions… the qualification of community services is a more useful one than [I reckon] the specialist one.* [Participant 37: Commissioner]

There were also several specific areas of professional learning needs identified throughout interviews. The most prominent themes related to training in trauma informed care (discussed on pg. 63); and mental health.

> *Trauma informed practice, absolutely are first and foremost essential for the workforce in the Territory. And it's been a growing need for a long time and I don't think it's been addressed. So when we think of trauma we've got populations across all of the Territory with different types of trauma... We've been investing in trauma and professional development around trauma around our workforce, not just our counsellors but also our project officers that work with drug and alcohol in the communities. And it's going to take a long time to build that capacity. But I think the Territory has to be committed to it*. [Participant 4: NGO]

> *Most of our contracts expect a minimum of Cert IV in AOD. I don't think it actually goes into enough detail…there needs to be much more counselling skills…mental health skills, that comorbidity, how to do case management as well as counselling…and counselling, basic counselling yeah. And then the understanding of the two. So drug and alcohol might touch a little bit on mental health and mental health might touch a little bit on drug and alcohol…Because we know the stats between mental health and drug and alcohol are so closely linked together I don't really understand why that training has not been incorporated yet* [Participant 5: NGO]

Building workforce capability in these areas, to effectively support client care, particularly through brief interventions and counselling (equating to approximately 90% of treatment types in the NT - see Figure 2, Section 3 pg. 25), needs to be a key professional development focus. This will enhance the potential for core needs include counselling, motivational interviewing, assessment and knowledge of comorbidities to be addressed (Pidd, Roche, Duraisingam, & Carne, 2012, p. 517).

GPs make up 27% of the proportions of care in the AOD sector, SUS 19%; with NGO specialist AOD and ACCHOs making up 10% and 12% of proportions of care respectively (see Figure 1, Section 3 pg. 23). Together this workforce makes up a total of 68% client care. To this end the development of projects like the NTPHN *Health Pathways* project focused on pathways for clinical decision making, should be monitored and ensure that evaluation provides essential detail for ongoing systemic transformations.

The DASPM also reveals that 88% of clients identify as Aboriginal and/or Torres Strait Islander with ACCHOs specifically supporting 30% of these patients. This suggests that the AOD sector as a whole needs to focus on culturally responsive service provision. However, it also suggests that ACCHOs and the Aboriginal and Torres Strait Islander workforce play a significant role in the development and delivery of culturally responsive care.

In the NT, organisations recognise that Aboriginal and Torres Strait Islander workers form an important and integral part of the workforce with unique skills and knowledge to support clients. This workforce

is frequently expected to undertake leadership and mentoring functions and is also expected to support non-Indigenous staff to navigate cultural protocols relating to engagement and client interactions. These support functions are frequently overlooked in workforce development approaches. Rather than just framing this as 'cultural training', recognition of, and celebrating the contribution of this workforce, needs greater attention. Aboriginal and Torres Strait Islander people, like many Indigenous peoples, feel a strong sense of purpose in making a difference in their communities. Roles such as traditional healing and 'on country' health services, "*so the guys they head out to [program] and they do a cultural program, leadership, where they go offsite with some of the older men and just learn about the land* [Participant 33 ACCHO]", and the skills and knowledge needed to develop and provide those services need to be better addressed.

Chapter 5: Conclusion

Sarah Clifford, Donna Stephens, James A. Smith, Katinka van de Ven, Danielle Dyall, and Benjamin Christie

This study has examined the demand for alcohol treatment services. Chapter one provided an overview of the alcohol treatment services context in the NT, including a brief summary of its relationship with current alcohol policies at territory and national levels. It also outlined the rationale for undertaking the demand study and respective research objectives. Chapter two quantified alcohol treatment service delivery in the NT. This involved using a broad range of data-sets to show the distribution of treatment services. There were 42,871 episodes/encounters for alcohol treatment in NT in 2016/17. This equates to about 117 encounters every day across the NT. The AODTS-NMDS (only) accounts for 8% of all episodes/occasions of service. Aboriginal and Community Controlled Health Organisation (ACCHO) episodes represent the highest number of encounters (41%; 17,377). Chapter three used DASPM to estimate total demand for alcohol treatment, by types of alcohol treatment. The estimates include modelling of the number of people requiring alcohol treatment in any one year, the number of treatment beds and the clinical resources required to meet demand for alcohol treatment for adults in the NT. This analysis showed that:

- DASPM estimates that each year, 6,735 people need to receive alcohol treatment (as described in DASMP care packages) and 20,607 people require a SBI.
- Comparison with current met demand indicates that there is a large unmet demand for SBI, in the order of 18,500 to 19,000 people
- Currently between 4,000 and 4,800 are receiving alcohol treatment each year, compared to the estimated 6,735. This suggests there may be an unmet demand gap of around 2,000 people aged between 18 and 64 years.
- There are currently 158 residential rehabilitation beds provided in the NT for people with alcohol disorders. This is 15% below the modelled estimate of 187 residential rehabilitation beds.
- The level of clinical FTE predicted to meet the care as specified in DASPM is well above the current clinical FTE in the NT. This suggests that while the numbers of people being treated may be about right, the intensity and the level of care is not configured in a way that might best meet needs. More treatment is required to respond to mild and moderate needs.

Chapter four presented a qualitative account of key stakeholder viewpoints from across the alcohol treatment services sector. This involved using a continuum of care model to define and explain different alcohol treatment types, including an outline of the perceived strengths and gaps of each. Factors influencing the planning and implementation of treatment services such as duality of alcohol and other drugs treatment, high levels of complex trauma, accommodation needs, safety, and Western notions of treatment, were also unpacked. Chapter four also provided a descriptive account of the main pathways into treatment, including and assessment of the impact of treatment referrals from the criminal justice system; and a discussion about the implications of remoteness on treatment accessibility in the NT.

Strengths and gaps in the current alcohol treatment services system

DASPM modelling has indicated that about the right number of people are currently receiving treatment in the NT. This is encouraging. However, there are a number of discrepancies between the DASPM modelling and the configuration of current treatment.

The amount of specialist treatment appears to be close to correct; there are currently 158 residential rehabilitation beds provided in the NT for people with alcohol disorders, with the model estimating 187 beds are required. This equates to a deficit of approximately 29 beds or a 15% deficit in required beds. Community counselling services account for 49% of treatment, and was considered to an

appropriate level of service that is accessible to most members of the community. That is, counselling services were generally considered to be accessible for people with a job, a supportive family, and/or stable housing.

There are two notable gaps in treatment service delivery – one relating to a type of intervention (i.e. interventions targeting people with mild alcohol concerns – such as SBIs); the other relating to population demographics (i.e. those who are considered to be disadvantaged by remoteness or socio-economic status).

As highlighted through DASPM modelling there is a large unmet need for SBIs, in the order of 18,500 to 19,000 people. The dearth of SBIs is particularly concerning given the well documented social costs and harms of alcohol consumption in the NT (Smith, Whetton and d'Abbs 2019). The eexplorative data has indicated there are perceived gaps in consistent and effective service provision for high need clients, which differs to the results of DASPM. The comprehensive case management required to appropriately support these clients to allow treatment to be effective was often outside of the capacity of counselling staff. Participants generally regarded both the Katherine and Alice Springs Individual Support Programs, auspiced by Katherine Remote Aboriginal Health and Related Services (KRAHRS) and Tangentyere Council respectively, as innovative approaches to appropriately manage clients, particularly high need clients.

Linkages between treatment services

As previously discussed, the alcohol use disorder can be conceptualised as a chronic disease, which requires long-term management. This inevitably requires multiple entry and exit points across a range of alcohol treatment services, where repeat treatment episodes are embraced as an important part of recovery. For example, repeat GP visits or regular engagement in psychosocial counselling to address alcohol concerns is perceived as a positive outcome. Client needs, and the respective treatment services they access, will change over time. Transitioning between services to accommodate changing needs is important. This obviously relies on established linkages and effective communication between specialist and generalist services. This is important for follow through on SBIs; initiating and monitoring referrals of clients between different service types; and to support continuing care for those that have received specialist treatment. In summary, pathways for transitions need to be clear and simple to navigate - for both clients and service providers.

Many participants indicated that AOD clients returning to their treatment service (whether specialist or non-specialist), showed that the service was valued and that entry and referral pathways were clear and appropriate. Practically there were difficulties in the transition of clients between specialist services of varying intensity, as well as between generalist and specialist care. These challenges were often met with simple solutions, such as ensuring a release of information form had been signed by clients to aid information sharing. What became apparent throughout interviews was that productive working relationships between service providers in different treatment service settings often mediated these practices. That is, optimum linkages and pathways are reliant on a highly functional and well-connected workforce. There was strong evidence of a connected workforce, particularly at the regional level, throughout the study. This increases potential for streamlining referral pathways and partnerships across the alcohol treatment services system in the NT.

Competitive funding was perceived as a disincentive to form partnerships across the treatment services system. Whereas, a recent transition to five-year funding contracts by the NTG was embraced, particularly among ACCHOs and NGOs. Similarly, the emphasis on SEWB commissioning by the NTPHN (as endorsed by the NT Aboriginal Health Forum), meant that a greater emphasis on the potential for cross-sectoral collaboration between AOD and mental health sectors was equally embraced, although short-term contract cycles in this context were considered to be problematic. There is evidence of

unmet potential for co-commissioning approaches between NTG and NTPHN, particularly in relation to addressing mild and moderate needs of clients.

Examples of both informal and formal collaborations were evident. This included collaboration between:

- Specialist ACCHO and NGO service providers of different intensities – e.g. *Strong Steps* - a collaboration between Council for Aboriginal Alcohol Program Services and Amity; and
- Specialist ACCHOs and non-specialist ACCHOs - Kalano Community Association Aboriginal Health Corporation (Venndale) and Wurli Wurlinjang Health Service; Bush Mob Aboriginal Corporation and Central Australia Aboriginal Congress (CAAC); and Central Australian Aboriginal Alcohol Programmes Unit (CAAAPU) and CAAC.

These types of collaborative arrangements varied considerably and included the pooling of funding from each partner organisation to improve client outcomes or achieve service efficiencies; evidence of Memorandum of Understanding or subcontracting arrangements; or the provision of in-kind support.

Alongside the overarching strengths and gaps, the analysis also highlighted there were four areas for rapid improvement within the alcohol treatment services system.

Areas for rapid improvement

Screening and Brief Interventions

The large unmet need for SBI, mostly delivered in non-specialist treatment settings by GPs, primary health care providers, and ACCHOs, indicates a number of issues. These include a lack of awareness of what SBIs entail; insufficient training for professionals in these roles to routinely and confidently undertake SBIs (noting that NTPHN is currently undertaking a tender process to address this concern); and a potential under recording of ad hoc SBIs conducted at opportune moments (see pg. 53). Further work is required to promote and track the use of AUDIT-C in primary health care settings, particularly among GPs. Efforts to document motivational interviewing aimed at curbing alcohol use, such as that currently being facilitated by parole officers in Community Corrections settings, are also important to capture. This will aid future analyses of alcohol treatment demand.

Concurrent support and case management

Continued investment in intensive support programs, and liaison with social support services concurrently with community-based care may allow for high need clients to be managed effectively in community rather than requiring a referral to RRS. Training, and appropriate remuneration, of community based staff to improve confidence and efficacy of coordinated case management will also assist this endeavour.

Access to services in remote and very remote locations

Ensuring equity of access to care should be a chief consideration of an alcohol treatment services system. To do this, continuing investment with specialist telehealth services, alongside face-to-face visits by FIFO/DIDO workers to remote and very remote locations, is required. This should be done with a concurrent investment in local community-based workers, such as RAODWs to reduce the need to transport clients to larger towns. When transport is required, community services should be funded to send their clients to larger towns, irrespective of the funding source/agency.

Evaluation

Service reviews and program evaluation can play an important role in building a stronger evidence-base about what works and why. Scant evidence was provided by participants throughout the study to validate claims of perceived effectiveness and efficacy of alcohol treatment services, with the exception of the recent SUS review (PricewaterhouseCoopers Indigenous Consulting Pty Limited,

2018). Concerns about the lack of evaluation in this space, particularly among services targeting Aboriginal clients, is consistent with national discussions (Gray et al., 2000; Munro et al., 2017; Whitty & Clifford, 2017; Smith et al., 2019). The lack of expertise and skills within the sector, required to do undertake effective evaluations, was acknowledged. The size and capacity of the organisation was also recognised as a limiting factor. Building monitoring and evaluation capacity across the alcohol treatment services system is challenging, but critical. This area for rapid improvement should be considered by funders when services are being commissioned.

Next steps

The development of a multi-agency NT Alcohol Treatment Services Plan was a key recommendation outlined in the Riley Review, which was subsequently supported by the NTG. Findings from the demand study are intended to *inform* the development of that plan. An important concept outlined at the beginning of the study was that specialist care is only one part of the alcohol treatment services system. That is, there are other non-specialist treatment providers such as GPs, primary health care providers, ACCHOs and self-help groups that play an important role within the broader alcohol treatment services system. Indeed, 88% of treatment services in the NT (based on episodes of care/encounters) are currently delivered by non-specialist service providers. This means an NT Alcohol Treatment Services Plan needs to value and accommodate the multimodal delivery of treatment to people with mild, moderate and severe alcohol dependence.

The NT Alcohol Treatment Services Plan will also need to intersect with the National Treatment Services Framework, which is currently under development. There has been extensive consultation across Australia to guide its development, including a workshop with key NT stakeholders. The framework is likely to be released later in 2019.

As mentioned previously, the gap between the numbers of people currently receiving alcohol treatment in the NT, and the projected total demand for alcohol treatment, is relatively small. Rather, a focus on system strengthening is required. For example, study findings indicate that service planning will need to reassess the distribution of current treatment types and geographical distribution of that treatment. It shows that there is a large unmet demand for screening and brief intervention, typically delivered by non-specialist service providers such as those listed above. This review has examined (mostly) health data and client pathways, and identified needs from a prevalence and severity perspective. In the NT, the harms of alcohol are significant. Accessible and effective best practice alcohol treatment is an essential component in ensuring a reduction in both individual and community harms. This is an imperative that requires continued investment and commitment.

References

Abracen, J., Looman, J., & Anderson, D. (2000). *Alcohol and drug abuse in sexual and nonsexual violent offenders. Sexual Abuse: A Journal of Research and Treatment, 12*(4), 263-274.

Allan, J., Ball, P., & Alston, M. (2007). Developing sustainable models of rural health care: a community development approach. *Rural and Remote Health, 7*(818).

American Psychiatric Association. (2013). *Diagnostic and Statistical Manual of Mental Disorders* (5 ed.). Arlington, VA: American Psychiatric Association.

American Society of Addiction Medicine. (2011). Definition of Addiction. *Resources.* Retrieved from https://www.asam.org/resources/definition-of-addiction

Ames, G., & Cunradi, C. (2004). Alcohol use and preventing alcohol-related problems among young adults in the military. *Alcohol Research, 28*(4), 252.

Andrews, G., Issakidis, C., Sanderson, K., Corry, J., & Lapsley, H. (2004). Utilising survey data to inform public policy: comparison of the cost-effectiveness of treatment of ten mental disorders. *British Journal of Psychiatry*, *184*, 526-533.

Andrews, G., Titov, N., & Team Tolkein. (2006). *Tolkien II: A needs-based, costed, stepped-care model for mental health services, clinical pathways, treatment flowcharts, costing structures.* Darlinghurst, Sydney: WHO Collaborating Centre for Classification in Mental Health.

Association of Alcohol and Other Drug Agencies NT (2017a). *Consult, develop, collaborate project: Alcohol and other Drugs services review*. Darwin, AADANT.

Association of Alcohol and Other Drug Agencies NT (2017b). *Youth alcohol and other drugs services, Northern Territory: Service mapping and development of youth alcohol and other drugs network in the NT*. Darwin, AADANT.

Auer, K., & Carson, D. (2010). How can general practitioners establish 'place attachment'in Australia's Northern Territory? Adjustment trumps adaptation. *Rural Remote Health, 10*(4), 1476.

Australian Bureau of Statistics. (1998a). *Mental health and wellbeing profile of adults, Australia 1997*. Canberra: ABS.

Australian Bureau of Statistics. (1998b). *National survey of mental health and wellbeing of adults: Users' guide*. Canberra: ABS.

Australian Bureau of Statistics. (2016). *Remoteness Structure.* Canberra; ABS. Retrieved from http://www.abs.gov.au/websitedbs/d3310114.nsf/home/remoteness+structure

Australian Bureau of Statistics. (2017). *Intentional self-harm, key characteristics*. Canberra; ABS. Retrieved from http://www.abs.gov.au/ausstats/abs@.nsf/Latestproducts/3235.0Main%20Features82017?opendocument&tabname=Summary&prodno=3235.0&issue=2017&num=&view

Australian Bureau of Statistics. (2018a). *Australian Demographic Statistics, Jun 2018*. Canberra; ABS. Retrieved from: https://www.abs.gov.au/ausstats/abs@.nsf/mf/3101.0

Australian Bureau of Statistics. (2018b). *Life Tables for Aboriginal and Torres Strait Islander Australians, 2015-2017.* Canberra; ABS. Retrieved from: https://www.abs.gov.au/ausstats/abs@.nsf/mf/3101.0

Australian Bureau of Statistics. (2018c). *Census of Population and Housing: Characteristics of Aboriginal and Torres Strait Islander Australians, 2016*. Canberra; ABS. Retrieved from: https://www.abs.gov.au/ausstats/abs@.nsf/Latestproducts/2076.0Main%20Features1302016?opendocument&tabname=Summary&prodno=2076.0&issue=2016&num=&view=

Australian Bureau of Statistics. (2019). *Recorded Crime - Offenders, 2017-18*. Canberra; ABS. Retrieved from: http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/4519.0~2017-18~Main%20Features~Northern%20Territory~14

Australian Institute of Health and Welfare. (2013). *Alcohol and Other Drug Treatment Services in Australia 2011–12*. Canberra: AIHW.

Australian Institute of Health and Welfare. (2018a). *Cancer incidence and mortality in Australia by small geographic areas*. Canberra: AIHW. Retrieved from https://www.aihw.gov.au/reports/cancer/cancer-incidence-mortality-small-geographic-areas/notes

Australian Institute of Health and Welfare. (2018b). *Perinatal deaths in Australia: 2013–2014.* Canberra: AIHW.

Australian Institute of Health and Welfare. (2019). *Alcohol and other drug use in regional and remote Australia: consumption, harms and access to treatment 2016–17*. Canberra: AIHW. Retrieved from: https://www.aihw.gov.au/getmedia/78ea0b3d-4478-4a1f-a02a-3e3b5175e5d8/aihw-hse-212.pdf.aspx?inline=true

Baum, F. E., Bégin, M., Houweling, T. A., & Taylor, S. (2009). Changes not for the fainthearted: reorienting health care systems toward health equity through action on the social determinants of health. *American Journal Of Public Health, 99*(11), 1967-1974.

Barratt, P., Stephens, L., & Palmer, M. (2018). *When helping hurts: PTSD in first responders*. Retrieved from http://australia21.org.au/wp-content/uploads/2018/06/When-Helping-Hurts-PTSD-in-First-Responders-WEB.pdf

Begg, S., Vos, T., Barker, B., Stevenson, C., Stanley, L., & Lopez, A. D. (2007). The burden of disease and injury in Australia 2003. *Drug and Alcohol Service Planning Model for Australia: Technical Manual* (2013). Retrieved from https://parlinfo.aph.gov.au/parlInfo/search/display/display.w3p;query=Id:%22publications/tabledpapers/5766a0ce-dbc0-405d-9118-3335bb8b2617%22.

Berends, L. (2010). The emergence of a specialist role in rural alcohol and drug service delivery: Lessons from a review in rural Victoria, Australia. *Drugs: education, prevention and policy, 17*(5), 603-617.

Blevins, C. E., Abrantes, A. M., Kurth, M. E., Gordon, A. L., & Stein, M. D. (2017). Alcohol treatment outcomes following discharge from a partial hospital program. *Journal of Substance Use, 22*(6), 643-647. doi:10.1080/14659891.2017.1296041

Brett, J., Lawrence, L., Ivers, R., & Conigrave, K. (2014). Outpatient alcohol withdrawal managment for Aboriginal and Torres Strait Islander peoples. *Australian Family Physician, 43*(8), 563-566.

Burgess, P., Pirkis, J., Slade, T., Johnston, A., Meadows, G., & Gunn, J. (2009). Service use for mental health problems: findings from the 2007 National Survey of Mental Health and Wellbeing. *Aust NZ J Psychiat, 43*, 615-623.

Caffery, L. J., Bradford, N. K., Smith, A. C., & Langbecker, D. (2018). How telehealth facilitates the provision of culturally appropriate healthcare for Indigenous Australians. *Journal of telemedicine and telecare, 24*(10), 676-682.

Calabria, B., Clifford, A., Shakeshaft, A., Allan, J., Bliss, D., & Doran, C. (2013). The acceptability to Aboriginal Australians of a family-based intervention to reduce alcohol-related harms. *Drug and Alcohol Review, 32*(3), 328-332.

Chalmers, J., Ritter, A., Heffernan, M., & McDonnell, G. (2009). *Modelling pharmacotherapy maintenance in Australia: Exploring affordability, availability, accessibility and quality using a system dynamics modelling approach.* Australian National Council on Drugs.

Children Family Community Australia. (2017). *Child protection and Aboriginal and Torres Strait Islander children*. Canberra; Australian Institute of Family Studies.

Cmwth Department of Health. (2015). *Implementation Plan for the National Aboriginal and Torres Strait Islander Health Plan 2013-2023*. Canberra; Australian Government.

Cmwth Department of Health. (2017). *National Alcohol Strategy 2018–2026: Consultation Draft*. Canberra: Australian Government.

Cmwth Department of Health. (2018). *National Fetal Alcohol Spectrum Disorder (FASD) Strategic Action Plan 2018-2028.* Canberra: Australian Government.

Cohen, E., Feinn, R., Arias, A., & Kranzler, H. R. (2007). Alcohol treatment utilization: findings from the National Epidemiologic Survey on Alcohol and Related Conditions. *Drug and alcohol dependence, 86*(2-3), 214-221.

Connor, J. P., Haber, P. S., & Hall, W. D. (2016). *Alcohol use disorders. The Lancet,* 387(10022), 988-998.

David, G., Wilson, R., Yantarrnga, J., von Hippel, W., Shannon, C., & Willis, J. (2018). *Health Benefits of Going On-Country*. Retrieved from Melbourne:

Degenhardt, L., Bucello, C., Calabria, B., Nelson, P., Roberts, A., Hall, W., . . . McLaren, J. (2011). What data are available on the extent of illicit drug use and dependence globally? Results of four systematic reviews. *Drug and Alcohol Dependence, 117*(2-3), 85-101. doi:10.1016/j.drugalcdep.2010.11.032

Dennis, M., & Scott, C. K. (2007). Managing addiction as a chronic condition. *Addiction Science & Clinical Practice, 4*(1), 45.

Ennis, G., & Finlayson, M. (2015). Alcohol, violence, and a fast growing male population: Exploring a risky-mix in “boomtown” Darwin. *Social work in public health, 30*(1), 51-63.

Fazel, S., Bains, P., & Doll, H. (2006). Substance abuse and dependence in prisoners: a systematic review. *Addiction, 101*(2), 181-191. doi:doi:10.1111/j.1360-0443.2006.01316.x

Frank, D., DeBenedetti, A. F., Volk, R. J., Williams, E. C., Kivlahan, D. R., & Bradley, K. A. (2008). Effectiveness of the AUDIT-C as a screening test for alcohol misuse in three race/ethnic groups. *Journal of general internal medicine, 23*(6), 781-787. doi:10.1007/s11606-008-0594-0

Gache, P., Michaud, P., Landry, U., Accietto, C., Arfaoui, S., Wenger, O., & Daeppen, J. B. (2005). The Alcohol Use Disorders Identification Test (AUDIT) as a Screening Tool for Excessive Drinking in Primary Care: Reliability and Validity of a French Version. *Alcoholism: Clinical and Experimental Research, 29*(11), 2001-2007. doi:10.1097/01.alc.0000187034.58955.64

Gardner, K., Sibthorpe, B., Chan, M., Sargent, G., Dowden, M., & McAullay, D. (2018). Implementation of continuous quality improvement in Aboriginal and Torres Strait Islander primary health care in Australia: a scoping systematic review. *BMC health services research, 18*(1), 541. doi:10.1186/s12913-018-3308-2

Girdler, X. (2017). *AADANT Consult, Develop, Collaborate Project: Alcohol and Other Drugs Services Review*. Darwin: Association of Alcohol and Other Drugs NT.

Gomez, M., Ritter, A., Gray, D., Gilchrist, D., Harrison, K., Freeburn, B., & Wilson, S. (2014). *Adapting the Drug and Alcohol Service Planning Model for Aboriginal and Torres Strait Islander people receiving alcohol, tobacco and other drug services: Components of care and a resource estimation tool*. Sydney; DPMP National Drug and Alcohol Research Centre.

Gorham, G., Majoni, S. W., Lawton, P., Brown, S., Dube, B., Conlon, T., . . . Cass, A. (2018). Interesting times-evolution of dialysis in Australia's Northern Territory (1980-2014). *Renal Society of Australasia Journal, 14*(3), 108.

Gray, D., Saggers, S., Sputore, B., & Bourbon, D. (2000). What works? A review of evaluated alcohol misuse interventions among Aboriginal Australians. *Addiction, 95*(1), 11-22.

Gray, D., Stearne, A., Wilson, M., & Doyle, M. (2010). *Indigenous specific alcohol and other drug interventions - continuities, changes and areas of greatest need*. Canberra: Australian National Council on Drugs.

Gray, D., Stearne, A., Bonson, M., Wilkes, E., Butt, J., & Wilson, M. (2014). *Review of the Aboriginal and Torres Strait Islander alcohol, tobacco and other drugs treatment service sector: harnessing good intentions*. Perth: National Drug Research Institute (NDRI).

Green, C. A. (2006). Gender and use of substance abuse treatment services. *Alcohol Research and Health, 29*(1), 55-62.

Haber, P., Lintzeris, N., Proude, E., & Lopatko, O. (2009). *Quick Reference Guide to the Treatment of Alcohol Problems: Companion Document to The Guidelines for the Treatment of Alcohol Problems*. Canberra; Cmwlth Department of Health and Ageing.

Hall, W., Teesson, M., Lynskey, M., & Degenhardt, L. (1999). The 12-month prevalence of substance use and ICD-10 substance use disorders in Australian adults: Findings from the National Survey of Mental Health and Well-Being. *Addiction, 94*(10), 1541-1550.

Harris, M., Buckingham, W., Pirkis, J., Groves, A., & Whiteford, H. (2012). Planning estimates for the provision of core mental health services in Queensland 2007 to 2017. *Aust N Z J Psychiatry, 46*(10), 982-994.

Harris, M., & Lloyd, J. (2008). *The role of primary health care in preventing the onset of chronic disease*. Sydney: Australian National Preventative Health Taskforce.

Head, M., Goodwin, L., Debell, F., Greenberg, N., Wessely, S., & Fear, N. (2016). Post-traumatic stress disorder and alcohol misuse: comorbidity in UK military personnel. *Social psychiatry and psychiatric epidemiology, 51*(8), 1171-1180.

Healthcare Management Advisors Pty Ltd. (2005). *Alcohol and Other Drug Program: Profile of Services and Interventions Project*. Darwin: Northern Territory Department of Health and Community Services.

Health Projects International Pty Limited. (2018a). Top End Health Services Clinical Services Plan 2018-2036 (draft v0.6). Darwin: Northern Territory Government.

Health Projects International Pty Limited. (2018b). Central Australian Health Services Clinical Services Plan 2018-2036 (draft v0.8). Darwin: Northern Territory Government.

Helps, Y. L. M., & Moller, J. (2007). *Aboriginal people travelling well literature review: driver licensing issues, seat restraint non-compliance, Aboriginal health, Aboriginal disability*. Canberra: Research Centre for Injury Studies.

Hernandez-Wolfe, P., Killian, K., Engstrom, D., & Gangsei, D. (2015). Vicarious Resilience, Vicarious Trauma, and Awareness of Equity in Trauma Work. *Journal of Humanistic Psychology, 55*(2), 153-172. doi:10.1177/0022167814534322

Holmes, C., & McRae-Williams, E. (2008*). An investigation into the influx of Indigenous 'visitors' to Darwin's Long Grass from remote NT communities–Phase 2. Being undesirable: law, health and life in Darwin's Long Grass'.* National Drug Law Enforcement Research Fund.

Holt, T., Ritter, A., Pahoki, S., & Thomson, N. (2005). *Australian Treatment Outcome Study (ATOS): Alcohol, Cannabis and Polydrug. Baseline Report: Victoria*. Fitzroy, Victoria: Turning Point Alcohol and Drug Centre.

Husain, M., Moosa, K., & Khan, K. (2016). The relationship between previous trauma and alcohol and substance misuse in women. *European Psychiatry, 33*, S363.

Intergovernmental Committee on Drugs. (2015). *National Alcohol and other Drug Workforce Development Strategy 2015-2018*. Canberra: Australian Government.

Iversen, A., Waterdrinker, A., Fear, N., Greenberg, N., Barker, C., Hotopf, M., . . . Wessely, S. (2007). Factors associated with heavy alcohol consumption in the UK armed forces: data from a health survey of Gulf, Bosnia, and era veterans. *Military Medicine, 172*(9), 956-961.

Kelly, L., Kickett, T., & Beesarab, D. (2016). Ways in which postmodernism can inform Aboriginal community development. In C. Kickett-Tucker, D. Bessarab, J. Coffin, & M. Wright (Eds.), *Mia Mia Aboriginal Community Development* (pp. 91-107). Cambridge: Cambridge University Press.

Kessler, R. C., Nelson, C. B., McGonagle, K. A., Edlund, M. J., Frank, R. G., & Leaf, P. J. (1996). The epidemiology of co-occurring addictive and mental disorders: implications for prevention and service utilization. *American Journal of Orthopsychiatry, 66*(1), 17-31.

Krieg, A. (2009). The experience of collective trauma in Australian Indigenous communities. *Australasian Psychiatry*, *17*(sup1), S28-S32.

Lander, F., Gray, D., & Wilkes, E. (2015). The Alcohol Mandatory Treatment Act: evidence, ethics and the law. *Medical Journal of Australia, 203*(1), 47-50.

Livingston, M. (2011). A longitudinal analysis of alcohol outlet density and domestic violence. *Addiction, 106*(5), 919-925.

Lubman, D., Manning, V., Best, D., Berends, L., Mugavin, J., Lloyd, B., Garfield, J., Buykx, P., Matthews, S., Larner, A., Gao, C.,, Allsop, S., Room, R. (2014). *A study of patient pathways in alcohol and other drug treatment*. Fitzroy, Victoria: Turning Point Alcohol and Drug Centre.

Marmot, M. (2005). Social determinants of health inequalities. *The Lancet, 365*(9464), 1099-1104.

McKetin, R., McLaren, J., Kelly, E., Hall, W., & Hickman, M. (2005). *Estimating the number of regular and dependent methamphetamine users in Australia.* National Drug and Alcohol Research Centre (NDARC).

McLellan, A. T. (2002). Have we evaluated addiction treatment correctly? Implications from a chronic care perspective. *Addiction, 97*(3), 249-252.

Mental Health Commission. (2017). *Western Australian Community Mental Health Step Up/Step Down Services: Model of Service*. Perth: Western Australian Government. Retrieved from: https://www.mhc.wa.gov.au/media/1969/mos-website-may-2017-docx.pdf

Milbourne, L. (2009). Remodelling the third sector: advancing collaboration or competition in community-based initiatives? *Journal of Social Policy, 38*(2), 277-297.

Munro, A., Allan, J., Shakeshaft, A., & Breen, C. (2017). "I just feel comfortable out here, there's something about the place": staff and client perceptions of a remote Australian Aboriginal drug and alcohol rehabilitation service. *Substance abuse treatment, prevention, and policy, 12*(1), 49.

Murphy, C. M., & Ting, L. (2010). The effects of treatment for substance use problems on intimate partner violence: A review of empirical data. *Aggression and Violent Behavior, 15*(5), 325-333.

Murray, R. B., & Wronski, I. (2006). When the tide goes out: health workforce in rural, remote and Indigenous communities. *Medical Journal of Australia, 185*(1), 37-38.

Nadew, G. T. (2012). Exposure to traumatic events, prevalence of posttraumatic stress disorder and alcohol abuse in Aboriginal communities. *Rural & Remote Health, 12*(4).

Nagel, T. M., & Thompson, C. (2010). The central role of Aboriginal families in motivational counselling: family support and family 'humbug'. *Aust Indig Health Bull, 10*, 1-17.

National Health and Medical Research Council. (2009). *Australian guidelines to reduce health risks from drinking alcohol*. Canberra: Australian Government. Retrieved from: https://nhmrc.gov.au/about-us/publications/australian-guidelines-reduce-health-risks-drinking-alcohol#block-views-block-file-attachments-content-block-1

National Rural Health Alliance. (2014). *Alcohol Use in Rural Australia*. Deakin West. Retrieved from http://ruralhealth.org.au/sites/default/files/publications/nrha-factsheet-alcohol.pdf

National Partnership Agreement. (2016) *Community Safety Implementation Plan: National Partnership on Northern Territory Remote Aboriginal Investment*. Canberra: Counsel of Federal Financial Relations.

NCETA. (2014). *National Alcohol and Other Drug Workforce Development Strategy 2015–2018*. Canberra: Intergovernmental Committee on Drugs.

NCETA. (2018). *Alcohol and Other Drugs Workforce Development Assessment 2017 - Summary Report*. Darwin: Northern Territory Primary Health Network.

NDSHS. (2016). *National Drug Strategy Household Survey 2016: detailed findings*. Canberra: AIHW.

Network of Alcohol and other Drugs Agencies. (2014). *Responding to alcohol and drug related harms in NSW: Mapping the NSW non government alcohol and other drugs sector*. NADA: NSW. Retrieved from: https://nada.org.au/wp-content/uploads/2018/05/nada_sector_mapping_web.pdf

Newbury-Birch, D., McGovern, R., Birch, J., O'Neill, G., Kaner, H., Sondhi, A., & Lynch, K. (2016). A rapid systematic review of what we know about alcohol use disorders and brief interventions in the criminal justice system. *International Journal of Prisoner Health, 12*(1), 57-70.

Northern Territory Government. (2018a). *Safe, Thriving And Connected: Generational Change For Children And Families 2018-2023.* Darwin; Northern Terriotry Government. Retrived from: https://rmo.nt.gov.au/__data/assets/pdf_file/0005/498173/Safe,-Thriving-and-Connected-Implementation-Plan-Web.pdf

Northern Territory Government. (2018b). *Domestic, Family & Sexual Violence Reduction Framework 2018–2028: Safe, respected and free from violence*. Darwin; Northern Terriotry Government. Retrived from: https://territoryfamilies.nt.gov.au/__data/assets/pdf_file/0006/464775/Domestic,-Family-and-Sexual-Violence-Reduction-Framework.pdf

Northern Territory Government. (2018c). *Starting Early for a Better Future – Early Childhood Development in the NT 2018-2028.* Darwin; Northern Terriotry Government. Retrived from: https://earlychildhood.nt.gov.au/__data/assets/pdf_file/0003/450885/starting-early-for-a-better-future.pdf

Northern Territory Government. (2019). *Prisoner treatment and rehabilitation programs*. Retrived from: https://nt.gov.au/law/prisons/prisoner-treatment-and-rehabilitation-programs

NT Department of Attorney-General and Justice. (2018a). *Northern Territory Wholesale Alcohol Supply 2010 to 2017*. Darwin: Northern Territory Government. Retrieved from: https://justice.nt.gov.au/attorney-general-and-justice/statistics-and-strategy/wholesale-alcohol-supply-data

NT Department of Attorney-General and Justice. (2018b). *Annual Report 2017–18*. Darwin: Northern Territory Government. Retrieved from: https://justice.nt.gov.au/attorney-general-and-justice/statistics-and-strategy/wholesale-alcohol-supply-data

NT Department of Health and Families. (2009). *Northern Territory Chronic Conditions Prevention and Management Strategy 2010-2020*. Darwin: Northern Territory Government. Retrived from:

https://digitallibrary.health.nt.gov.au/prodjspui/bitstream/10137/535/1/Northern%20Territory%20Chronic%20Conditions%20Prevention%20and%20Management%20Strategy%202010-2020.pdf

NT Department of Health. (2013). *Northern Territory Health Promotion Framework*. Darwin: Northern Territory Government.
NT Department of Health. (2018a). *Addressing Fetal Alcohol Spectrum Disorder (FASD) in the Northern Territory 2018-2024*. Darwin: Northern Territory Government.

NT Department of Health. (2018b). *The Best Opportunities in Life: Northern Territory Child and Adolescent Health and Wellbeing Strategic Plan 2018–2028. Darwin; Northern Terriotry Government.* Retrived from: https://digitallibrary.health.nt.gov.au/prodjspui/bitstream/10137/7231/1/The%20Best%20Opportunities%20in%20Life%20Northern%20Territory%20Child%20and%20Adolescent%20health%20and%20Wellbeing%20Strategic%20Plan%202018%20-%202028.pdf

NT Department of Health. (2018c). *Alcohol Management Plans*. Darwin: Northern Territory Government. Retrived from: https://health.nt.gov.au/professionals/alcohol-and-other-drugs-health-professionals/alcohol-for-health-professionals/alcohol-management-plans/alcohol-action-initiatives

Nicholas, R., Adams, V., Roche, A. M., White, M., & Battams, S. (2013). The development of Australia's alcohol and other drug workforce development strategy: A discussion paper. Adelaide: National Centre for Education and Training on Addiction, Flinders University.

OATSIH. (2007). *Drug and alcohol service reporting: 2005-06 key results: a national profile of Australian Government funded Aboriginal and Torres Strait Islander substance use specific services*. Canberra: Australian Government.

Phillips, J. & Vandenbroek, P. (2014). *Domestic, family and sexual violence in Australia: an overview of the issues*; *Research Paper Series 2014-15.* Canberra; Parliament of Australia.

Pidd, K., Roche, A., Duraisingam, V., & Carne, A. (2012). Minimum qualifications in the alcohol and other drugs field: Employers' views. *Drug and Alcohol Review, 31*(4), 514-522.

Pirkis, J., Harris, M., Buckingham, W., Whiteford, H., & Townsend-White, C. (2007). International planning directions for provision of mental health services. *Administration and Policy in Mental Health and Mental Health Services Research, 34*(4), 377-387.

PricewaterhouseCoopers Indigenous Consulting Pty Limited. (2017). *Evaluation of the Alcohol Mandatory Treatment Program*. Darwin; NT Department of Health.

PricewaterhouseCoopers Indigenous Consulting Pty Limited. (2018). *Review of the Northern Terriotry Sobering Up Shelters*. Darwin: NT Department of Health.

Proudfoot, H., & Teesson, M. (2009). The association of alcohol dependence with general practice attendance. *Drug and Alcohol Review, 28*, 154-159.

Riley, T. (2017). *Northern Territory Alcohol Policies and Legislation Review: Final Report*. Darwin; Northern Territory Governement.

Ritter, A., Berends, L., Chalmers, J., Hull, P., Lancaster, K., & Gomez, M. (2014). *New Horizons: The review of alcohol and other drug treatment services in Australia.* Sydney: DPMP National Drug and Alcohol Research Centre.

Roche, A. M., & Pidd, K. (2010). *Alcohol and other drugs workforce development issues and imperatives: Setting the scene*. Adelaide: National Centre for Education and Training on Addiction, Flinders University.

Roche, A.M., Duraisingam, V., Trifonoff, A., & Tovell, A. (2013). The Health and Well-Being of Indigenous Drug and Alcohol Workers: Results from a National Australian Survey. *Journal of Substance Abuse Treatment, 44*(1), 17-26.

Rowan, M., Poole, N., Shea, B., Gone, J.P., Mykota, D., Farag, M., Hopkins, C., Hall, L., Mushquash, C. & Dell, C. (2014). Cultural interventions to treat addictions in Indigenous populations: findings from a scoping study. *Substance Abuse Treatment, Prevention, and Policy, 9*(1), p.34.

Rush, B., & Urbanoski, K. (2019). Seven Core Principles of Substance Use Treatment System Design to Aid in Identifying Strengths, Gaps, and Required Enhancements. *Journal of Studies on Alcohol and Drugs, Supplement*(s18), 9-21.

Sanghani, R. M., Carlin, A. L., & Moler, A. K. (2015). Assessing success—a commentary on the necessity of outcomes measures. *Substance abuse treatment, prevention, and policy, 10*(1), 1.

Sherwood, J. (2009). Who is Not Coping with Colonization? Laying Out the Map for Decolonization. *Australasian Psychiatry, 17*(1_suppl), S24-S27. doi:10.1080/10398560902948662

Skov, S. J., Chikritzhs, T. N., Li, S. Q., Pircher, S., & Whetton, S. (2010). How much is too much? Alcohol consumption and related harm in the Northern Territory. *Med J Aust, 193*(5), 269-272.

Slade, T., Johnston, A., Teesson, M., Whiteford, H., Burgess, P., Pirkis, J., & Saw, S. (2009). *The Mental Health of Australians 2: Report on the 2007 National Survey of Mental Health and Wellbeing.* Canberra: Australian Government. Retrieved from: http://www.health.gov.au/internet/publications/publishing.nsf/Content/mental-pubs-m-mhaust2-toc

Slade, T., Chapman, C., Swift, W., Keyes, K., Tonks, Z., & Teesson, M. (2016). Birth cohort trends in the global epidemiology of alcohol use and alcohol-related harms in men and women: systematic review and metaregression. *BMJ open, e011827*. doi:10.1136/bmjopen-2016-

Smith, J., Whetton, S., & d'Abbs, P. (2019). *The social and economic costs and harms of alcohol consumption in the NT*. Darwin: Menzies School of Health Research.

Smith, J. A., Livingston, M., Miller, P., Stevens, M., Griffiths, K., Judd, J. A., & Thorn, M. (2019). Emerging alcohol policy innovation in the Northern Territory, Australia. *Health Promotion Journal of Australia*, *30*(1), 3-6.

Smith, J.A. (2018). *Twelve-month evaluation of the Banned Drinker Register in the Northern Territory: Part 1 – Descriptive analysis of administrative data.* Darwin: Menzies School of Health Research.

Smith, J. A & Adamson, E. (2018). *Process Evaluation of the Banned Drinkers Register in the Northern Territory.* Darwin; Menzies School of Health Research.

Smith, J. A., Judd, J., Bainbridge, R., Griffiths, K., D'Antoine, H., Cargo, M., & Ireland, S. (2018). Are we going "co-crazy"?: An opportunity to learn from health promotion foundations. *Health Promotion Journal of Australia, 29*(3), 223-224.

Smith, J. A., Jancey, J., & Binns, C. (2017). System reform in the human services: what role can health promotion play? *Health Promotion Journal of Australia, 28*(1), 1-4.

Smith, V. C., & Wilson, C. R. (2016). Families affected by parental substance use. *Pediatrics, 138*(2), e20161575.

Smith, J. D., Margolis, S. A., Ayton, J., Ross, V., Chalmers, E., Giddings, P., . . . Love, C. (2008). Defining remote medical practice. *Medical Journal of Australia, 188*(3), 159-161.

Srivastava, A., & Thomson, S. B. (2009). Framework analysis: a qualitative methodology for applied policy research.

Stockwell, T., Chikritzhs, T., Hendrie, D., Fordham, R., Ying, F., Phillips, M., Cronin, J., O'Reilly, B. (2001). The public health and safety benefits of the Northern Territory's Living with Alcohol programme. *Drug and Alcohol Review, 20*(2), 167-180.

Substance Abuse and Mental Health Services Administration. (2014). *SAMHSA's concept of trauma and guidance for a traumainformed approach*. Rockville, MD: SAMHSA.

Taylor, A., & Winter, J. (2012). *It's raining men: INPEX and Darwin's gender balance.* Darwin: Northern Institute.

Taylor, A. J., & Carson, D. B. (2014). It's raining men in Darwin: Gendered effects from the construction of major oil and gas projects. *Journal of Rural and Community Development, 9*(1), 24-40.

Tynan, R. J., Considine, R., Wiggers, J., Lewin, T. J., James, C., Inder, K., . . . Perkins, D. (2017). Alcohol consumption in the Australian coal mining industry. *Occup Environ Med, 74*(4), 259-267.

Van der Kolk, B. A. (2017). Developmental Trauma Disorder: Toward a rational diagnosis for children with complex trauma histories. *Psychiatric annals, 35*(5), 401-408.

Wakerman, J., Curry, R., & McEldowney, R. (2012). Fly in/fly out health services: the panacea or the problem. *Rural and Remote Health, 12*(2268), 1-4.

White, R., & Gooda, M. (2017). *Royal Commission into the Protection and Detention of Children in the Northern Territory*. Canberra: Australian Government.

Whiteford, H., Buckingham, W., Harris, M., Burgess, P., Pirkis, J., & Barendregt, J. (2014). Estimating treatment rates for mental disorders in Australia. *Australian Health Review, 38*(1), 80-85. http://www.inquirysaac.nt.gov.au/pdf/bipacsa_final_report.pdf

Whitty, M., & Clifford, A. (2017). The Dissemination of Alcohol Interventions for Indigenous Australians: A Mixed Studies Review Using Narrative Synthesis. *J Alcohol Drug Depend, 5*(276), 2.

Wild, R., & Anderson, P. (2007). *Ampe Akelyernemane Meke Mekarle "Little Children are Sacred": Report of the Northern Territory Board of Inquiry into the Protection of Aboriginal Children from Sexual*

Abuse. Canberra: Australian Government. Retrieved from http://www.inquirysaac.nt.gov.au/pdf/bipacsa_final_report.pdf

Willis M. 2018. *Supported housing for prisoners returning to the community: A review of the literature*. Research Reports No. 7. Retrived from: Canberra: Australian Institute of Criminology. https://aic.gov.au/publications/rr/rr7

Wilsnack, R. W., Wilsnack, S. C., Kristjanson, A. F., Vogeltanz-Holm, N. D., & Gmel, G. (2009). Gender and alcohol consumption: patterns from the multinational GENACIS project. *Addiction, 104*(9), 1487-1500.

Wilson, A., Stearne, A., Gray, D., & Saggers, S. (2010). The harmful use of alcohol amongst Indigenous Australians. *Australian Indigenous HealthInfoNet*. Retrvied from: https://espace.curtin.edu.au/bitstream/handle/20.500.11937/34089/159785_26126_WilsonHarmfulUseAIHIN.pdf?sequence=2

Young, J., Kline-Simon, A., Mordecai, D., & Weisner, C. (2015). Prevalence of behavioral health disorders and associated chronic disease burden in a commercially insured health system: findings of a case-control study. *Gen Hosp Psychiatry, 37*(2), 101-108. doi:10.1016/j.genhosppsych.2014.12.005.

Yusuf, F., & Leeder, S. R. (2015). Making sense of alcohol consumption data in Australia. *Medical Journal of Australia, 203*(3), 128-130.

Zhao, Y., Russell, D. J., Guthridge, S., Ramjan, M., Jones, M. P., Humphreys, J. S., . . . Wakerman, J. (2017). Long-term trends in supply and sustainability of the health workforce in remote Aboriginal communities in the Northern Territory of Australia. *BMC health services research, 17*(1), 836. doi:10.1186/s12913-017-2803-1

Attachments

Attachment 1: Glossary of Terms

Abstinence	A complete cessation of alcohol consumption. This may be a client goal or a requirement of certain alcohol treatment services, particularly residential ones.
Addiction	A chronic disease which affects brain reward, motivation and memory, characterised by a pathological pursuit of reward and/or relief through certain behaviours or substances (American Society of Addiction Medicine, 2011).
Continued care	Support that occurs after completion of an alcohol treatment program. This may include ongoing case management, supported accommodation, peer support groups and referrals to other relevant services (Blevins et al. 2017).
Alcohol use disorder	Problematic use of alcohol causing significant impairment or distress as diagnosed using the DSM5 criteria (American Psychiatric Association, 2013).
Client Complexity	Refers to the interrelated physical and mental health problems, social issues, poly drug use, legal and/or financial concerns that many clients accessing alcohol treatment services experience (Network of Alcohol and other Drugs Agencies, 2014).
Co-morbidity	The co-occurrence of one or more disorders. In an AOD context this is commonly used to refer to both the commonly entwined presentation of mental illness and substance abuse, and the physical disabilities that arise from years of chronic substance abuse (Kessler et al., 1996; Young et al., 2015).
Dependence	A chronic relapsing disorder where an individual has impaired control of their alcohol consumption, despite related social, physical and/or psychological harms (Haber et al. 2009).
Dual Diagnosis	Where an individual has both a mental health and substance use diagnosis.
Gunja / Ganja	Colloquial term for cannabis
Harm minimisation	An ethos which recognises that total abstinence or eradication of drugs is not always possible, and therefore professionals in the field should focus on strategies which reduce harms of consumptions. It became the underpinning philosophy for the National Campaign Against Drug Abuse (NCADA) in 1985, and later the Australian National Drug Strategy in 1993 (Department of Health, 2008).
Humbugging	An Aboriginal English word which refers to demand sharing. It is often a one-way transaction, with family members who have money and resources pressured to share with those who do not (Kelly et al., 2016).
Long-grassing / long-grassers	A term used to describe people who sleep rough in parks and public places. These are predominately Aboriginal Australians and public discourse often differentiates this from homelessness because of a common narrative amongst non-Aboriginal Territorians that long

	grassing is a choice linked to lifestyle and cultural predisposition (Holmes & McRae-Williams, 2008).
Trauma	An event, a series of events or ongoing circumstances which are physically and/or emotional harmful and have a lasting impact on an individual's functioning and wellbeing. (Substance Abuse and Mental Health Services Administration, 2014) *Vicarious trauma* refers to the impact of trauma on witnesses to events (this includes family, bystanders and first responders) and professionals who may engage with traumatised individuals (particularly social workers and counsellors) (Hernandez-Wolfe, Killian, Engstrom, & Gangsei, 2015). *Intergenerational trauma* refers to the compounding effect of cumulative trauma throughout a family or community. This is particularly common in an Aboriginal Australian context where both historical and current systemic oppression deeply impacts many families (Sherwood, 2009).

Attachment 2: Hospital separations data (NHMD-NMDS)

The data available from hospital datasets are provided as either diagnostic codes (ICD-AM diagnosis of abuse and dependence) and/or as DRG's (major diagnostic groups, classed together because of similarity in treatment approach). Neither of these (diagnosis or DRG) are a perfect match with a definition of AOD treatment. In the main, alcohol researchers have tended to use the ICD codes to identify admissions related to alcohol (for example AIHW, 2013) but these clearly over-estimate hospital admissions for treatment and can be more correctly labelled "hospitalisations associated with alcohol/drug use" (see AIHW, 2013, p. 86). The way in which hospitals are funded uses the DRG's (rather than ICD's) and for this reason – because it more likely reflects treatment received – we have chosen to use the DRG's[10]. The DRG's that will be specified for these analyses are:

V60A Alcohol Intoxication and Withdrawal with complications
V60B Alcohol Intoxication and Withdrawal without complications
V62Z Alcohol Use and Dependence
V65Z Treatment for alcohol disorders, same day

Consultation/liaison services are not likely to be picked up in this analysis.

[10] The DRG is determined by computer software using information from a number of variables including: principal diagnosis (i.e. the ICD code), secondary diagnoses (complications and co-morbidities); significant operating room and/or non operating room procedures; age; sex; length of stay (same day / multi day); and discharge status.

Attachment 3: GP data

We could not source any specific NT data about the number of encounters with GPs in the NT for alcohol use disorders. This suggests that more effort should go into data systems that can measure the extent of GP activity in alcohol and other drug treatment provision in the NT.

In lieu of any data, we have created an approximate estimate from somewhat dated, national BEACH data. The BEACH data is an annual survey of a random sample of GPs (1,000 GPs, and 100 consecutive GP encounters). There was an annual average of 487,000 GP encounters coded as Alcohol Use Disorder between 2008 and 2013 (see Table 7.2, page 148 New Horizons report, Ritter et al., 2014).
If this annual figure of 427,000 encounters is converted to a per capita rate (using the 2013 Australian population), then the per capita rate is 0.021.
Applying this per capita rate to the 2017 NT population results in 5,143 encounters for alcohol use disorder in 2017.
The assumptions underpinning this approximation include:

- That the same rate of GP presentations occurs in the NT as the national average;
- That the rate of GP presentations for alcohol use disorder has not changed since 2013.

By way of cross-checking the figures, we examined whether the ratio of GP encounters to AODTS-NMDS episodes of care was similar between national (2013/14 data, Table 7.12 New Horizons) and the NT data for this project.
In 2013/14, nationally, there were 826,000 GP encounters (all substances) and 163,921 AODTS-NMDS episodes of care (all substances): a ratio of 5 GP encounters to every AODTS NMDS EOC. Whereas for the 2017 NT data, the ratio was 1.6 (GP encounters to AODTS-NMDS EOC). This suggests that the GP encounter number is too low.

Further evidence that the GP encounter estimate is too low derives from examination of the number of GPs per state (per 100,000 population). Whereas the national average was 148 GPs per 100,000 (2016/17), and NSW and Victoria had 140 GPs per 100,0000, the NT had 229 GPs per 100,000 (2016/17:
http://www.health.gov.au/internet/main/publishing.nsf/Content/General+Practice+Statistics-1).
This suggests that taking the simple per capita pro-rata is not the best methodology.
An alternate methodology is to add in an adjustment for the per 100,000 population GP coverage. The national average is 148.6 GPs per 100,000 whereas in NT it is 229.1 per 100,000, that is 1.5 times higher. So adjusting the original 5143 by an additional .5 results in 7,714 GP encounters.

Given no other service delivery data are available to cross-check or otherwise adjust this figure, we have retained the 7,714 GP encounters.

The next challenge was to convert the number of GP encounters into unique individuals. This relied on making an assumption about the number of times a person with an alcohol-related problem visited her/his GP each year. On average, Australians visit a GP five times per year (Harris et al., 2008: page 5). Is it reasonable to use the Australian average or is there reason to believe that people with alcohol problems see their GPs more or less frequently than the statistical average? Proudfoot et al. (2009) examined this question in their analysis of the 2007 National Survey of Mental Health and Well-Being and found that those with alcohol dependence were no more likely to see a GP than those without (except for those with comorbidity). (See Table 1 and Table 3: Proudfoot et al., 2009). This supports the use of the statistical average of 5 visits per annum.
So the number of individuals is 1,542.

Attachment 4: Self-help meetings

Public domain information was used to obtain a list of the self-help meetings in the NT.
Source: https://aameetings.org.au/info#about

A total of approximately 22 meetings per week are held across NT.

Darwin – Sunday 7pm; Tues 12 noon; Thurs 7pm, Thurs 8pm,Ffri 12 noon, Monday 6pm, Fri 8pm, wed 8pm,Tues 7.30pm, Saturday 7.30pm
Sat 10am wed 12 noon, Tues 8pm, Thurs 7pm, Sunday 2pm
Katherine: Mon 7.30pm, wed 7.30pm, Fri 8pm
Alice Springs: Mon 5.30pm, wed 5.30pm, Sunday 10am, Friday 7pm
Some dry season only meetings: Jabiru, East alligator
SMART recovery 1 meeting (Banyan House).

These meetings are anonymous and information is not provided on the numbers of attendees, nor how frequently an individual may attend (some individuals attend daily meetings for many months early in sobriety; others may only attend 1 or 2, others are weekly attendees).
We need to make an assumption about the average number of attendees at each AA/self-help meeting and the frequency of attendance.

These were the assumptions we used in deriving this estimate for the met demand project:

- an average number of attendees per meeting of 6 persons;
- attendance at meetings on average 2 times per week
- The proportion of those individuals attending AA who have not received some formal treatment intervention (i.e. are not already counted in the numbers of unique persons from the datasets we accessed), is 11%. This is based on a recent (2018) online survey of Australians in remission from alcohol problems. In this survey 364 people accessed any sort of self-help groups, of which 40 did so without accessing professional treatment. This means that 11.0% of people that attend self-help groups are unique (Mellor, unpublished thesis data).

To calculate the numbers of episodes of care (where in this context an EOC is a meeting), there were 6 people in 22 meetings each week = 6x22x52 = 6864

To calculate the numbers of unique individuals: 6 people in 2 meetings per week = 6x2x52 = 624, of which 11% were not receiving any other form of treatment = 68 people

Attachment 5: Excluded potential alcohol treatment

It is likely that there is a range of interventions that address alcohol problems but are not explicitly collected as such in existing databases. This includes primary health care services delivered by ACCHOs that may involve cultural support, or work by generalist clinicians. Only explicit 'substance use treatment' is recorded in the OSR database.

A comprehensive analysis of alcohol treatment would also include prison programs. There are two prison-based AOD programs. "Safe, Sober, Strong" is a group-based psycho-educational program and is offered at Darwin CC and Alice Springs CC. The Intensive AOD Program (IADP) is a 10 module program, delivered by program facilitators, offered at both Darwin CC and Alice Springs CC. We were not able to obtain data on the numbers of prisoners undergoing these two programs. There are also health program offered within prisons, and they are largely provided by external providers, including NT Health services and NGOs (e.g. Amity). These alcohol treatment services are included in the estimates given here (through the NTG data).

Community-based Corrections orders (and others such as parole) may have conditions regarding treatment. Services are provided by NT Health and NGOs, and therefore will have been picked up in the NTG data we have been provided with.

Health programs such as Better Access and ATAPS may be providing alcohol treatment to people receiving care through these services. We were not able to access data for these two programs. Future work should attempt to include Better Access and ATAPS services.

We checked the Residential Mental Health Care National Minimum Data Set (RMHC-NMDS https://www.aihw.gov.au/reports-statistics/health-welfare-services/mental-health-services/data). According to AIHW figures, N=117 'residents' in 2015/16 for NT; and of these, n=2 episodes were F10-F19 (ICD). This indicates that a maximum of 2 people received this service in 2015/16 and it may not necessarily have been for alcohol. Hence this data source was excluded based on small numbers.

Treatment provided through Department of Defence and Department of Veterans Affairs (DVA) was not able to be numerated. Most of this care sits outside the public health system. Any future endeavours to assess the total alcohol treatment provision in the NT should consider including care provided through these organisations.

There was no method we could ascertain to assess the extent of private care being provided in the NT, as they have no data reporting requirements.

We did not include prescription medications for the treatment of alcohol dependence (such as provided through GPs).

The self-help data (see Attachment 4) relied on public information largely about AA groups (and the 1 smart recovery group listed on a website). There are likely to be other, unrecorded self-help groups such as men's groups, and women's group. Those that are run through AOD funded services which report through to the AODTS-NMDS will have been captured, but not those that are not.

Lastly, there are a number of practical clinical events that may reduce the formal count of numbers of people receiving care. One example is in a situation of domestic violence, where the male partner may attend the SUS, which then means that the female will be safer to go elsewhere (in this instance to a Women's Shelter instead of a SUS).

Overall, despite these various exclusions and lack of data, there is confidence that the vast majority of alcohol treatment has been recorded in this project. Clients who may be in diversion programs with the treatment provided by NTG and NGOs are included; all formal alcohol treatment in hospitals, in ACCHOs, in NTG and NGO services and across drink driver education programs and SUS and community mental health are included, as is an estimate for self-help.

So this work should be seen as the first approximation, providing new data but also the opportunity for future work to improve on the estimates herein.

Attachment 6: Calculating the number of unique individuals receiving alcohol treatment in any one year in the NT (removing double counting between datasets)

Removal of the double-counting between data sources is a significant challenge. Whilst we know anecdotally that people with alcohol problems seek care from multiple settings/services either simultaneously or within the same year, it is very difficult to precisely ascertain the extent of this, especially as it concerns different treatment service systems. The problem is not unique to AOD; in the mental health field, endeavours to account for double counting between different treatment service systems demonstrate the challenges (Harris et al., 2012; Whiteford et al., 2014).

This is an exercise in making assumptions about treatment pathways, and how people move between treatment settings over the course of a year. It is approximate, and relies on research evidence to assist in the process of obtaining an estimate of the number of unique individuals in any one year.

We need to move from an estimate of 11,782 people to unique treatment recipients across all data sources. Our assumptions were as follows:

1. Treatment provided by agencies reporting to the OSR funded under the substance use program.
   We started with a base-line pool of unique AOD treatment recipients that represented that largest number of people, the clients of ACCHOs (funded by AG, and data via OSR). The number of individuals from that dataset was 3,521, covering both residential and non-residential services. The AIHW has advised that: "A client is counted only once by a reporting service. However, there could be double counting for clients who visited multiple services which we can't identify". The number of services included for the NT OSR analysis was 7 residential services and 12 non-residential services in the NT. We do not have any data or information upon which to make assumptions about the numbers of clients within the 3,521 pool who attended more than one service in a year. However, some have. In the absence of any data, we take an arbitrary low estimate of 25% (one quarter) and assume that these individuals also receive care from another service in the same year (such as from NTG or an NGO AOD service); and we take an arbitrary 50% and assume these people also receive care from other services in the same year. This gives us a range between 50% and 75% of unique individuals who solely receive alcohol treatment and care within the OSR database.

2. GP treatment
   Based on the finding of (Burgess et al., 2009) the proportion of people with a substance use disorder who received treatment who *only* saw a GP was 22%. Thus we retain only 22% of GP treatment recipients.

3. Hospital treatment
   We draw on the Patient Pathways Project (Lubman et al., 2014) to estimate what proportion of the hospital-admitted patients would also have received alcohol treatment (from an NGO and/or from NT health service). Close to 30% of the Pathways participants had been admitted to hospital in the year prior to their baseline interview. In another study, the Alcohol Treatment Outcome Study from Victoria – in the month before first entering treatment, 22% had been admitted to a hospital; at three month follow-up 10% had been admitted (Holt, Ritter, Pahoki, & Thomson, 2005). Both these studies suggest that around 30% of the people receiving hospital care will also have received some other form of care in the same year. Hence we remove 30% from the hospital clients.

4. Alcohol treatment provided by specialist NGOs (1,940 individuals) and by NT Health (364 individuals)
   There is a Statistical Linkage Key (SLK) shared across these two datasets, which allows identification of the same person across both datasets. The NTG Senior Data officer advised that the number of unique individuals across both datasets is 2,152.

5. Community Mental Health: there were 94 individuals who received support from community mental health services for an alcohol problem. There is no further information about what proportion of these individuals also received care from other services for an alcohol problem in the same year. As per the above, we therefore take a high estimate of 75% unique individuals and a low estimate of 50% of unique individuals in the absence of any data to inform such an estimate.

6. Drink drive educational programs. As with the community mental health, we have no information to inform us about the numbers of people who undertake a drink driver education program and who also receive alcohol treatment in another setting in the same year. We therefore take a high estimate of 75% unique individuals and a low estimate of 50% of unique individuals in the absence of any data to inform such an estimate.

7. Self-help. What portion of those attending self-help have not received any other care in the year? A recent (2018) online survey of Australians in remission from alcohol problems showed that 364 people accessed any sort of self-help groups, of which 40 did so without accessing professional treatment. This means that approximately 11.0% of people that attend self-help groups do not receive any other care and should be included (Mellor, unpublished thesis data).

8. SUS
   We need to estimate what proportion of the people attending SUS and who received a BI (2,151 in any one year) do not receive any other form of alcohol treatment in the same year. There were no ready data sources to use to ascertain what this number should be. The PWC service review of SUS (2019) did not provide demographic data to assess past or current treatment seeking. The report does state that the co-location of the Darwin SUS with rehab and detox services has ensured strong linkages (and this was confirmed by expert advice received during the project, noting an increase in referrals to treatment).
   The PWC report however, also notes that "most of the clients refuse to attend or can't make it to their recommended treatment" (p. 14). In addition, referral to a treatment service is not the same as actually receiving a service. In light of no other information, we take a high and a low estimate of the unique SUS recipients in any one year, by taking 50% of the 2151 (and assume they do not receive any other services in that year) and then 75% (assuming 75% do not receive any other services in that year).

Attachment 7: Overview of DASPM

The Drug and Alcohol Service Planning Model (DASPM) was developed between 2010 and 2013 by the NSW Ministry of Health (Mental Health and Drug and Alcohol Office) under a cost-shared funded project with the then Intergovernmental Committee on Drugs (IGCD). The aim of the project was to facilitate planning for alcohol and other drug services in Australia, and to provide a basis for national consistency in approaches to planning across all the Australian health jurisdictions. The specific objectives of the DASPM project were: to build the first national population based model for drug and alcohol service planning; to estimate the need and demand for treatment; to use clinical evidence and expert consensus to specify optimal care packages; and to calculate the resources needed to provide these care packages. An Expert Reference Group oversaw the development of the model. [11]

The model followed the principles of population-based planning used in the Mental Health Clinical Care and Prevention (MH-CCP) model of 2000 (Pirkis et al., 2007). DASPM applied the prevalence of substance use disorders, by drug type and age group from epidemiological sources, incorporated a severity rating to distinguish mild, moderate and severe presentations and then used expert consensus (via the Expert Reference Group) to estimate the treatment rate. The treatment rate reflected the proportion of all those who met diagnostic criteria who would be suitable for, likely to seek, and benefit from, treatment in any one year (that is demand for treatment). Having divided the population (epidemiology of use disorders) into mild, moderate and severe, and established a treatment rate for each drug class and age category, the DASPM provides "care packages" for each drug class by age group by level of severity. These "care packages"[12] represent evidence-based and/or expert judgement regarding the care required for one year. Each care package specifies the types of services to be provided, and the workforce (staff hours) required to deliver that service. As a result, the DASPM produces the following outputs:

- The numbers of people suitable for, seeking and likely to benefit from treatment in any one year
- The service types required to meet that demand (e.g. number of beds, number of outpatient treatment places)
- The workforce required (number of medical, nursing, allied health and AOD workers)
- The resources required to deliver that level of care in line with the care packages specified in the model.

DASPM predictions of treatment demand rely on three key variables: the epidemiology (that is the prevalence of AOD disorders in the community), the severity distribution (the allocation of people with AOD disorders into three disability categories: mild, moderate and severe) and the treatment rates (the proportion of all people who would be suitable for, likely to seek, and benefit from treatment, given the appropriateness of the treatment services available). Each of these is discussed in turn.

The epidemiology

The epidemiology for the model was based on the Australian Burden of Disease (AUSBoD) (Begg et al., 2007) which in turn relied largely on the 1997 National Survey of Mental Health and Wellbeing (NSMHWB) (ABS, 1998a; Hall et al., 1999). The Composite International Diagnostic Interview (CIDI) was used as the interview tool to establish the rates of ICD-10 diagnoses of dependence and harmful use of alcohol, cannabis, sedatives, opioids, and stimulants. The last two classes (opioids and

[11] The Expert Reference Group included: Alison Ritter (Chair), Robert Ali, Meredythe Crane, Robyn Davies, Sarah Gobbert, Anthony Sievers, Helene Delany, Dennis Gray, James Hunter, Susan Alarcon, Tania Murray, Robert Batey, Debbie Kaplan, Nick Lintzeris, Dan Lubman, Lynne Magor-Blatch, Liz Davis, Elise Newton, Ashleigh Lynch, Garth Popple, Anita Reimann, and Myra Brown.

[12] There are more than 100 different care packages in DASPM, broken down as they are by drug type, age group, and severity level.

stimulants) are very low prevalence disorders in the general population, and general population surveys underestimate the prevalence of these drug classes (Degenhardt et al., 2011; Hall et al., 1999). DASPM therefore sought alternate epidemiology for heroin and stimulants (amphetamine).

The prevalence rates, their sources along with the actual population numbers (using the 2006 Australian population estimates taken from the ABS (ABS) online publication *3222.0 – Population Projections, Australia, 2006 to 2101, Series B)* are given in Table 1.

Table 1: Past 12 month prevalence rates applied in DASP, associated data source and population, by drug type

Drug type	**18-64 yrs per 100,000 age-specific population**	**65+ yrs per 100,000 age-specific population**	**SUD pop 18-64 yrs**	**SUD pop 65 yrs +**	**Total SUD population (as at 2006)**	**Source for 12 month prevalence**
Alcohol	6.35%	1.42%	916,925	48,090	983,315	AUSBoD data from NSMHWB (See the AUSBoD report Begg et al., 2007, pp. Annex Table 2, p. 210).
Amphetamine	0.51%	0.01%	73,729	271	76,190	As reported in AUSBoD – used NMDS-AODT and a (McKetin, McLaren, Kelly, Hall, & Hickman, 2005) multiplier
Benzodiazepine	0.38%	0.08%	54,251	2,570	57,045	AUSBoD data from NSMHWB
Cannabis	1.76%	0.05%	254,661	1,725	264,734	AUSBoD data from NSMHWB
Opioids	0.65%	0.11%	94,506	3,619	98,660	(Chalmers, Ritter, Heffernan, & McDonnell, 2009) Chalmers et al. multiplier
Total					**1,479,944**	

Severity distribution and treatment rate

DASPM distinguished between mild, moderate and severe disability. The division into mild, moderate and severe was facilitated by the available Australian data on disability weights from AUSBoD (Begg

et al., 2007) which in turn relied on the SF12 measure of functioning. The proportion of those meeting diagnostic criteria who would fall within the severe disability category, using the AUSBoD disability weights, was calculated first and combined with existing research and expert judgement to divide the remaining numbers between mild and moderate disability.

The ratio of mild to moderate to severe for alcohol was 6:2:1 that is for every 6 people mildly disabled, there were 2 moderately disabled and 1 severely disabled (see Table 2). The same ratio was used for cannabis (6:2:1). For opioids no one was classed as mild or moderate (all were placed in the severe category). For amphetamines, no one was classed as mild, and for every 9 severely disabled, there was one moderately disabled. Lastly for benzodiazepines, for every 5 people classed as mild, 3 were classed as moderately disabled and 2 as severely disabled (5:3:2).

Table 2: DASPM severity distributions and treatment rates by drug class

		Severity distribution	**Treatment rate**
Alcohol			
	Mild	67%	20%
	Moderate	22%	50%
	Severe	11%	100%
Amphetamine			
	Mild	0%	0%
	Moderate	10%	50%
	Severe	90%	35%[a]
Benzodiazepine			
	Mild	50%	20%
	Moderate	30%	50%
	Severe	20%	100%
Cannabis			
	Mild	67%	20%
	Moderate	22%	50%

	Severe	11%	100%
Opioids			
	Mild	0%	0%
	Moderate	0%	0%
	Severe	100%	90%

Note a: The treatment rate for amphetamine was subject to substantial debate amongst the expert group, and while retained at 35% for severe, this number is able to be modified by DASPM end-users should they wish.

The treatment rates for each category of severity were established for DASPM based on existing research and the judgement of the Expert Reference Group. In the 1997 NSMHWB survey (ABS, 1998b), 14% of those with substance use disorders had used services in the past year. A decade later, in the 2007 Australian NSMHWB survey (Slade et al., 2009), 24% of respondents with substance use disorders used treatment services in the last 12 months. The 2007 figure then informed the absolute minimum treatment rate for DASPM. In theory the maximum treatment rate would be 100% – that is everyone with mild, moderate and severe disability who meet diagnostic criteria for substance use disorder receive treatment. This is unrealistic for several reasons: 1. Spontaneous remission, or natural recovery is not uncommon (a proportion will never require treatment); 2. Some people will seek support for behaviour change through unfunded or informal means (such as mutual aid/self-help); 3. Some people will not find the AOD services an appropriate match for their needs; 4. Some people will not see the need for treatment and not seek care. Therefore, DASPM required expert judgements about treatment rates that incorporated these factors.

These expert judgements were informed by earlier research which noted an ideal treatment coverage of 51% for alcohol use disorders (70% for harmful use and 30% for dependence, see also (Andrews et al. 2004). Subsequently the same team reduced this to an average of 38% (50% alcohol harmful use and 25% alcohol dependence) (Andrews et al., 2006). In light of the minimum rate of 24% and a possible optimal rate of 51% as an overall treatment rate (across severity distribution), the experts deliberated over a series of meetings (having been provided with the above data along with current treatment rates) until consensus was reached amongst the group. The resultant treatment rates are given in Table 2. Thus, for example, for those with AUD at mild severity (which represents 67% of all AUD), there is a presumed treatment rate of 20%, whereas for those with a severe AUD (11% of all AUD), the treatment rate is 100%. When averaged across severity types, the treatment rate for alcohol was 35%, amphetamines 36%, benzodiazepines 45%, cannabis 35% and opioids 90%. It should be noted that there was substantial and sustained debate about the treatment rates in the DASPM Expert Reference Group.

The care packages

The care packages aimed to be comprehensive and to cover all possible evidence-based AOD service types. The full range of settings was included: primary care, specialist residential, outpatient, and day-patient. Having established the care packages, a further task was to distribute the people between the care packages. In some cases this was straightforward. For mild, there was only one care package (SBIRT) and hence all were allocated into that care package. For severe it becomes more complex: for the 18 to 65 year olds, alcohol use disorder, there were 14 different possible care packages. Again, a combination of existing data and expert judgement was used. Existing data (AIHW AODTS-NMDS)

covered the current distribution of people between service types. The Expert Reference Group then reviewed those allocations and adjusted according to their expert judgement. For example, few people in Australia receive withdrawal (mainly due to access difficulties), whereas evidence and expert wisdom suggests that greater numbers should receive withdrawal, especially in the case of alcohol dependence.

Resource estimation

The resources counted within the model included: staffing time – which comprised direct contact time with patients, clinical administration, supervision and training; doses by medication type; number of beds and bed days; and number of diagnostic tests. Unit costs were used to specify the actual costs associated with each resource output. For example for medication doses, a unit cost per dose was established and used to derive the total costs associated with the model. This means that unit costs can be varied depending on the individual planning region circumstance (for example differences in average nurse salaries) without changing the quantum of the resource. Clearly the bulk of the resources are taken up with staff time (approximately 70%). The model specifies three different types of clinicians: medical doctors, nurses/allied health workers, and alcohol and drug counsellors. All direct patient care specified in the care packages was assigned to one of these three staff types. Thus the model output predicts the numbers of doctors working in either general practice or as addiction medicine specialists, nurses and allied health and alcohol and other drug counsellors that would be required to meet the needs of Australians with substance use disorders. The model does not specify who funds the services – its purpose is to predict resource requirements not to determine the funding bodies.

Attachment 8: DASPM: 15 severe care packages for alcohol interventions.

1. Psychosocial Interventions – without relapse prevention pharmacotherapies – standard

Unit of Service	Description
Assessment - standard	1 x 60 min assessment 1 x 60 min transfer/referral of care/follow up
Individual - Psychosocial interventions	1 x 15 min intake 1 x 60 min assessment 5 x 60 min 1:1 psychosocial intervention/family/supporter 1 x 15 min case conference 2 x 30 min transfer of care/ discharge / care coordination
Case management and support – standard	1 x 60 min case management assessment 1 x 30 min family / carer engagement 3 x 30 min implementation of case management and support 2 x 40 min case conference 1 x 30 min discharge/ referral/ transfer of care / follow up
Assertive follow up	1 x 10 min 'phone call
Staff time to deliver the tobacco intervention/ person	24 mins per person for the brief intervention (80 smokers/100 people = 0.8*30mins = 24 mins per person
Staff time to prescribe Varencline or Buproprion or NRT patches	2.4 mins per person for review and prescribe Varencline or Buproprion or NRT patches (48 people of the 100 people are prescribed Varencline or Buproprion or NRT patches, thus 0.48 *5mins = 2.4 mins per person)
Tobacco intervention	For 100 people in the Severe Group the breakdown for the Tobacco Intervention is based on: • 20% are non smokers and receive no intervention at all • 32% receive brief intervention of 30 mins only • 40% receive brief intervention of 30 minutes and NRT patches 3 for months • 7.71 % receive 30 mins of brief intervention and Varencline (Champix- TM) for 3 months. • 0.29% receives 30 mins of brief intervention and Buproprion (Zyban- TM) for 2 months. As this is averaged out in the model per 100 people, it is shown as 24 mins of clinician time to deliver the intervention. In addition each person on average is prescribed 36 doses of NRT patches, and 9.17 doses of Buproprion,and 0.478 doses of Varencline.

2. Psychosocial Interventions – with relapse prevention pharmacotherapies – standard

Unit of Service	Description
Assessment - simple	1 x 60 min assessment 1 x 60 min transfer/referral of care/follow up
Individual Psychosocial interventions	1 x 15 min intake 1 x 60 min assessment 5 x 60 min 1:1 psychosocial intervention/family/supporter 1 x 15 min case conference 2 x 30 min transfer of care/ discharge / care coordination
Pharmacotherapies – standard	1 x 30 min medical assessment 2 x 5 min provider time related to diagnostic testing 6 x 30 medical review and prescribing 2 x 15 min case conference 2 x 15 min referral / transfer of care / care coordination
Diagnostic Testing	Full Blood Examination (FBE, FBC, CBC) Liver Function Tests (LFT) Urea, Electrolytes, Creatinine (U&E)

	Urinary Drug Screen (UDS)
Relapse Prevention Pharmacotherapies	In a group of 100 people it is assumed that 20 are prescribed Acamprosate, 40 are prescribed Disulfiram, and 40 are prescribed Naltrexone. All are prescribed 100 mg of thiamine for 12 months. Acamprosate calcium 1998 mg /day for 6 months. Disulfiram 100 mg per day for first 2 weeks, 300mg / day remaining 24 weeks. Naltrexone 150mg /day for 6 months. Thiamine 100mg per day for 12 months. As this is averaged out in the model per 100 people, this means that the average person is prescribed 108 doses of Acamprosate, and 216 doses of Naltrexone, 72 doses of Disulfiram, and 365 doses of thiamine.
Case management and support – standard	1 x 60 min case management assessment 1 x 30 min family / carer engagement 3 x 30 min implementation of case management and support 2 x 40 min case conference 1 x 30 min discharge/ referral/ transfer of care / follow up
Assertive follow up	1 x 10 min 'phone call
Staff time to deliver the tobacco intervention/ person	24 mins per person for the brief intervention (80 smokers/100 people = 0.8*30mins = 24 mins per person
Staff time to prescribe Varencline or Buproprion or NRT patches	2.4 mins per person for review and prescribe Varencline or Buproprion or NRT patches (48 people of the 100 people are prescribed Varencline or Buproprion or NRT patches, thus 0.48 *5mins = 2.4 mins per person)
Tobacco intervention	For 100 people in the Severe Group the breakdown for the Tobacco Intervention is based on: • 20% are non smokers and receive no intervention at all • 32% receive brief intervention of 30 mins only • 40% receive brief intervention of 30 minutes and NRT patches 3 for months • 7.71 % receive 30 mins of brief intervention and Varencline (Champix- TM) for 3 months. • 0.29% receives 30 mins of brief intervention and Buproprion (Zyban- TM) for 2 months. As this is averaged out in the model per 100 people, it is shown as 24 mins of clinician time to deliver the intervention. In addition each person on average is prescribed 36 doses of NRT patches, and 9.17 doses of Buproprion, and 0.478 doses of Varencline.

3. Psychosocial Interventions – without relapse prevention pharmacotherapies – complex

Unit of Service	Description
Assessment – complex	2 x 60 min assessment 1 x 30 complex case conference 2 x 15 min transfer/referral of care/follow up
Individual - Psychosocial interventions – complex	2 x 1 x 15 min intake 2 x 1 x 60 min assessment 2 x 5 x 60 min 1:1 psychosocial intervention/family/supporter 2 x 1 x 15 min case conference 2 x 2 x 30 min transfer of care/ discharge / care coordination
Group - Psychosocial interventions	1 x 30 min screening / brief assessment and orientation 6 x 60 min group sessions (assume 1 x staff for 8 participants)
Case management and support – complex	2 x 1 x 60 min case management assessment 2 x 1 x 30 min family / carer engagement 2 x 3 x 30 min implementation of case management and support 2 x 2 x 40 min case conference 2 x 1 x 30 min discharge/ referral/ transfer of care / follow up
Assertive follow up	1 x 10 min 'phone call

Staff time to deliver the tobacco intervention/ person	24 mins per person for the brief intervention (80 smokers/100 people = 0.8*30mins = 24 mins per person
Staff time to prescribe Varencline or Buproprion or NRT patches	2.4 mins per person for review and prescribe Varencline or Buproprion or NRT patches (48 people of the 100 people are prescribed Varencline or Buproprion or NRT patches, thus 0.48 *5mins = 2.4 mins per person)
Tobacco intervention	For 100 people in the Severe Group the breakdown for the Tobacco Intervention is based on: • 20% are non smokers and receive no intervention at all • 32% receive brief intervention of 30 mins only • 40% receive brief intervention of 30 minutes and NRT patches 3 for months • 7.71 % receive 30 mins of brief intervention and Varencline (Champix-TM) for 3 months. 0.29% receives 30 mins of brief intervention and Buproprion (Zyban-TM) for 2 months. As this is averaged out in the model per 100 people, it is shown as 24 mins of clinician time to deliver the intervention. In addition each person on average is prescribed 36 doses of NRT patches, and 9.17 doses of Buproprion, and 0.478 doses of Varencline.

4. Psychosocial Interventions – with relapse prevention pharmacotherapies – complex

Unit of Service	Description
Assessment – complex	2 x 75 min assessment 2 x 30 complex case conference 2 x 15 min transfer/referral of care/follow up
Individual - Psychosocial interventions – complex	2 x 1 x 15 min intake 2 x 1 x 60 min assessment 2 x 5 x 60 min 1:1 psychosocial intervention/family/supporter 2 x 1 x 15 min case conference 2 x 2 x 30 min transfer of care/ discharge / care coordination
Group - Psychosocial interventions	1 x 30 min screening / brief assessment and orientation 6 x 60 min group sessions (assume 1 x staff for 8 participants)
Relapse Prevention Pharmacotherapies– complex	2 x 1 x 30 min medical assessment 2 x 5 min bloods / diagnostic testing 9 x 30 medical review and prescribing 2 x 2 x 15 min case conference 2 x 2 x 15 min referral / transfer of care / care coordination
Diagnostic Testing	Full Blood Examination (FBE, FBC, CBC) Liver Function Tests (LFT) Urea, Electrolytes, Creatinine (U&E) Urinary Drug Screen (UDS)
Relapse Prevention Pharmacotherapies	In a group of 100 people it is assumed that 20 are prescribed Acamprosate, 40 are prescribed Disulfiram, and 40 are prescribed Naltrexone. All are prescribed 100 mg of thiamine for 12 months. Acamprosate calcium 1998 mg /day for 6 months. Disulfiram 100 mg per day for first 2 weeks, 300mg / day remaining 24 weeks. Naltrexone 150mg /day for 6 months. Thiamine 100mg per day for 12 months. As this is averaged out in the model per 100 people, this means that the average person is prescribed 108 doses of Acamprosate, and 216 doses of Naltrexone, 72 doses of Disulfiram, and 365 doses of thiamine.
Case management and support – complex	2 x 1 x 60 min case management assessment 2 x 1 x 30 min family / carer engagement 2 x 3 x 30 min implementation of case management and support 2 x 2 x 40 min case conference 2 x 1 x 30 min discharge/ referral/ transfer of care / follow up
Assertive follow up	1 x 10 min 'phone call
Staff time to deliver the	24 mins per person for the brief intervention (80 smokers/100 people =

tobacco intervention/ person	0.8*30mins = 24 mins per person
Staff time to prescribe Varencline or Buproprion or NRT patches	2.4 mins per person for review and prescribe Varencline or Buproprion or NRT patches (48 people of the 100 people are prescribed Varencline or Buproprion or NRT patches, thus 0.48 *5mins = 2.4 mins per person)
Tobacco intervention	For 100 people in the Severe Group the breakdown for the Tobacco Intervention is based on: • 20% are non smokers and receive no intervention at all • 32% receive brief intervention of 30 mins only • 40% receive brief intervention of 30 minutes and NRT patches 3 for months • 7.71 % receive 30 mins of brief intervention and Varencline (Champix- TM) for 3 months. • 0.29% receives 30 mins of brief intervention and Buproprion (Zyban- TM) for 2 months. As this is averaged out in the model per 100 people, it is shown as 24 mins of clinician time to deliver the intervention. In addition each person on average is prescribed 36 doses of NRT patches, and 9.17 doses of Buproprion, and 0.478 doses of Varencline.

5. Withdrawal management – home based – without relapse prevention pharmacotherapies – standard

Unit of Service	Description
Assessment - standard	1 x 60 min assessment 1 x 60 min transfer/referral of care/follow up
Withdrawal Management - daily outpatient	1 x 30 min development of care plan 1 x 15 min intake assessment (Withdrawal Management) 1 x 30 min medical assessment and prescribing 2 x 40 min assessment (Withdrawal Management) 6 x 15 min review 2 x 10 min brief interventions to coincide with dispensing events or reviews 1 x 30 min medical consult 1 x 30 min referral /transfer of care / Follow up 1 x 30 min case conference 1 x 40 min dispensing time per patient
Withdrawal Management Pharmacotherapies	For each person it is assumed that : The Thiamine is 100mg oral daily for days 1-14*, then 100 mg oral for 2 months post discharge if the patient continues to consume alcohol. The Diazepam is prescribed as a 20mg taper over 5 days. This means that on average each person receives 74 doss of thiamine and 10 doses of diazepam. *Note – the for days 1, 2, and 3 has not been modelled as 100mg daily either intravenous or intramuscular.
END OUTPATIENT WITHDRAWAL MANAGEMENT & START PSYCHOSOCIAL INTERVENTIONS & CASE MANAGEMENT	
Individual - Psychosocial interventions - standard	1 x 15 min intake 1 x 60 min assessment 5 x 60 min 1:1 psychosocial intervention/family/supporter 1 x 15 min case conference 2 x 30 min transfer of care/ discharge / care coordination
Case management and support – standard	1 x 60 min case management assessment 1 x 30 min family / carer engagement 3 x 30 min implementation of case management and support

	2 x 40 min case conference 1 x 30 min discharge/ referral/ transfer of care / follow up
Assertive follow up	1 x 10 min 'phone call
Staff time to deliver the tobacco intervention/ person	24 mins per person for the brief intervention (80 smokers/100 people = 0.8*30mins = 24 mins per person
Staff time to prescribe Varencline or Buproprion or NRT patches	2.4 mins per person for review and prescribe Varencline or Buproprion or NRT patches (48 people of the 100 people are prescribed Varencline or Buproprion or NRT patches, thus 0.48 *5mins = 2.4 mins per person)
Tobacco intervention	For 100 people in the Severe Group the breakdown for the Tobacco Intervention is based on: • 20% are non smokers and receive no intervention at all • 32% receive brief intervention of 30 mins only • 40% receive brief intervention of 30 minutes and NRT patches 3 for months • 7.71 % receive 30 mins of brief intervention and Varencline (Champix- TM) for 3 months. • 0.29% receives 30 mins of brief intervention and Buproprion (Zyban- TM) for 2 months. As this is averaged out in the model per 100 people, it is shown as 24 mins of clinician time to deliver the intervention. In addition each person on average is prescribed 36 doses of NRT patches, and 9.17 doses of Buproprion, and 0.478 doses of Varencline.

6. Withdrawal management – daily outpatient – without relapse prevention pharmacotherapies – standard

Unit of Service	Description
Assessment - standard	1 x 60 min assessment 1 x 60 min transfer/referral of care/follow up
Withdrawal Management - daily outpatient	1 x 30 min development of care plan 1 x 15 min intake assessment (Withdrawal Management) 1 x 30 min medical assessment and prescribing 2 x 40 min assessment (Withdrawal Management) 6 x 15 min review 2 x 10 min brief interventions to coincide with dispensing events or reviews 1 x 30 min medical consult 1 x 30 min referral /transfer of care / Follow up 1 x 30 min case conference 1 x 40 min dispensing time per patient
Withdrawal Management Pharmacotherapies	For each person it is assumed that : The Thiamine is 100mg oral daily for days 1-14*, then 100 mg oral for 2 months post discharge if the patient continues to consume alcohol. The Diazepam is prescribed as a 20mg taper over 5 days. This means that on average each person receives 74 doss of thiamine and 10 doses of diazepam. *Note – the for days 1,2, and 3 has not been modelled as 100mg daily either intravenous or intramuscular.
END OUTPATIENT WITHDRAWAL MANAGEMENT & START PSYCHOSOCIAL INTERVENTIONS & CASE MANAGEMENT	
Individual - Psychosocial interventions – standard	1 x 15 min intake 1 x 60 min assessment 5 x 60 min 1:1 psychosocial intervention/family/supporter 1 x 15 min case conference 2 x 30 min transfer of care/ discharge / care

	coordination
Case management and support – standard	1 x 60 min case management assessment 1 x 30 min family / carer engagement 3 x 30 min implementation of case management and support 2 x 40 min case conference 1 x 30 min discharge/ referral/ transfer of care / follow up
Assertive follow up	1 x 10 min 'phone call
Staff time to deliver the tobacco intervention/ person	24 mins per person for the brief intervention (80 smokers/100 people = 0.8*30mins = 24 mins per person
Staff time to prescribe Varencline or Buproprion or NRT patches	2.4 mins per person for review and prescribe Varencline or Buproprion or NRT patches (48 people of the 100 people are prescribed Varencline or Buproprion or NRT patches, thus 0.48 *5mins = 2.4 mins per person)
Tobacco intervention	For 100 people in the Severe Group the breakdown for the Tobacco Intervention is based on: • 20% are non smokers and receive no intervention at all • 32% receive brief intervention of 30 mins only • 40% receive brief intervention of 30 minutes and NRT patches 3 for months • 7.71 % receive 30 mins of brief intervention and Varencline (Champix- TM) for 3 months. • 0.29% receives 30 mins of brief intervention and Buproprion (Zyban- TM) for 2 months. As this is averaged out in the model per 100 people, it is shown as 24 mins of clinician time to deliver the intervention. In addition each person on average is prescribed 36 doses of NRT patches, and 9.17 doses of Buproprion, and 0.478 doses of Varencline.

7. Withdrawal management – daily outpatient – with relapse prevention pharmacotherapies – standard

Unit of Service	Description
Assessment – standard	1 x 60 min assessment 1 x 60 min transfer/referral of care/follow up
Withdrawal Management - daily outpatient	1 x 30 min development of care plan 1 x 15 min intake assessment (Withdrawal Management) 1 x 30 min medical assessment and prescribing 2 x 40 min assessment (Withdrawal Management) 6 x 15 min review 2 x 10 min brief interventions to coincide with dispensing events or reviews 1 x 30 min medical consult 1 x 30 min referral /transfer of care / Follow up 1 x 30 min case conference 1 x 40 min dispensing time per patient
Withdrawal Management Pharmacotherapies	For each person it is assumed that : The Thiamine is 100mg oral daily for days 1-14*, then 100 mg oral for 2 months post discharge if the patient continues to consume alcohol. The Diazepam is prescribed as a 20mg taper over 5 days. This means that on average each person receives 74 doss of thiamine and 10 doses of diazepam. *Note – the for days 1,2, and 3 has not been modelled as 100mg daily either intravenous or intramuscular.
END OUTPATIENT WITHDRAWAL MANAGEMENT & START PSYCHOSOCIAL INTERVENTIONS & CASE MANAGEMENT	
Individual - Psychosocial interventions - standard	1 x 15 min intake 1 x 60 min assessment 5 x 60 min 1:1 psychosocial

	intervention/family/supporter 1 x 15 min case conference 2 x 30 min transfer of care/ discharge / care coordination
Case management and support – standard	1 x 60 min case management assessment 1 x 30 min family / carer engagement 3 x 30 min implementation of case management and support 2 x 40 min case conference 1 x 30 min discharge/ referral/ transfer of care / follow up
Pharmacotherapies – standard	1 x 30 min medical assessment 2 x 5 min provider time related to diagnostic testing 6 x 30 medical review and prescribing 2 x 15 min case conference 2 x 15 min referral / transfer of care / care coordination
Diagnostic Testing	Full Blood Examination (FBE, FBC, CBC) Liver Function Tests (LFT) Urea, Electrolytes, Creatinine (U&E) Urinary Drug Screen (UDS)
Relapse Prevention Pharmacotherapies	In a group of 100 people it is assumed that 20 are prescribed Acamprosate, 40 are prescribed Disulfiram, and 40 are prescribed Naltrexone. All are prescribed 100 mg of thiamine for 12 months. Acamprosate calcium 1998 mg /day for 6 months. Disulfiram 100 mg per day for first 2 weeks, 300mg / day remaining 24 weeks. Naltrexone 150mg /day for 6 months. Thiamine 100mg per day for 12 months. As this is averaged out in the model per 100 people, this means that the average person is prescribed 108 doses of Acamprosate, and 216 doses of Naltrexone, 72 doses of Disulfiram, and 365 doses of thiamine.
Assertive follow up	1 x 10 min 'phone call
Staff time to deliver the tobacco intervention/ person	24 mins per person for the brief intervention (80 smokers/100 people = 0.8*30mins = 24 mins per person
Staff time to prescribe Varencline or Buproprion or NRT patches	2.4 mins per person for review and prescribe Varencline or Buproprion or NRT patches (48 people of the 100 people are prescribed Varencline or Buproprion or NRT patches, thus 0.48 *5mins = 2.4 mins per person)
Tobacco intervention	For 100 people in the Severe Group the breakdown for the Tobacco Intervention is based on: • 20% are non smokers and receive no intervention at all • 32% receive brief intervention of 30 mins only • 40% receive brief intervention of 30 minutes and NRT patches 3 for months • 7.71 % receive 30 mins of brief intervention and Varencline (Champix- TM) for 3 months. • 0.29% receives 30 mins of brief intervention and Buproprion (Zyban- TM) for 2 months. As this is averaged out in the model per 100 people, it is shown as 24 mins of clinician time to deliver the intervention. In addition each person on average is prescribed 36 doses of NRT patches, and 9.17 doses of Buproprion,and 0.478 doses of Varencline.

8. Withdrawal management – daily outpatient – with relapse prevention pharmacotherapies – complex

Unit of Service	Description
Assessment- complex	2 x 60 min assessment

	1 x 30 min complex case conference 2 x 15 min referral/ transfer of care / Follow up
Withdrawal Management - daily outpatient	1 x 30 min development of care plan 1 x 15 min intake assessment (Withdrawal Management) 1 x 30 min medical assessment and prescribing 2 x 40 min assessment (Withdrawal Management) 6 x 15 min review 2 x 10 min brief interventions to coincide with dispensing events or reviews 1 x 30 min medical consult 1 x 30 min referral /transfer of care / Follow up 1 x 30 min case conference 1 x 40 min dispensing time per patient 1 x 20 min medical consult 1 x 60 min psychosocial intervention 1:1 1 x 30 min case conference (simple) 1 x 30 min referral /transfer of care / follow up
Withdrawal Management Pharmacotherapies	For each person it is assumed that : The Thiamine is 100mg oral daily for days 1-14*, then 100 mg oral for 2 months post discharge if the patient continues to consume alcohol. The Diazepam is prescribed as a 20mg taper over 5 days. This means that on average each person receives 74 doss of thiamine and 10 doses of diazepam. *Note – the for days 1,2, and 3 has not been modelled as 100mg daily either intravenous or intramuscular.
END OUTPATIENT WITHDRAWAL MANAGEMENT & START PSYCHOSOCIAL INTERVENTIONS & CASE MANAGEMENT	
Individual - Psychosocial interventions - complex	2 x 1 x 15 min intake 2 x 1 x 60 min assessment 2 x 5 x 60 min 1:1 psychosocial intervention/family/supporter 2 x 1 x 15 min case conference 2 x 2 x 30 min transfer of care/ discharge / care coordination
Group – Psychosocial interventions	1 x 30 min screening / brief assessment and orientation 6 x 60 min group sessions (assume 1 x staff for 8 participants)
Pharmacotherapies – complex – ongoing for 6 months	2 x 1 x 30 min medical assessment 2 x 5 min bloods / diagnostic testing 9 x 30 medical review and prescribing 2 x 2 x 15 min case conference 2 x 2 x 15 min referral / transfer of care / care coordination
Diagnostic Testing	Full Blood Examination (FBE, FBC, CBC) Liver Function Tests (LFT) Urea, Electrolytes, Creatinine (U&E) Urinary Drug Screen (UDS)
Relapse Prevention Pharmacotherapies	In a group of 100 people it is assumed that 20 are prescribed Acamprosate, 40 are prescribed Disulfiram, and 40 are prescribed Naltrexone. All are prescribed 100 mg of thiamine for 12 months. Acamprosate calcium 1998 mg /day for 6 months. Disulfiram 100 mg per day for first 2 weeks, 300mg / day remaining 24 weeks. Naltrexone 150mg /day for 6 months. Thiamine 100mg per day for 12 months. As this is averaged out in the model per 100 people, this means that the average person is prescribed 108 doses of Acamprosate, and 216 doses of Naltrexone, 72 doses of Disulfiram, and 365 doses of thiamine.
Case management and support – complex	2 x 1 x 60 min case management assessment 2 x 1 x 30 min family / carer engagement 2 x 3 x 30 min implementation of case management and support 2 x 2 x 40 min case conference 2 x 1 x 30 min discharge/ referral/ transfer of care / follow up
Assertive follow up	1 x 10 min 'phone call
Staff time to deliver the tobacco intervention/	24 mins per person for the brief intervention (80 smokers/100 people = 0.8*30mins = 24 mins

person	per person
Staff time to prescribe Varencline or Buproprion or NRT patches	2.4 mins per person for review and prescribe Varencline or Buproprion or NRT patches (48 people of the 100 people are prescribed Varencline or Buproprion or NRT patches, thus 0.48 *5mins = 2.4 mins per person)
Tobacco intervention	For 100 people in the Severe Group the breakdown for the Tobacco Intervention is based on: • 20% are non smokers and receive no intervention at all • 32% receive brief intervention of 30 mins only • 40% receive brief intervention of 30 minutes and NRT patches 3 for months • 7.71 % receive 30 mins of brief intervention and Varencline (Champix- TM) for 3 months. • 0.29% receives 30 mins of brief intervention and Buproprion (Zyban- TM) for 2 months. As this is averaged out in the model per 100 people, it is shown as 24 mins of clinician time to deliver the intervention. In addition each person on average is prescribed 36 doses of NRT patches, and 9.17 doses of Buproprion, and 0.478 doses of Varencline.

9. Withdrawal management – residential – with relapse prevention pharmacotherapies – standard

Unit of Service	Description
Assessment - standard	1 x 60 min assessment 1 x 60 min transfer/referral of care/follow up
Withdrawal management stay (Bed type DETOX)	1 x 30 min development of care plan 1 x 15 min assessment (intake) 1 x 60 min assessment 1 x 45 min medical assessment 1 x 40 min dispensing per patient 5 x 90 min group sessions (assume 1 staff and 5 participants per group) 5 x 30 min reviews nursing 2 x 15 min medical review 2 x 30 min referral /transfer of care / follow up (e.g. 1 x 30 min for discharge, 1 x 30 min phone calls)
Withdrawal Management Pharmacotherapies	For each person it is assumed that : The Thiamine is 100mg oral daily for days 1-14*, then 100 mg oral for 2 months post discharge if the patient continues to consume alcohol. The Diazepam is prescribed as a 20mg taper over 5 days. This means that on average each person receives 74 doss of thiamine and 10 doses of diazepam. *Note – the for days 1,2, and 3 has not been modelled as 100mg daily either intravenous or intramuscular.
END OUTPATIENT WITHDRAWAL MANAGEMENT & START PSYCHOSOCIAL INTERVENTIONS & CASE MANAGEMENT	
Individual - Psychosocial interventions – standard	1 x 15 min intake 1 x 60 min assessment 5 x 60 min 1:1 psychosocial intervention/family/supporter 1 x 15 min case conference 2 x 30 min transfer of care/ discharge / care coordination
Pharmacotherapies - standard	1 x 30 min medical assessment 2 x 5 min provider time related to diagnostic testing 6 x 30 medical review and prescribing 2 x 15 min case conference 2 x 15 min referral / transfer of care / care coordination
Diagnostic Testing	Full Blood Examination (FBE, FBC, CBC) Liver Function Tests (LFT) Urea, Electrolytes, Creatinine (U&E)

	Urinary Drug Screen (UDS)
Relapse Prevention Pharmacotherapies	In a group of 100 people it is assumed that 20 are prescribed Acamprosate, 40 are prescribed Disulfiram, and 40 are prescribed Naltrexone. All are prescribed 100 mg of thiamine for 12 months. Acamprosate calcium 1998 mg /day for 6 months. Disulfiram 100 mg per day for first 2 weeks, 300mg / day remaining 24 weeks. Naltrexone 150mg /day for 6 months. Thiamine 100mg per day for 12 months. As this is averaged out in the model per 100 people, this means that the average person is prescribed 108 doses of Acamprosate, and 216 doses of Naltrexone, 72 doses of Disulfiram, and 365 doses of thiamine.
Case management and support – standard	1 x 60 min case management assessment 1 x 30 min family / carer engagement 3 x 30 min implementation of case management and support 2 x 40 min case conference 1 x 30 min discharge/ referral/ transfer of care / follow up
Assertive follow up	1 x 10 min 'phone call
Staff time to deliver the tobacco intervention/ person	24 mins per person for the brief intervention (80 smokers/100 people = 0.8*30mins = 24 mins per person
Staff time to prescribe Varencline or Buproprion or NRT patches	2.4 mins per person for review and prescribe Varencline or Buproprion or NRT patches (48 people of the 100 people are prescribed Varencline or Buproprion or NRT patches, thus 0.48 *5mins = 2.4 mins per person)
Tobacco intervention	For 100 people in the Severe Group the breakdown for the Tobacco Intervention is based on: • 20% are non smokers and receive no intervention at all • 32% receive brief intervention of 30 mins only • 40% receive brief intervention of 30 minutes and NRT patches 3 for months • 7.71 % receive 30 mins of brief intervention and Varencline (Champix- TM) for 3 months. • 0.29% receives 30 mins of brief intervention and Buproprion (Zyban- TM) for 2 months. As this is averaged out in the model per 100 people, it is shown as 24 mins of clinician time to deliver the intervention. In addition each person on average is prescribed 36 doses of NRT patches, and 9.17 doses of Buproprion, and 0.478 doses of Varencline.

10. Withdrawal management – residential – with relapse prevention pharmacotherapies – complex

Unit of Service	Description
Assessment- complex	2 x 60 min assessment 1 x 30 min complex case conference 2 x 15 min referral/ transfer of care / Follow up
Withdrawal management stay (Bed type DETOX)	1 x 30 min development of care plan 1 x 15 min assessment (intake) 1 x 60 min assessment 1 x 45 min medical assessment 1 x 40 min dispensing per patient 5 x 90 min group sessions (assume 1 staff and 5 participants per group) 5 x 30 min reviews nursing 2 x 15 min medical review 2 x 30 min referral /transfer of care / follow up (e.g. 1 x 30 min for discharge, 1 x 30 min phone calls)
Withdrawal Management	For each person it is assumed that : The Thiamine is 100mg oral daily for days 1-14*, then 100 mg oral for 2

Pharmacotherapies	months post discharge if the patient continues to consume alcohol. The Diazepam is prescribed as a 20mg taper over 5 days. This means that on average each person receives 74 doss of thiamine and 10 doses of diazepam. *Note – the for days 1,2, and 3 has not been modelled as 100mg daily either intravenous or intramuscular.
END OUTPATIENT WITHDRAWAL MANAGEMENT & START PSYCHOSOCIAL INTERVENTIONS & CASE MANAGEMENT	
Individual - Psychosocial interventions	2 x 1 x 15 min intake 2 x 1 x 60 min assessment 2 x 5 x 60 min 1:1 psychosocial intervention/family/supporter 2 x 1 x 15 min case conference 2 x 2 x 30 min transfer of care/ discharge / care coordination
Group - Psychosocial interventions	1 x 30 min screening / brief assessment and orientation 6 x 60 min group sessions (assume 1 x staff for 8 participants)
Case management and support – complex	2 x 1 x 60 min case management assessment 2 x 1 x 30 min family / carer engagement 2 x 3 x 30 min implementation of case management and support 2 x 2 x 40 min case conference 2 x 1 x 30 min discharge/ referral/ transfer of care / follow up
Pharmacotherapies - complex	2 x 1 x 30 min medical assessment 2 x 5 min bloods / diagnostic testing 9 x 30 medical review and prescribing 2 x 2 x 15 min case conference 2 x 2 x 15 min referral / transfer of care / care coordination
Diagnostic Testing	Full Blood Examination (FBE, FBC, CBC) Liver Function Tests (LFT) Urea, Electrolytes, Creatinine (U&E) Urinary Drug Screen (UDS)
Relapse Prevention Pharmacotherapies	In a group of 100 people it is assumed that 20 are prescribed Acamprosate, 40 are prescribed Disulfiram, and 40 are prescribed Naltrexone. All are prescribed 100 mg of thiamine for 12 months. Acamprosate calcium 1998 mg /day for 6 months. Disulfiram 100 mg per day for first 2 weeks, 300mg / day remaining 24 weeks. Naltrexone 150mg /day for 6 months. Thiamine 100mg per day for 12 months. As this is averaged out in the model per 100 people, this means that the average person is prescribed 108 doses of Acamprosate, and 216 doses of Naltrexone, 72 doses of Disulfiram, and 365 doses of thiamine.
Assertive follow up	1 x 10 min 'phone call
Staff time to deliver the tobacco intervention/ person	24 mins per person for the brief intervention (80 smokers/100 people = 0.8*30mins = 24 mins per person
Staff time to prescribe Varencline or Buproprion or NRT patches	2.4 mins per person for review and prescribe Varencline or Buproprion or NRT patches (48 people of the 100 people are prescribed Varencline or Buproprion or NRT patches, thus 0.48 *5mins = 2.4 mins per person)
Tobacco intervention	For 100 people in the Severe Group the breakdown for the Tobacco Intervention is based on: • 20% are non smokers and receive no intervention at all • 32% receive brief intervention of 30 mins only • 40% receive brief intervention of 30 minutes and NRT patches 3 for months • 7.71 % receive 30 mins of brief intervention and Varencline (Champix- TM) for 3 months. • 0.29% receives 30 mins of brief intervention and Buproprion (Zyban- TM) for 2 months. As this is averaged out in the model per 100 people, it is shown as 24 mins of clinician time to deliver the intervention. In addition each person on average is prescribed 36 doses of

	NRT patches, and 9.17 doses of Buproprion, and 0.478 doses of Varencline.

11. Withdrawal management – Drug and alcohol hospital bed – with relapse prevention pharmacotherapies

Unit of Service	Description
Assessment- complex	2 x 60 min assessment 1 x 30 min complex case conference 2 x 15 min referral/ transfer of care / Follow up
Withdrawal management - stay in a designated drug and alcohol bed (Bed type INPT)	A total of 4.20 medical hours of care A total of 49.03 NAH hours of care
Withdrawal Management Pharmacotherapies	For each person it is assumed that : The Thiamine is 100mg oral daily for days 1-14*, then 100 mg oral for 2 months post discharge if the patient continues to consume alcohol. The Diazepam is prescribed as a 20mg taper over 5 days. This means that on average each person receives 74 doss of thiamine and 10 doses of diazepam. *Note – the for days 1,2, and 3 has not been modelled as 100mg daily either intravenous or intramuscular.
END OUTPATIENT WITHDRAWAL MANAGEMENT & START PSYCHOSOCIAL INTERVENTIONS & CASE MANAGEMENT	
Individual - Psychosocial interventions	2 x 1 x 15 min intake 2 x 1 x 60 min assessment 2 x 5 x 60 min 1:1 psychosocial intervention/family/supporter 2 x 1 x 15 min case conference 2 x 2 x 30 min transfer of care/ discharge / care coordination
Group - Psychosocial interventions	1 x 30 min screening / brief assessment and orientation 6 x 60 min group sessions (assume 1 x staff for 8 participants)
Case management and support – complex	2 x 1 x 60 min case management assessment 2 x 1 x 30 min family / carer engagement 2 x 3 x 30 min implementation of case management and support 2 x 2 x 40 min case conference 2 x 1 x 30 min discharge/ referral/ transfer of care / follow up
Pharmacotherapies - complex	2 x 1 x 30 min medical assessment 2 x 5 min bloods / diagnostic testing 9 x 30 medical review and prescribing 2 x 2 x 15 min case conference 2 x 2 x 15 min referral / transfer of care / care coordination
Diagnostic Testing	Full Blood Examination (FBE, FBC, CBC) Liver Function Tests (LFT) Urea, Electrolytes, Creatinine (U&E) Urinary Drug Screen (UDS)
Relapse Prevention Pharmacotherapies	In a group of 100 people it is assumed that 20 are prescribed Acamprosate, 40 are prescribed Disulfiram, and 40 are prescribed Naltrexone. All are prescribed 100 mg of thiamine for 12 months. Acamprosate calcium 1998 mg /day for 6 months. Disulfiram 100 mg per day for first 2 weeks, 300mg / day remaining 24 weeks. Naltrexone 150mg /day for 6 months. Thiamine 100mg per day for 12 months. As this is averaged out in the model per 100 people, this means that the average person is prescribed 108 doses of Acamprosate, and 216 doses of Naltrexone, 72 doses of Disulfiram, and 365 doses of thiamine.
Assertive follow up	1 x 10 min ‘phone call

Staff time to deliver the tobacco intervention/ person	24 mins per person for the brief intervention (80 smokers/100 people = 0.8*30mins = 24 mins per person
Staff time to prescribe Varencline or Buproprion or NRT patches	2.4 mins per person for review and prescribe Varencline or Buproprion or NRT patches (48 people of the 100 people are prescribed Varencline or Buproprion or NRT patches, thus 0.48 *5mins = 2.4 mins per person)
Tobacco intervention	For 100 people in the Severe Group the breakdown for the Tobacco Intervention is based on: • 20% are non smokers and receive no intervention at all • 32% receive brief intervention of 30 mins only • 40% receive brief intervention of 30 minutes and NRT patches 3 for months • 7.71 % receive 30 mins of brief intervention and Varencline (Champix- TM) for 3 months. • 0.29% receives 30 mins of brief intervention and Buproprion (Zyban- TM) for 2 months. As this is averaged out in the model per 100 people, it is shown as 24 mins of clinician time to deliver the intervention. In addition each person on average is prescribed 36 doses of NRT patches, and 9.17 doses of Buproprion, and 0.478 doses of Varencline.

12. Rehabilitation – day program – 25 days – standard

Unit of Service	Description
Assessment - standard	1 x 60 min assessment 1 x 60 min transfer/referral of care/follow up
Withdrawal Management - outpatient	1 x 30 min development of care plan 1 x 15 min intake assessment (Withdrawal Management) 1 x 30 min medical assessment and prescribing 2 x 40 min assessment (Withdrawal Management) 6 x 15 min review 2 x 10 min brief interventions to coincide with dispensing events or reviews 1 x 30 min medical consult 1 x 30 min referral /transfer of care / Follow up 1 x 30 min case conference 1 x 40 min dispensing time per patient
Withdrawal Management Pharmacotherapies	For each person it is assumed that : The Thiamine is 100mg oral daily for days 1-14*, then 100 mg oral for 2 months post discharge if the patient continues to consume alcohol. The Diazepam is prescribed as a 20mg taper over 5 days. This means that on average each person receives 74 doss of thiamine and 10 doses of diazepam. *Note – the for days 1,2, and 3 has not been modelled as 100mg daily either intravenous or intramuscular.
Counselling 1:1/Group (e.g. 9.15 – 10.15 am)	25 x 60 min group counselling (assume 1 staff and 8 participants) 5 x 60 min 1:1 counselling
Group meetings (e.g. 10.30 am – 12.00 pm)	25 x 90 min group counselling (assume 1 staff and 8 participants)
Group meetings / activity (e.g. 1.00 pm – 3.00 pm)	25 x 120 min group activity (assume 1 staff and 8 participants)
Group meetings / activity (e.g. 3.15 pm – 5.00 pm)	25 x 120 min group activity (assume 1 staff and 8 participants)
Case management and support – standard	1 x 60 min case management assessment 1 x 30 min family / carer engagement 3 x 30 min implementation of case management and support

	2 x 40 min case conference 1 x 30 min discharge/ referral/ transfer of care / follow up
Assertive follow up	1 x 10 min 'phone call
Staff time to deliver the tobacco intervention/	24 mins per person for the brief intervention (80 smokers/100 people = 0.8*30mins = 24 mins per person
Staff time to prescribe Varencline or Buproprion or NRT patches	2.4 mins per person for review and prescribe Varencline or Buproprion or NRT patches (48 people of the 100 people are prescribed Varencline or Buproprion or NRT patches, thus 0.48 *5mins = 2.4 mins per person)
Tobacco intervention	For 100 people in the Severe Group the breakdown for the Tobacco Intervention is based on: • 20% are non smokers and receive no intervention at all • 32% receive brief intervention of 30 mins only • 40% receive brief intervention of 30 minutes and NRT patches 3 for months • 7.71 % receive 30 mins of brief intervention and Varencline (Champix- TM) for 3 months. • 0.29% receives 30 mins of brief intervention and Buproprion (Zyban- TM) for 2 months. As this is averaged out in the model per 100 people, it is shown as 24 mins of clinician time to deliver the intervention. In addition each person on average is prescribed 36 doses of NRT patches, and 9.17 doses of Buproprion,and 0.478 doses of Varencline.

13. Residential rehabilitation 8 weeks stay

Unit of Service	Description
Assessment – standard	1 x 60 min assessment 1 x 60 min transfer/referral of care/follow up
Withdrawal management stay (Bed type DETOX)	1 x 30 min development of care plan 1 x 15 min assessment (intake) 1 x 60 min assessment 1 x 45 min medical assessment 1 x 40 min dispensing per patient 5 x 90 min group sessions (assume 1 staff and 5 participants per group) 5 x 30 min reviews nursing 2 x 15 min medical review 2 x 30 min referral /transfer of care / follow up (e.g. 1 x 30 min for discharge, 1 x 30 min phone calls)
Withdrawal Management Pharmacotherapies	For each person it is assumed that : The Thiamine is 100mg oral daily for days 1-14*, then 100 mg oral for 2 months post discharge if the patient continues to consume alcohol. The Diazepam is prescribed as a 20mg taper over 5 days. This means that on average each person receives 74 doss of thiamine and 10 doses of diazepam. *Note – the for days 1,2, and 3 has not been modelled as 100mg daily either intravenous or intramuscular.
START RESIDENTIAL REHABILITATION TREATMENT: PREADMISSION	
14 days of Outpatient support and Preadmission	1 x 70 min of incoming telephone calls 1 x 60 min telephone assessment 2 x 60 min administration regarding admission 2 x 60 min worker liaison with government agencies e.g. Centrelink, Department of Housing
START RESIDENTIAL REHABILITATION TREATMENT: ADMISSION	

Admission	4 x 60 min admission time which includes: Orientation, check/search,
Urinary Drug Screen	1 x UDS
Week 1 and 2 of program (Bed type RR1)	2 x 12 x 90 min group therapy (assume 2 staff and 13 participants per group) 2 x 10 x 90 min group psycho education (assume 1 staff and 13 participants per group) 2 x 2 x 60 min 1:1 counselling 2 x 3 x 60 min care planning (history taking, psychometric testing, collection/entry) 2 x 5 x 120 min psychosocial activity(work and recreation) (assume 1 staff and 8 participants)\ 2 x 20 min routine review 2 x 60 min family engagement 2 x 17 x 90 min peer support (assume 1 staff and 15 participants) 2 x 1 x 60 min medical care/ clinical intervention 2 x 1 x 5 min drug screening
Weeks 3, 4, 5, and 6 of program (Bed type RR1)	4 x 1x 60 min family engagement 4 x 10 x 90 min group therapy (assume 2 staff and 13 participants per group) 4 x 10 x 90 min group psycho education (assume 1 staff and 13 participants per group) 4 x 2 x 60 min 1:1 counselling 4 x 1 x 60 min care planning 4 x 15 x 120 min psychosocial activity (work and recreation) (assume 1 staff and 8 participants) 4 x 1 x 40 min routine review 4 x 17 x 90 min peer support activity (assume 1 staff and 15 participants) 4 x 1 x 40 min medical consultation
Weeks 7 and 8 of program (Bed type RR1)	2 x 2 x 60 min family engagement 2 x 5 x 90 min group therapy (assume 2 staff and 13 participants per group) 2 x 10 x 90 min group psycho education (assume 1 staff and 13 participants per group) 2 x 2 x 60 min 1:1 counselling 2 x 2 x 60 min care planning 2 x 15 x 120 min psychosocial activity (work and recreation) 2 x 1 x 40 min routine review 2 x 17 x 90 min peer support activity (assume 1 staff and 15 participants) 2 x 2 x 20 min medical consultation
Discharge and transfer of care	2 hours total discharge/ transfer of care time which includes: Exit survey, exit pack
13 WEEKS OF EXIT PROGRAM/OUTCLIENT IN COMMUNITY	
	13 x 90 min group counselling (assume 1 staff and 5 participants per group) 13 x 20 min case management 13 x 30 min assertive follow up 13 x 30 min 1:1 counselling
Staff time to deliver the tobacco intervention/ person	24 mins per person for the brief intervention (80 smokers/100 people = 0.8*30mins = 24 mins per person
Staff time to prescribe Varencline or Buproprion or NRT patches	2.4 mins per person for review and prescribe Varencline or Buproprion or NRT patches (48 people of the 100 people are prescribed Varencline or Buproprion or NRT patches, thus 0.48 *5mins = 2.4 mins per person)
Tobacco intervention	For 100 people in the Severe Group the breakdown for the Tobacco Intervention is based on: • 20% are non smokers and receive no intervention at all • 32% receive brief intervention of 30 mins only • 40% receive brief intervention of 30 minutes and NRT patches 3 for months • 7.71 % receive 30 mins of brief intervention and Varencline (Champix-TM) for 3 months.

	• 0.29% receives 30 mins of brief intervention and Buproprion (Zyban- TM) for 2 months. As this is averaged out in the model per 100 people, it is shown as 24 mins of clinician time to deliver the intervention. In addition each person on average is prescribed 36 doses of NRT patches, and 9.17 doses of Buproprion, and 0.478 doses of Varencline.
Assertive follow up	1 x 10 min 'phone call

14. Residential rehabilitation – 13 week stay, 13 weeks aftercare and 13 weeks outclient program

Unit of Service	Description
Assessment – standard	1 x 60 min assessment 1 x 60 min transfer/referral of care/follow up
Withdrawal management stay (Bed type DETOX)	1 x 30 min development of care plan 1 x 15 min assessment (intake) 1 x 60 min assessment 1 x 45 min medical assessment 1 x 40 min dispensing per patient 5 x 90 min group sessions (assume 1 staff and 5 participants per group) 5 x 30 min reviews nursing 2 x 15 min medical review 2 x 30 min referral /transfer of care / follow up (e.g. 1 x 30 min for discharge, 1 x 30 min phone calls)
Withdrawal Management Pharmacotherapies	For each person it is assumed that : The Thiamine is 100mg oral daily for days 1-14*, then 100 mg oral for 2 months post discharge if the patient continues to consume alcohol. The Diazepam is prescribed as a 20mg taper over 5 days. This means that on average each person receives 74 doss of thiamine and 10 doses of diazepam. *Note – the for days 1,2, and 3 has not been modelled as 100mg daily either intravenous or intramuscular.
START RESIDENTIAL REHABILITATION TREATMENT: PREADMISSION	
14 days of Outpatient support and Preadmission	1 x 70 min of incoming telephone calls 1 x 60 min telephone assessment 2 x 60 min administration regarding admission 2 x 60 min worker liaison with government agencies e.g. Centrelink, Department of Housing
START RESIDENTIAL REHABILITATION TREATMENT: ADMISSION	
Admission	4 x 60 min admission time which includes: Orientation, check/search,
Urinary Drug Screen	1 x UDS
Week 1 and 2 of program (Bed type RR1)	2 x 12 x 90 min group therapy (assume 2 staff and 13 participants per group) 2 x 10 x 90 min group psycho education (assume 1 staff and 13 participants per group) 2 x 2 x 60 min 1:1 counselling 2 x 3 x 60 min care planning (history taking, psychometric testing, collection/entry) 2 x 5 x 120 min psychosocial activity(work and recreation) (assume 1 staff and 8 participants) 2 x 20 min routine review 2 x 60 min family engagement 2 x 17 x 90 min peer support activity (assume 1 staff and 15 participants) 2 x 1 x 60 min medical care/ clinical intervention 2 x 1 x 5 min drug screening
Weeks 3, 4, 5, and 6 of program (Bed type RR1)	4 x 1x 60 min family engagement 4 x 10 x 90 min group therapy (assume 2 staff and 13 participants per group) 4 x 10 x 90 min group psycho education (assume 1 staff and 13

	participants per group) 4 x 2 x 60 min 1:1 counselling 4 x 1 x 60 min care planning 4 x 15 x 120 min psychosocial activity (work and recreation) (assume 1 staff and 8 participants) 4 x 1 x 40 min routine review 4 x 17 x 90 min peer support activity (assume 1 staff and 15 participants) 4 x 1 x 40 min medical consultation
Weeks 7 and 8 of program (Bed type RR1)	2 x 2 x 60 min family engagement 2 x 5 x 90 min group therapy (assume 2 staff and 13 participants per group) 2 x 10 x 90 min group psycho education (assume 1 staff and 13 participants per group) 2 x 2 x 60 min 1:1 counselling 2 x 2 x 60 min care planning 2 x 15 x 120 min psychosocial activity (work and recreation) (assume 1 staff and 8 participants) 2 x 1 x 40 min routine review 2 x 17 x 90 min peer support activity (assume 1 staff and 15 participants) 2 x 2 x 20 min medical consultation
END STAGE 1: START STAGE 2 (5 WEEKS RESIDENTIAL REHABILITATION TREATMENT)	
Weeks 1-5 of treatment – Stage 2 (Bed type RR1)	5 x 1x 60 min family engagement 5 x 10 x 90 min group therapy (assume 2 staff and 13 participants per group) 5 x 10 x 90 min group psycho education (assume 1 staff and 13 participants per group) 5 x 2 x 60 min 1:1 counselling 5 x 1 x 60 min care planning 5 x 15 x 120 min psychosocial activity (work and recreation) (assume 1 staff and 8 participants) 5 x 1 x 40 min routine review 5 x 17 x 90 min peer support activity (assume 1 staff and 15 participants) 5 x 1 x 40 min medical consultation
Discharge and transfer of care	2 hours total discharge/ transfer of care time which includes: Exit survey, exit pack
END STAGE 2: START 13 WEEKS AFTERCARE/TRANSITION/RE-ENTRY IN THE COMMUNITY	
After care in the community	13 x 30 min case management 13 x 30 relapse prevention/ budgeting skills 13 x 75 min 1:1 counselling 13 x 90 min group counselling (assume 1 staff and 10 participants per group) 13 x 60 mins pre employment training (assume 1 staff: 1 participant)
Vocational Education, Training and Employment (VETE)	2 x 90 min x 8 weeks writing CV, mock interviews, attending TAFE (trade), pre- employment training (assume 1 staff and 15 participants per group) 5 x 4 hours per week x 8 weeks active on the job learning (assume 1 staff and 15 participants per group)
13 WEEKS OF EXIT PROGRAM/OUTCLIENT IN COMMUNITY	
	13 x 90 min group counselling (assume 1 staff and 5 participants per group) 13 x 20 min case management 13 x 30 min assertive follow up 13 x 30 min 1:1 counselling
Staff time to deliver the tobacco intervention/ person	24 mins per person for the brief intervention (80 smokers/100 people = 0.8*30mins = 24 mins per person
Staff time to prescribe Varencline or Buproprion or NRT patches	2.4 mins per person for review and prescribe Varencline or Buproprion or NRT patches (48 people of the 100 people are prescribed Varencline or Buproprion or NRT patches, thus 0.48 *5mins = 2.4 mins per person)
Tobacco intervention	For 100 people in the Severe Group the breakdown for the Tobacco Intervention is based on: • 20% are non smokers and receive no intervention at all • 32% receive brief intervention of 30 mins only • 40% receive brief intervention of 30 minutes and NRT patches 3

	for months • 7.71 % receive 30 mins of brief intervention and Varencline (Champix- TM) for 3 months. • 0.29% receives 30 mins of brief intervention and Buproprion (Zyban- TM) for 2 months. As this is averaged out in the model per 100 people, it is shown as 24 mins of clinician time to deliver the intervention. In addition each person on average is prescribed 36 doses of NRT patches, and 9.17 doses of Buproprion, and 0.478 doses of Varencline.
Assertive follow up	1 x 10 min 'phone call

15. Residential rehabilitation – 26 week stay, 13 weeks aftercare and 10 weeks outclient program

Unit of Service	Description
Assessment – standard	1 x 60 min assessment 1 x 60 min transfer/referral of care/follow up
Withdrawal management stay (Bed type DETOX)	1 x 30 min development of care plan 1 x 15 min assessment (intake) 1 x 60 min assessment 1 x 45 min medical assessment 1 x 40 min dispensing per patient 5 x 90 min group sessions (assume 1 staff and 5 participants per group) 5 x 30 min reviews nursing 2 x 15 min medical review 2 x 30 min referral /transfer of care / follow up (e.g. 1 x 30 min for discharge, 1 x 30 min phone calls)
Withdrawal Management Pharmacotherapies	For each person it is assumed that : The Thiamine is 100mg oral daily for days 1-14*, then 100 mg oral for 2 months post discharge if the patient continues to consume alcohol. The Diazepam is prescribed as a 20mg taper over 5 days. This means that on average each person receives 74 doss of thiamine and 10 doses of diazepam. *Note – the for days 1,2, and 3 has not been modelled as 100mg daily either intravenous or intramuscular.
START RESIDENTIAL REHABILITATION TREATMENT: PREADMISSION	
14 days of Outpatient support and Preadmission	1 x 70 min of incoming telephone calls 1 x 60 min telephone assessment 2 x 60 min administration regarding admission 2 x 60 min worker liaison with government agencies e.g. Centrelink, Department of Housing
START RESIDENTIAL REHABILITATION TREATMENT: ADMISSION	
Admission	4 x 60 min admission time which includes: Orientation, check/search
Urinary Drug Screen	1 x UDS
Week 1 and 2 of program (Bed type RR1)	2 x 12 x 90 min group therapy (assume 2 staff and 13 participants per group) 2 x 10 x 90 min group psycho education (assume 1 staff and 13 participants per group) 2 x 2 x 60 min 1:1 counselling 2 x 3 x 60 min care planning (history taking, psychometric testing, collection/entry) 2 x 5 x 120 min psychosocial activity(work and recreation) (assume 1 staff and 8 participants) 2 x 20 min routine review 2 x 60 min family engagement 2 x 17 x 90 min peer support activity (assume 1 staff and 15 participants) 2 x 1 x 60 min medical care/ clinical intervention 2 x 1 x 5 min drug screening
Weeks 3, 4, 5, and 6 of program (Bed type RR1)	4 x 1x 60 min family engagement 4 x 10 x 90 min group therapy (assume 2 staff and 13 participants per group)

	4 x 10 x 90 min group psycho education (assume 1 staff and 13 participants per group) 4 x 2 x 60 min 1:1 counselling 4 x 1 x 60 min care planning 4 x 15 x 120 min psychosocial activity (work and recreation) (assume 1 staff and 8 participants) 4 x 1 x 40 min routine review 4 x 17 x 90 min peer support activity (assume 1 staff and 15 participants) 4 x 1 x 40 min medical consultation
Weeks 7 and 8 of program (Bed type RR1)	2 x 2 x 60 min family engagement 2 x 5 x 90 min group therapy (assume 2 staff and 13 participants per group) 2 x 10 x 90 min group psycho education (assume 1 staff and 13 participants per group) 2 x 2 x 60 min 1:1 counselling 2 x 2 x 60 min care planning 2 x 15 x 120 min psychosocial activity (work and recreation) (assume 1 staff and 8 participants) 2 x 1 x 40 min routine review 2 x 17 x 90 min peer support activity (assume 1 staff and 15 participants) 2 x 2 x 20 min medical consultation
Discharge and transfer of care	2 hours total discharge/ transfer of care time which includes: Exit survey, exit pack
END STAGE 1: START STAGE 2 (5 WEEKS RESIDENTIAL REHABILITATION TREATMENT)	
Weeks 1-5 of treatment – Stage 2 (Bed type RR1)	**Card 7B1 x 5** 5 x 1x 60 min family engagement 5 x 10 x 90 min group therapy (assume 2 staff and 13 participants per group) 5 x 10 x 90 min group psycho education (assume 1 staff and 13 participants per group) 5 x 2 x 60 min 1:1 counselling 5 x 1 x 60 min care planning 5 x 15 x 120 min psychosocial activity (work and recreation) (assume 1 staff and 8 participants) 5 x 1 x 40 min routine review 5 x 17 x 90 min peer support activity (assume 1 staff and 15 participants)\ 5 x 1 x 40 min medical consultation
END STAGE 2: START STAGE 3 (RESIDENTIAL REHABILITATION TRANSITION 13 WEEKS)	
Weeks 1-13 of transition – Stage 3 (Bed type RR1)	13 x 1x 60 min family engagement 13 x 10 x 90 min group therapy (assume 2 staff and 13 participants per group) 13 x 10 x 90 min group psycho education (assume 1 staff and 13 participants per group) 13 x 2 x 60 min 1:1 counselling 13 x 1 x 60 min care planning 13 x 15 x 120 min psychosocial activity (work and recreation) (assume 1 staff and 8 participants) 13 x 1 x 40 min routine review 13 x 17 x 90 min peer support activity (assume 1 staff and 15 participants) 13 x 1 x 40 min medical consultation
END STAGE 3: START 13 WEEKS AFTERCARE/TRANSITION/RE-ENTRY	
After care in the community	13 x 30 min case management 13 x 30 relapse prevention/ budgeting skills 13 x 75 min 1:1 counselling 13 x 90 min group counselling (assume 1 staff and 10 participants per group) 13 x 60 mins pre employment training (assume 1 staff: 1 participant)
Vocational Education, Training and Employment (VETE)	2 x 90 min x 8 weeks writing CV, mock interviews, attending TAFE (trade), pre- employment training (assume 1 staff and 15 participants per group) 5 x 4 hours per week x 8 weeks active on the job learning (assume 1 staff and 15 participants per group)
10 WEEKS OF EXIT PROGRAM/OUTCLIENT	
	10 x 90 min group counselling (assume 1 staff and 5 participants per group)

	10 x 20 min case management 10 x 30 min assertive follow up 10 x 30 min 1:1 counselling
Staff time to deliver the tobacco intervention/ person	24 mins per person for the brief intervention (80 smokers/100 people = 0.8*30mins = 24 mins per person
Staff time to prescribe Varencline or Buproprion or NRT patches	2.4 mins per person for review and prescribe Varencline or Buproprion or NRT patches (48 people of the 100 people are prescribed Varencline or Buproprion or NRT patches, thus 0.48 *5mins = 2.4 mins per person)
Tobacco intervention	For 100 people in the Severe Group the breakdown for the Tobacco Intervention is based on: • 20% are non smokers and receive no intervention at all 32% receive brief intervention of 30 mins only • 40% receive brief intervention of 30 minutes and NRT patches 3 for months • 7.71 % receive 30 mins of brief intervention and Varencline (Champix- TM) for 3 months. • 0.29% receives 30 mins of brief intervention and Buproprion (Zyban- TM) for 2 months. As this is averaged out in the model per 100 people, it is shown as 24 mins of clinician time to deliver the intervention. In addition each person on average is prescribed 36 doses of NRT patches, and 9.17 doses of Buproprion,and 0.478 doses of Varencline.
Assertive follow up	1 x 10 min 'phone call

Attachment 9: Descriptions of the revised care packages for Aboriginal and Torres Strait Islander peoples care (as compared to mainstream care packages)

Mild Intervention

Mainstream DASPM	Aboriginal and Torres Strait Islander People DASPM
Assessment 5 x 15 min primary care assessment	Assessment 3 x 30 min screening and brief intervention 1 x 30 min consultation with primary carer or other family member 4 x 15 min referral by phone 3 x 2 x 60 min transport (70% of clients)
NA	Tobacco intervention 41% receive this intervention 12 min per person for the brief intervention (0.41*30 min = 12 min) Other tobacco interventions: • 16.4% receive brief intervention of 30 mins only • 20.5% receive brief intervention of 30 minutes and NRT patches 3 for months • 3.9 % receive 30 mins of brief intervention and varenicline (Champix- TM) for 3 months • 0.2% receives 30 mins of brief intervention and buproprion (Zyban- TM) for 2 months. Staff time to prescribe varenicline or buproprion or NRT patches 12 x 60 min (PHC worker) 12 x 2 x 60 min transport (70% of clients)

Moderate Intervention

Mainstream DASPM	Aboriginal and Torres Strait Islander People DASPM
Assessment 1x 30 min primary care medical assessment and referral 1x 15 min medical monitoring by primary carer 1 x 10 min liaison between medical primary carer, psychologist/MBS providers	Assessment 1 x 30 min primary health care provider assessment and referral 3 x 30 min monitoring by primary health care provider 1 x 30 min liaison between primary health care provider, psychologist /MBS providers 4 x 30 min screening and brief interventions 4 x 15 min care coordination 4 x 15 min supported referral 5 x 2 x 60 min transport (70% of clients)
Relapse Prevention Pharmacotherapies Prescription medicines Applies to 50% Acamprosate (10%); disulfiram (20%), naltrexone (20%) 2 x 1 x 30 min medical assessment 2 x 5 min bloods / diagnostic testing 9 x 30 medical review and prescribing 2 x 2 x 15 min case conference 2 x 2 x 15 min referral / transfer of care / care coordination	Relapse Prevention Pharmacotherapies Prescription medicines Applies to 50% Acamprosate (15%); naltrexone (35%) 2 x 1 x 30 min medical assessment 2 x 5 min bloods/diagnostic testing 2 x 2 x 15 min information/education re: medications 9 x 30 min medical review and prescribing 2 x 2 x 15 min case conference 2 x 2 x 15 min referral/transfer of care/care coordination

	9 x 30 min outreach/health worker support at the consultation 9 x 60 min transport (70% of clients)
Individual Psychosocial Intervention 1 x 50 min assessment 5 x 50 min psychological interventions	Individual Psychosocial Intervention 1 x 75 min assessment 5 x 50 min psychosocial interventions 6 x 2 x 60 min transport (70% of clients)
NA	Tobacco intervention 70% receive this intervention 21 min per person for the brief intervention • (0.7*30 min = 21 min per person) 28% receive brief intervention of 30 mins only • 35% receive brief intervention of 30 minutes and NRT patches 3 for months • 6.72 % receive 30 mins of brief intervention and varenicline (ChampixTM) for 3 months. • 0.28% receives 30 mins of brief intervention and buproprion (ZybanTM) for 2 months. Staff time to prescribe varenicline or buproprion or NRT patches 12 x 60 min (PHC worker) (Note: transport for the follow-up tobacco intervention not included as can be delivered in conjunction with above interventions).
NA	Return to country 180 min (20% of clients) 2 x 60 min transport (70% of clients)
NA	Assertive follow-up 6 x 30 mins face to face 6 x 30 mins phone contact 6 x 2 x 60 min transport (70% of clients)

Psychosocial Interventions – with relapse prevention pharmacotherapies – complex

Mainstream DASPM	**Aboriginal and Torres Strait Islander People DASPM**
Assessment – complex 2 x 75 min assessment 2 x 30 complex case conference 2 x 15 min transfer/referral of care/follow up	Assessment – complex 2 x 75 min clinical assessment 2 x 30 min complex case conference 2 x 15 min transfer/referral of care/follow up 2 x 2 x 60 min transport (70% of clients)
Individual – Psychosocial interventions – complex 2 x 1 x 15 min intake 2 x 1 x 60 min assessment 2 x 5 x 60 min 1:1 psychosocial intervention/family/support	Individual – Psychosocial interventions – complex 2 x1 x 15 min intake 2 x 1 x 75 min assessment 2 x 5 x 60 min 1:1 psychosocial intervention/family/supporter 2 x 1 x 15 min case conference 2 x 2 x 30 min transfer of care/discharge/care coordination 16 x 2 x 60 min transport (70% of clients)

er 2 x 1 x 15 min case conference 2 x 2 x 30 min transfer of care/ discharge / care coordination	
<u>Group Psychosocial intervention</u> 1 x 30 min screening / brief assessment and orientation 6 x 60 min group sessions (assume 1 x staff for 8 participants)	<u>Group/Family – Psychosocial interventions-</u> 1 x 30 min screening/brief assessment and orientation 6 x 60 min group sessions (assume 2 x staff for 8 participants) 6 x 20 mins preparation for family sessions 7 x 2 x 60 min transport (70% of clients)
<u>Relapse Prevention Pharmacotherapies – complex</u> Prescription medicines Applies to 100% Acamprosate (20%); disulfiram (40%), naltrexone (40%) 2 x 1 x 30 min medical assessment 2 x 5 min bloods / diagnostic testing 9 x 30 medical review and prescribing 2 x 2 x 15 min case conference 2 x 2 x 15 min referral / transfer of care / care coordination	<u>Relapse Prevention Pharmacotherapies – complex</u> Prescription medicines Applies to 100% Acamprosate (40%); naltrexone (60%) 2 x 1 x 30 min medical assessment 2 x 5 min bloods/diagnostic testing 2 x 2 x 15 min information/education re: medications 9 x 30 min medical review and prescribing 2 x 2 x 15 min case conference 2 x 2 x 15 min referral/transfer of care/care coordination 9 x 30 min outreach/health worker support at the consultation 9 x 60 min transport (70% of clients)
<u>Diagnostic Testing</u> Full Blood Examination (FBE, FBC, CBC) Liver Function Tests (LFT) Urea, Electrolytes, Creatinine (U&E)	<u>Diagnostic testing</u> Full Blood Examination (FBE, FBC, CBC) Liver Function Tests (LFT) Urea, Electrolytes, Creatinine (U&E)
Urinary Drug Screen (UDS)	Urinary Drug Screen (UDS)
<u>Case management and support – complex</u> 2 x 1 x 60 min case management assessment 2 x 1 x 30 min family / carer engagement 2 x 3 x 30 min implementation of case management and support 2 x 2 x 40 min case conference 2 x 1 x 30 min discharge/ referral/ transfer of care / follow up	<u>Case management and support – complex</u> 2 x 1 x 75 min case management assessment 2 x 3 x 60 min family/carer/partner engagement 2 x 3 x 60 min implementation of case management and support 2 x 2 x 60 min case conference 2 x 1 x 60 min discharge/referral/transfer of care/follow up 16 x 2 x 60 min transport (70% of clients)
<u>Tobacco intervention</u> 80% of clients 24 min per person for the brief intervention (0.8*30 min = 24 min per person) Staff time to prescribe varenicline or buproprion or NRT patches: 0.48 *5mins = 2.4 mins per person • 32% receive brief intervention of 30 mins only • 40% receive brief intervention of 30 minutes and NRT patches 3 for months	<u>Tobacco intervention</u> 100% of clients 30 min per person for the brief intervention Staff time to prescribe varenicline or buproprion or NRT patches • 37% receive brief intervention of 30 mins only • 55% receive brief intervention of 30 minutes and NRT patches 3 for months

• 7.71 % receive 30 mins of brief intervention and varenicline (Champix- TM) for 3 months • 0.29% receives 30 mins of brief intervention and buproprion (Zyban- TM) for 2 months.	• 7.71% receive 30 mins of brief intervention and varenicline (ChampixTM) for 3 months. • 0.29% receives 30 mins of brief intervention and buproprion (ZybanTM) for 2 months. 12 x 60 min (PHC worker) (Note: transport for the follow-up tobacco intervention not included as can be delivered in conjunction with above interventions).
NA	<u>Return to Country</u> 180 minutes (20% of clients) 2 x 60 min transport (70% of clients)
NA	<u>Ongoing /transitional care</u> 12 x 90 min group counselling (assume 2 staff and 8 participants per group) 12 x 60 min 1:1 counselling 24 x 2 x 60 min transport (70% of clients)
<u>Assertive follow up</u> 1 x 10 min 'phone call'	<u>Assertive follow up – complex</u> 12 x 60 min face to face visit 12 x 2 x 60 min transport (70% of clients)

Withdrawal management - outpatient – with relapse prevention pharmacotherapies – complex

Mainstream DASPM	**Aboriginal and Torres Strait Islander People DASPM**
<u>Assessment – complex</u> 2 x 60 min assessment 1 x 30 min complex case conference 2 x 15 min referral/ transfer of care / Follow up	<u>Assessment – complex</u> 2 x 75 min clinical assessment 2 x 30 min complex case conference 2 x 15 min transfer/referral of care/follow up 2 x 2 x 60 min transport (70% of clients)
<u>Withdrawal management - daily outpatient</u> 1 x 30 min development of care plan 1 x 15 min intake assessment (Withdrawal management) 1 x 30 min medical assessment and prescribing 2 x 40 min assessment (Withdrawal Management) 6 x 15 min review 2 x 10 min brief intervention to coincide with dispensing events or reviews 1 x 30 min medical consult 1 x 30 min referral/transfer of care/follow up 1 x 30 min case conference 1 x 40 min dispensing time per patient 1 x 20 min medical consult 1 x 60 min psychosocial intervention 1:1 1 x 30 min case conference (simple) 1 x 30 min referral /transfer of care / follow up	<u>Withdrawal Management – daily outpatient</u> 1 x 60 min development of care plan 1 x 30 min intake assessment (Withdrawal Management) 1 x 30 min medical assessment and prescribing 2 x 40 min assessment (Withdrawal Management) 7 x 30 min review 2 x 10 min brief interventions to coincide with dispensing events or reviews 1 x 30 min medical consult 1 x 30 min referral/ transfer of care/ follow up 1 x 30 min case conference 1 x 40 min dispensing time per patient 8 x 2 x 60 mins transport (70% of clients) 1 x 20 min medical consult 1 x 60 min psychosocial intervention 1:1 1 x 30 min case conference (simple) 1 x 30 min referral /transfer of care / follow up
<u>Withdrawal Management – Pharmacotherapies-</u>	<u>Withdrawal Management – Pharmacotherapies-</u>

The thiamine is 100mg oral daily for days 1-14, then 100mg oral for 2 months post discharge if the patient continues to consume alcohol. The Diazepam is prescribed as a 20mg taper over 5 days.	The thiamine is 100mg oral daily for days 1-14, then 100mg oral for 2 months post discharge if the patient continues to consume alcohol. The Diazepam is prescribed as a 20mg taper over 5 days.
<u>Individual - Psychosocial interventions – complex –</u> 2 x 1 x 15 min intake 2 x 1 x 60 min assessment 2 x 5 x 60 min 1:1 psychosocial intervention/family/supporter 2 x1 x 15 min case conference 2 x 2 x 30 min transfer of care/ discharge / care coordination	<u>Individual - Psychosocial interventions – complex –</u> 2 x 1 x 15 min intake 2 x1 x 75 min assessment 2 x 5 x 60 min 1:1 psychosocial intervention/family/supporter 2 x1 x 15 min case conference 2 x 2 x 30 min transfer of care/ discharge / care coordination 16 x 2 x 60 min transport (70% of clients)
<u>Group – Psychosocial interventions</u> 1 x 30 min screening / brief assessment and orientation 6 x 60 min group sessions (assume 1 x staff for 8 participants)	<u>Group/Family – Psychosocial interventions</u> 1 x 30 min screening / brief assessment and orientation 6 x 60 min group sessions (assume 2 x staff for 8 participants) 6 x 20 mins preparation for family sessions 7 x 2 x 60 min transport (70% of clients)
<u>Pharmacotherapies – complex – ongoing for 6 months</u> Prescription medicines Applies to 100% Acamprosate (20%); disulfiram (40%), naltrexone (40%) 2 x 1 x 30 min medical assessment 2 x 5 min bloods / diagnostic testing 9 x 30 medical review and prescribing 2 x 2 x 15 min case conference 2 x 2 x 15 min referral / transfer of care / care coordination	<u>Pharmacotherapies – complex – ongoing for 6 months</u> Prescription medicines Applies to 100% Acamprosate (40%); naltrexone (60%) 2 x 1 x 30 min medical assessment 2 x 5 min bloods / diagnostic testing 2 x 2 x 15 min information/ education re medications 9 x 30 min medical review and prescribing 2 x 2 x 15 min case conference 2 x 2 x 15 min referral / transfer of care / care coordination 9 x 30 min outreach/ health worker support at the consultation 9 x 60 min transport (70% of clients)
<u>Diagnostic Testing</u> Full Blood Examination (FBE, FBC, CBC) Liver Function Tests (LFT) Urea, Electrolytes, Creatinine (U&E) Urinary Drug Screen (UDS)	<u>Diagnostic Testing-</u> Full Blood Examination (FBE, FBC, CBC) Liver Function Tests (LFT) Urea, Electrolytes, Creatinine (U&E) Urinary Drug Screen (UDS)
<u>Case management and support – complex</u> 2 x 1 x 60 min case management assessment 2 x 1 x 30 min family / carer engagement 2 x 3 x 30 min implementation of case management and support 2 x 2 x 40 min case conference	<u>Case management and support – complex</u> 2 x 1 x 75 min case management assessment 2 x 3 x 60 min family / carer/partner engagement 2 x 3 x 60 min implementation of case management and support 2 x 2 x 60 min case conference

2 x 1 x 30 min discharge/ referral/ transfer of care / follow up	2 x 1 x 60 min discharge/ referral/ transfer of care / follow up 16 x 2 x 60 min transport (70% of clients)
<u>Tobacco intervention</u> 80% of clients 24 min per person for the brief intervention (0.8*30 min = 24 min per person) Staff time to prescribe varenicline or buproprion or NRT patches: 0.48 *5mins = 2.4 mins per person • 32% receive brief intervention of 30 mins only • 40% receive brief intervention of 30 minutes and NRT patches 3 for months • 7.71 % receive 30 mins of brief intervention and varenicline (Champix- TM) for 3 months • 0.29% receives 30 mins of brief intervention and buproprion (Zyban- TM) for 2 months.	<u>Tobacco intervention</u> 100% of clients 30 min per person for the brief intervention Staff time to prescribe varenicline or buproprion or NRT patches • 37% receive brief intervention of 30 mins only • 55% receive brief intervention of 30 minutes and NRT patches 3 for months • 7.71% receive 30 mins of brief intervention and varenicline (ChampixTM) for 3 months. • 0.29% receives 30 mins of brief intervention and buproprion (ZybanTM) for 2 months. 12 x 60 min (PHC worker) (Note: transport for the follow-up tobacco intervention not included as can be delivered in conjunction with above interventions).
NA	<u>Return to Country</u> 180 minutes (20% of clients) 2 x 60 min transport (70% of clients)
NA	<u>Ongoing care</u> 12 x 90 min group counselling (assume 2 staff and 8 participants per group) 12 x 60 min 1:1 counselling 24 x 2 x 60 min transport (70% of clients)
<u>Assertive follow up</u> 1 x 10 min phone call	<u>Assertive follow up –complex</u> 12 x 60 min face to face visit 12 x 2 x 60 min transport (70% of clients)

Withdrawal management – residential – with relapse prevention pharmacotherapies – complex

Mainstream DASPM	**Aboriginal and Torres Strait Islander People DASPM**
<u>Assessment – complex</u> 2 x 60 min assessment 1 x 30 complex case conference 2 x 15 min transfer/referral of care/follow up	<u>Assessment – complex</u> 2 x 75 min clinical assessment 2 x 30 min complex case conference 2 x 15 min transfer/ referral of care/ follow up 2 x 2 x 60 min transport (70% of clients)
<u>Withdrawal Management Stay (Bed type DETOX) –</u> 1 x 30 min development of care plan 1 x 15 min assessment (intake) 1 x 60 min assessment 1 x 45 min medical assessment 1 x 40 min dispensing per patient 5 x 90 min group sessions (assume 1 staff and 5 participants per group) 5 x 30 min reviews nursing	<u>Withdrawal Management – residential</u> 1 x 5 min diagnostic testing 1 x 30 min development of care plan 1 x 15 min assessment (intake) 1 x 75 min assessment 1 x 45 min medical assessment 1 x 40 min dispensing per patient 5 x 90 min group sessions (assume 2 staff and 5 participants per group) 5 x 30 min reviews nursing

2 x 15 min medical review 2 x 30 min referral /transfer of care / follow up	2 x 15 min medical review 2 x 60 min discharge planning sessions 2 x 30 min referral /transfer of care / follow up 1 x bed cost for family member/ support person (50% of clients) 1 x 60 min transport (70% of clients)
<u>Withdrawal Management Pharmacotherapies –</u> The thiamine is 100mg oral daily for days 1-14, then 100mg oral for 2 months post discharge if the patient continues to consume alcohol. The Diazepam is prescribed as a 20mg taper over 5 days.	<u>Withdrawal Management Pharmacotherapies –</u> The thiamine is 100mg oral daily for days 1-14, then 100mg oral for 2 months post discharge if the patient continues to consume alcohol. The Diazepam is prescribed as a 20mg taper over 5 days.
<u>Individual – Psychosocial interventions –</u> 2 x 1 x 15 min intake 2 x 1 x 60 min assessment 2 x 5 x 60 min 1:1 psychosocial intervention/f amily/support er 2 2 x 1 x 15 min case conference 2 x 2 x 30 min transfer of care/ discharge / care coordination	<u>Individual - Psychosocial interventions – complex</u> 2 x 1 x 15 min intake 2 x 1 x 75 min assessment 2 x 5 x 60 min 1:1 psychosocial intervention/family/supporter 2 x 1 x 15 min case conference 2 x 2 x 30 min transfer of care/ discharge / care coordination 16 x 2 x 60 min transport (70% of clients)
<u>Group – Psychosocial interventions</u> 1 x 30 min screening / brief assessment and orientation 6 x 60 min group sessions (assume 1 x staff for 8 participants)	<u>Group/ Family - Psychosocial interventions</u> 1 x 30 min screening / brief assessment and orientation 6 x 60 min group sessions (assume 2 x staff for 8 participants) 6 x 20 mins preparation for family sessions 7 x 2 x 60 min transport (70% of clients)
<u>Case management and support – complex</u> 2 x 1 x 60 min case management assessment 2 x 1 x 30 min family / carer engagement 2 x 3 x 30 min implementation of case management and support 2 x 2 x 40 min case conference 2 x 1 x 30 min discharge/ referral/ transfer of care / follow up	<u>Case management and support – complex</u> 2 x 1 x 75 min case management assessment 2 x 3 x 60 min family / carer /partner engagement 2 x 3 x 60 min implementation of case management and support 2 x 2 x 60 min case conference 2 x 1 x 60 min discharge/ referral/ transfer of care / follow up 16 x 2 x 60 min transport (70% of clients)
<u>Pharmacotherapies – complex</u> Prescription medicines Applies to 100% Acamprosate (20%); disulfiram (40%), naltrexone (40%) 2 x 1 x 30 min medical assessment 2 x 5 min bloods / diagnostic testing	<u>Pharmacotherapies – complex</u> Prescription medicines Applies to 100% Acamprosate (40%); naltrexone (60%) 2 x 1 x 30 min medical assessment 2 x 5 min bloods / diagnostic testing 2 x 2 x 15 min information/ education re medications

9 x 30 medical review and prescribing 2 x 2 x 15 min case conference 2 x 2 x 15 min referral / transfer of care / care coordination	9 x 30 min medical review and prescribing 2 x 2 x 15 min case conference 2 x 2 x 15 min referral / transfer of care / care coordination 9 x 30 min outreach/ health worker support at the consultation 9 x 60 min transport (70% of clients)
<u>Diagnostic Testing</u> Full Blood Examination (FBE, FBC, CBC) Liver Function Tests (LFT) Urea, Electrolytes, Creatinine (U&E) Urinary Drug Screen (UDS)	<u>Diagnostic Testing</u> Full Blood Examination (FBE, FBC, CBC) Liver Function Tests (LFT) Urea, Electrolytes, Creatinine (U&E) Urinary Drug Screen (UDS)
<u>Tobacco intervention</u> 80% of clients 24 min per person for the brief intervention (0.8*30 min = 24 min per person) Staff time to prescribe varenicline or buproprion or NRT patches: 0.48 *5mins = 2.4 mins per person • 32% receive brief intervention of 30 mins only • 40% receive brief intervention of 30 minutes and NRT patches 3 for months • 7.71 % receive 30 mins of brief intervention and varenicline (Champix- TM) for 3 months 0.29% receives 30 mins of brief intervention and buproprion (ZybanTM) for 2 months.	<u>Tobacco intervention</u> 100% of clients 30 min per person for the brief intervention Staff time to prescribe varenicline or buproprion or NRT patches • 37% receive brief intervention of 30 mins only • 55% receive brief intervention of 30 minutes and NRT patches 3 for months • 7.71% receive 30 mins of brief intervention and varenicline (ChampixTM) for 3 months. 0.29% receives 30 mins of brief intervention and buproprion (ZybanTM) for 2 months. 12 x 60 min (PHC worker) (Note: transport for the follow-up tobacco intervention not included as can be delivered in conjunction with above interventions).
NA	<u>Return to Country</u> 180 minutes (20% of clients) 2 x 60 min transport (70% of clients)
NA	<u>Ongoing care</u> 12 x 90 min group counselling (assume 2 staff and 8 participants per group) 12 x 60 min 1:1 counselling 24 x 2 x 60 min transport (70% of clients)
<u>Assertive follow-up –</u> 1 x 10 min 'phone call	<u>Assertive follow up</u> 12 x 60 min face to face visit 12 x 2 x 60 min transport (70% of clients)

Rehabilitation – day program – 25 days – standard

Mainstream DASPM	**Aboriginal and Torres Strait Islander People DASPM**
<u>Assessment – standard</u> 1 x 60 min assessment 1 x 60 min transfer/referral of care/follow up	<u>Assessment – complex</u> 2 x 75 min clinical assessment 2 x 30 min complex case conference 1 x 60 min transfer/ referral of care/ follow up

	2 x 2 x 60 min transport (70% of clients)
Withdrawal Management – outpatient 1 x 30 min development of care plan 1 x 15 min intake assessment (Withdrawal Management) 1 x 30 min medical assessment and prescribing 2 x 40 min assessment (Withdrawal Management) 6 x 15 min review 2 x 10 min brief interventions to coincide with dispensing events or reviews 1 x 30 min medical consult 1 x 30 min referral /transfer of care / Follow up 1 x 30 min case conference 1 x 40 min dispensing time per patient	Withdrawal Management – outpatient 1 x 60 min development of care plan 1 x 30 min intake assessment (Withdrawal Management) 1 x 30 min medical assessment and prescribing 2 x 40 min assessment (Withdrawal Management) 7 x 30 min review 2 x 10 min brief interventions to coincide with dispensing events or reviews 1 x 30 min medical consult 1 x 30 min referral/ transfer of care/ follow up 1 x 30 min case conference 1 x 40 min dispensing time per patient 8 x 2 x 60 mins transport (70% of clients)
Withdrawal Management Pharmacotherapies The thiamine is 100mg oral daily for days 1-14, then 100mg oral for 2 months post discharge if the patient continues to consume alcohol. The Diazepam is prescribed as a 20mg taper over 5 days.	Withdrawal Management Pharmacotherapies The thiamine is 100mg oral daily for days 1-14, then 100mg oral for 2 months post discharge if the patient continues to consume alcohol. The Diazepam is prescribed as a 20mg taper over 5 days.
Group or Individual Psychosocial interventions 25 x 60 min group counselling (assume 1 staff and 8 participants) 5 x 60 min 1:1 counselling	Group or Individual Psychosocial interventions 25 x 60 min group counselling (assume 2 staff and 8 participants) 5 x 60 min 1:1 counselling
Group or Individual Psychosocial interventions 25 x 90 min group counselling (assume 1 staff and 8 participants)	Group or Individual Psychosocial interventions 25 x 90 min group counselling (assume 2 staff and 8 participants)
Group or Individual Psychosocial interventions 25 x 120 min group activity (assume 1 staff and 8 participants)	Group or Individual Psychosocial interventions 25 x 120 min group activity (assume 2 staff and 8 participants)
Group or Individual Psychosocial interventions 25 x 120 min group activity (assume 1 staff and 8 participants)	Group or Individual Psychosocial interventions 25 x 120 min group activity (assume 2 staff and 8 participants) 25 x 2 x 60 min transport (70% of clients)
Case management and support – standard 1 x 60 min case management assessment 1 x 30 min family / carer engagement 3 x 30 min implementation of case management and support 1 x 40 min case conference 1 x 30 min discharge/ referral/ transfer of care /follow up	Case management and support – complex 2 x 1 x 75 min case management assessment 2 x 3 x 60 min family / carer/partner engagement 2 x 3 x 60 min implementation of case management and support 2 x 2 x 60 min case conference 2 x 1 x 60 min discharge/ referral/ transfer of care / follow up 16 x 2 x 60 min transport (70% of clients)
Tobacco intervention 80% of clients	Tobacco intervention 100% of clients

24 min per person for the brief intervention (0.8*30 min = 24 min per person) Staff time to prescribe varenicline or buproprion or NRT patches: 0.48 *5mins = 2.4 mins per person • 32% receive brief intervention of 30 mins only • 40% receive brief intervention of 30 minutes and NRT patches 3 for months • 7.71 % receive 30 mins of brief intervention and varenicline (Champix- TM) for 3 months • 0.29% receives 30 mins of brief intervention and buproprion (Zyban- TM) for 2 months.	30 min per person for the brief intervention Staff time to prescribe varenicline or buproprion or NRT patches • 37% receive brief intervention of 30 mins only • 55% receive brief intervention of 30 minutes and NRT patches 3 for months • 7.71% receive 30 mins of brief intervention and varenicline (ChampixTM) for 3 months. • 0.29% receives 30 mins of brief intervention and buproprion (ZybanTM) for 2 months. 12 x 60 min (PHC worker) (Note: transport for the follow-up tobacco intervention not included as can be delivered in conjunction with above interventions).
NA	<u>Return to Country</u> 180 minutes (20% of clients) 2 x 60 min transport (70% of clients)
NA	<u>Ongoing care</u> 12 x 90 min group counselling (assume 2 staff and 8 participants per group) 12 x 60 min 1:1 counselling 24 x 2 x 60 min transport (70% of clients)
<u>Assertive follow up</u> 1 x 10 min 'phone call'	<u>Assertive follow up</u> 12 x 60 mins face to face visit 12 x 2 x 60 mins transport (70% of clients)

Residential rehabilitation – 13 week stay, 13 weeks aftercare and 13 weeks outclient program

Mainstream DASPM	**Aboriginal and Torres Strait Islander People DASPM**
<u>Assessment – standard</u> 1 x 60 min assessment 1 x 60 min transfer/referral of care/follow up	<u>Assessment – complex</u> 2 x 75 min clinical assessment 2 x 30 min complex case conference 1 x 60 min transfer/referral of care/follow up 2 x 2 x 60 min transport (70% of clients)
<u>Withdrawal management Stay (Bed type DETOX)</u> 1 x 30 min development of care plan 1 x 15 min assessment (intake) 1 x 60 min assessment 1 x 45 min medical assessment 1 x 40 min dispensing per patient 5 x 90 min group sessions (assume 1 staff and 5 participants per group) 5 x 30 min reviews nursing 2 x 15 min medical review 2 x 30 min referral /transfer of care / follow up (e.g. 2 x 30 min for discharge, 1 x 30 min phone calls)	<u>Withdrawal Management – complex</u> 1 x 30 min development of care plan 1 x 15 min assessment (intake) 1 x 75 min assessment 1 x 45 min medical assessment 1 x 40 min dispensing per patient 5 x 90 min group sessions (assume 2 staff and 5 participants per group) 5 x 30 min reviews nursing 2 x 15 min medical review 2 x 60 min discharge planning sessions 2 x 30 min referral /transfer of care / follow up (e.g. 1 x 30 min for discharge, 1 x 30 min phone calls)

	1 x bed cost for family member/ support person (50% of clients) 2 x 60 min transport (70% of clients)
Withdrawal Management Pharmacotherapies The thiamine is 100mg oral daily for days 1-14, then 100mg oral for 2 months post discharge if the patient continues to consume alcohol. The Diazepam is prescribed as a 20mg taper over 5 days.	Withdrawal Management Pharmacotherapies The thiamine is 100mg oral daily for days 1-14, then 100mg oral for 2 months post discharge if the patient continues to consume alcohol. The Diazepam is prescribed as a 20mg taper over 5 days.
14 days of Outpatient support and Preadmission 1 x 70 min of incoming telephone calls 1 x 60 min telephone assessment 2 x 60 min administration regarding admission 2 x 60 min worker liaison with government agencies e.g. Centrelink, Department of Housing	25 days of Outpatient support and Preadmission 1 x 120 min of incoming telephone calls 1 x 90 min telephone assessment (legal, health) 1 x 90 min face to face assessment (local) 20% 1 x 30 min travel (worker) 20% 1 x 60 min administration regarding admission 2 x 90 min worker liaison with government agencies e.g. Centrelink, Department of Housing
Admission 4 x 60 min admission time which includes: Orientation, check/search	Admission 4 x 60 min total admission time which includes: Orientation, check/search 1 x 60 min transport (70% of clients)
Urinary Drug Screen 1 x 20 min UDS	Urinary Drug Screen 1 x 20 min UDS
Week 1 and 2 of program (Bed type RR1) – 2 x 12 x 90 min group therapy (assume 2 staff and 13 participants per group) 2 x 10 x 90 min group psycho education (assume 1 staff and 13 participants per group) 2 x 2 x 60 min 1:1 counselling 2 x 3 x 60 min care planning (history taking, psychometric testing, collection/entry) 2 x 5 x 120 min psychosocial activity (work and recreation) (assume 1 staff and 8 participants) 2 x 20 min routine review 2 x 60 min family engagement 2 x 17 x 90 min peer support activity (assume 1 staff and 15 participants) 2 x 1 x 60 min medical care/ clinical intervention 2 x 1 x 5 min drug screening	Week 1 and 2 of program 2 x 12 x 90 min group therapy (assume 2 staff and 13 participants per group) 2 x 10 x 90 min group psycho education (assume 2 staff and 13 participants per group) 2 x 2 x 60 min 1:1 counselling 2 x 3 x 60 min care planning (history taking, genograms, psychometric testing, collection/entry) 2 x 5 x 120 min psychosocial activity(work and recreation) (assume 2 staff and 8 participants) 2 x 20 min routine review 2 x 90 min family engagement (family days) 2 x 17 x 90 min peer support activity (assume 2 staff and 15 participants) (specific cultural engagement activity, (cultural processes and Aboriginal ways of working are immersed within Aboriginal services and their programs) 2 x 1 x 90 min medical care/ clinical/dental/legal intervention 2 x 1 x 5 min drug screening 2 x 2 x 60 min transport (medical/clinical/legal appointments) (70% of clients) 2 x 1 x 60 min transport (family/community days and cultural days) (applies to 30%) 2 x 3 x 60 min crisis/trauma management (clients and staff)(applies to 20%)

	Overnight staffing per place (assume 2 staff and 20 residents)
<u>Weeks 3, 4, 5, and 6 of program (Bed type RR1) –</u> 4 x 1x 60 min family engagement 4 x 10 x 90 min group therapy (assume 2 staff and 13 participants per group) 4 x 10 x 90 min group psycho education (assume 1 staff and 13 participants per group) 4 x 2 x 60 min 1:1 counselling 4 x 1 x 60 min care planning 4 x 15 x 120 min psychosocial activity (work and recreation) (assume 1 staff and 8 participants) 4 x 1 x 40 min routine review 4 x 17 x 90 min peer support activity (assume 1 staff and 15 participants) 4 x 1 x 40 min medical consultation	<u>Weeks 3, 4, 5, and 6 of program</u> 2 x 2 x 60 min court support (2 x court visits in 3 months 20% of clients, court reports 60% of clients) 4 x 1 x 90 min family engagement 4 x 10 x 90 min group therapy (assume 2 staff and 13 participants per group) 4 x 10 x 90 min group psycho education (assume 2 staff and 13 participants per group) 4 x 2 x 60 min 1:1 counselling 4 x 1 x 75 min care/treatment planning (relapse prevention) 4 x 15 x 120 min psychosocial activity (work and recreation) (assume 2 staff and 8 participants) 4 x 1 x 40 min routine review 4 x 17 x 90 min peer support activity (assume 2 staff and 15 participants) (specific cultural engagement activity (cultural processes and Aboriginal ways of working are immersed within Aboriginal services and their programs) 4 x 1 x 60 min medical/legal consultation (off site) 4 x 1 x 60 min transport (clinical, legal) (70% of clients) 2 x 2 x 60 transport (family/community days and cultural days) (30% of clients) Overnight staffing per place (assume 2 staff and 20 residents)
<u>Weeks 7 and 8 of program (Bed type RR1)</u> 2 x 2 x 60 min family engagement 2 x 5 x 90 min group therapy (assume 2 staff and 13 participants per group) 2 x 10 x 90 min group psycho education (assume 1 staff and 13 participants per group) 2 x 2 x 60 min 1:1 counselling 2 x 2 x 60 min care planning 2 x 15 x 120 min psychosocial activity (work and recreation) (assume 1 staff and 8 participants) 2 x 1 x 40 min routine review 2 x 17 x 90 min peer support activity (assume 1 staff and 15 participants) 2 x 2 x 20 min medical consultation	<u>Weeks 7 and 8 of program</u> 2 x 1 x 90 min family engagement 2 x 5 x 90 min group therapy (assume 2 staff and 13 participants per group) 2 x 10 x 90 min group psycho education (assume 2 staff and 13 participants per group) 2 x 2 x 60 min 1:1 counselling 2 x 2 x 75 min care/treatment planning 2 x 15 x 120 min psychosocial activity (work and recreation) (assume 2 staff and 8 participants) 2 x 1 x 40 min routine review 2 x 17 x 90 min peer support activity (assume 2 staff and 15 participants) specific cultural engagement activity (cultural processes and Aboriginal ways of working are immersed within Aboriginal services and their programs) 2 x 1 x 60 min transport (clinical, legal) appointments (70% of clients) 1 x 2 x 60 min transport for Family/community days and cultural days (30% of clients) 2 x 2 x 20 min medical/legal consultation (off site) 1 x 60 min housing preparation for end of program; transport

	Overnight staffing per place (assume 2 staff and 20 residents)
Vocational Education, Training and Employment (VETE) 2 x 90 min x 8 weeks writing CV, mock interviews, attending TAFE (trade), pre-employment training 5 x 4 hours per week x 8 weeks active on the job learning	Vocational Education, Training and Employment (VETE) 2 x 90 min x 8 weeks writing CV, mock interviews, attending TAFE (trade), pre-employment training 5 x 4 hours per week x 8 weeks active on the job learning
Weeks 9, 10, 11, 12 and 13 of treatment 5 x 1 x 60 min family engagement 5 x 10 x 90 min group therapy (assume 2 staff and 13 participants per group) 5 x 10 x 90 min group psycho education (assume 1 staff and 13 participants per group) 5 x 2 x 60 min 1:1 counselling 5 x 1 x 60 min care planning 5 x 15 x 120 min psychosocial activity (work and recreation) (assume 1 staff and 8 participants) 5 x 1 x 40 min routine review 5 x 17 x 90 min peer support activity (assume 1 staff and 15 participants) 5 x 1 x 40 min medical consultation	Weeks 9, 10, 11, 12 and 13 of treatment 5 x 1 x 90 min family engagement 5 x 10 x 90 min group therapy (assume 2 staff and 13 participants per group) 5 x 10 x 90 min group psycho education (assume 2 staff and 13 participants per group) 5 x 2 x 60 min 1:1 counselling 5 x 1 x 60 min care planning 5 x 15 x 120 min psychosocial activity (work and recreation) (assume 2 staff and 8 participants) 5 x 1 x 40 min routine review 5 x 17 x 90 min peer support activity (assume 2 staff and 15 participants) 5 x 1 x 40 min medical consultation Overnight staffing per place (assume 2 staff and 20 residents)
Discharge and transfer of Care 2 x 60 min total discharge/ transfer of care time which includes: Exit survey, exit pack	Discharge and transfer of care 2 x 60 min total discharge/ transfer of care time which includes: Exit survey, exit pack 1 x 60 min transport (70% of clients)
Start 13 weeks after care/transition/re-entry in the community After care in the community – 13 x 30 min case management 13 x 30 relapse prevention/ budgeting skills 13 x 75 min 1:1 counselling 13 x 90 min group counselling (assume 1 staff and 10 participants per group) 13 x 60 mins pre- employment training (assume 1 staff: 1 participant) 13 weeks of Exit Program/Out client in community 13 x 90 min group counselling (assume 1 staff and 5 participants per group) 13 x 20 min case management 13 x 30 min assertive follow up 13 x 30 min 1:1 counselling	**Start 13 weeks ongoing care – in community or in transitional accommodation** 6 x 60 mins FACS family/child restorative programs 12 x 4 x 60 min specific group cultural engagement activity (2 staff and 15 participants) 6 x 2 x 60 min transport (family/community days and cultural days)(30% of clients) 13 x 30 min case management 12 x 1 x 60 min transport (clinical, legal appointments) (70% of clients) 13 x 30 relapse prevention/ budgeting skills 13 x 75 min 1:1 counselling 13 x 90 min group counselling (assume 2 staff and 10 participants per group) 13 x 60 mins pre- employment training (assume 1 staff: 1 participant) 13 weeks of Exit Program/Out client in community 13 x 90 min group counselling (assume 2 staff and 5 participants per group) 13 x 30 min 1:1 counselling 13 x 20 min case management 26 x 2 x 60 min transport (70% of clients)

	For transitional accomm clients: applies to 35% of clients: 12 x 7 nights accommodation (at bed-day rate)
<u>Tobacco intervention</u> 80% of clients 24 min per person for the brief intervention (0.8*30 min = 24 min per person) Staff time to prescribe varenicline or buproprion or NRT patches: 0.48 *5mins = 2.4 mins per person • 32% receive brief intervention of 30 mins only • 40% receive brief intervention of 30 minutes and NRT patches 3 for months • 7.71 % receive 30 mins of brief intervention and varenicline (Champix- TM) for 3 months • 0.29% receives 30 mins of brief intervention and buproprion (Zyban- TM) for 2 months.	<u>Tobacco intervention</u> 100% of clients 30 min per person for the brief intervention Staff time to prescribe varenicline or buproprion or NRT patches • 37% receive brief intervention of 30 mins only • 55% receive brief intervention of 30 minutes and NRT patches 3 for months • 7.71% receive 30 mins of brief intervention and varenicline (ChampixTM) for 3 months. • 0.29% receives 30 mins of brief intervention and buproprion (ZybanTM) for 2 months. 12 x 60 min (PHC worker) (Note: transport for the follow-up tobacco intervention not included as can be delivered in conjunction with above interventions).
NA	<u>Return to Country</u> 180 minutes (20% of clients) 2 x 60 min transport (70% of clients)
<u>Assertive Follow-up</u> 1 x 10 min phone call	<u>Assertive Follow-up</u> 12 x 60 mins face to face visit 12 x 2 x 60 mins transport (70% of clients)

Attachment 10: Prediction of DASPM transport costs

The prediction of the costs associated with transport are premised on the care packages that are used within DASPM to predict resources. So the transport costs assume that the care as described in DASPM is what should be provided. (Clearly the care packages in DASPM are not representative of the actual care provided in NT, or elsewhere in Australia). So these estimates have the following key assumptions:

- That the care specified in the DASPM care packages is the care that is provided;
- That 70% of all Aboriginal and Torres Strait Islander clients require assistance with transport (see below);
- That an average of 60 minutes transport per non-residential intervention is required (see below).

These three assumptions are drawn from the original DASPM and the Aboriginal adaptation (Gomez et al, 2014). They may not be suitable or applicable to the NT.

Calculation of projected transport costs

An adaptation of the DASPM was undertaken in 2014/2015 (Gomez et al., 2014) which provides revised treatment types (care packages) and adjusted resource estimates to take into account Aboriginal and Torres Strait Islander needs and culturally safe and secure treatment. This involved calculating transport time for 7 of the 15 DASPM care packages (as detailed in the tables below). There were some assumptions adopted within that project when calculating these figures:

1. 70% of Aboriginal and Torres Strait Islander people require transport
2. Transport is required to and from appointments (2 trips per appointment)
3. With that project's EAG advice, the average time per trip needed was estimated to be 60 minutes one-way (where some trips will take 10 minutes and others 1.5 hours). This means for each appointment 120 minutes (2 x 60 minutes) of transport is required per person
4. Transport time is required for each appointment within a care package (therefore in each care package for every counselling session there are two trips, for every group session two trips, for every case management meeting two trips etc)
5. Double-counting has been avoided, so for example it is assumed that the tobacco follow-up intervention is delivered at the same site as another intervention and therefore transport is not separately included for this in all care package

Mild Intervention

Aboriginal and Torres Strait Islander People DASPM
Assessment 3 x 2 x 60 min transport (70% of clients)
Tobacco intervention 12 x 2 x 60 min transport (70% of clients)

Moderate Intervention

Aboriginal and Torres Strait Islander People DASPM
Assessment 5 x 2 x 60 min transport (70% of clients)
Relapse Prevention Pharmacotherapies 9 x 60 min transport (70% of clients)
Individual Psychosocial Intervention 7 x 2 x 60 min transport (70% of clients)
Return to country 180 min (20% of clients) 2 x 60 min transport (70% of clients)

Assertive follow-up 6 x 2 x 60 min transport (70% of clients)

Psychosocial Interventions – with relapse prevention pharmacotherapies – complex

Aboriginal and Torres Strait Islander People DASPM
Assessment – complex 2 x 2 x 60 min transport (70% of clients)
Individual – Psychosocial interventions – complex 16 x 2 x 60 min transport (70% of clients)
Group/Family – Psychosocial interventions- 8 x 2 x 60 min transport (70% of clients)
Case management and support – complex 16 x 2 x 60 min transport (70% of clients)
Return to Country 180 minutes (20% of clients) 2 x 60 min transport (70% of clients)
Ongoing /transitional care 24 x 2 x 60 min transport (70% of clients)
Assertive follow up – complex 12 x 2 x 60 min transport (70% of clients)

Withdrawal management - outpatient – with relapse prevention pharmacotherapies – complex

Aboriginal and Torres Strait Islander People DASPM
Assessment – complex 2 x 2 x 60 min transport (70% of clients)
Withdrawal Management – daily outpatient 8 x 2 x 60 mins transport (70% of clients)
Individual - Psychosocial interventions – complex – 16 x 2 x 60 min transport (70% of clients)
Group/Family – Psychosocial interventions 7 x 2 x 60 min transport (70% of clients)
Pharmacotherapies – complex – ongoing for 6 months 9 x 60 min transport (70% of clients)
Case management and support – complex 16 x 2 x 60 min transport (70% of clients)
Return to Country 180 minutes (20% of clients) 2 x 60 min transport (70% of clients)
Ongoing care 24 x 2 x 60 min transport (70% of clients)
Assertive follow up –complex 12 x 2 x 60 min transport (70% of clients)

Withdrawal management – residential – with relapse prevention pharmacotherapies – complex

Aboriginal and Torres Strait Islander People DASPM
Assessment – complex 2 x 2 x 60 min transport (70% of clients)
Withdrawal Management – residential 1 x 60 min transport (70% of clients)
Individual - Psychosocial interventions – complex 16 x 2 x 60 min transport (70% of clients)
Group/ Family - Psychosocial interventions 7 x 2 x 60 min transport (70% of clients)
Case management and support – complex 16 x 2 x 60 min transport (70% of clients)

Pharmacotherapies – complex 9 x 60 min transport (70% of clients)
Return to Country 180 minutes (20% of clients) 2 x 60 min transport (70% of clients)
Ongoing care 24 x 2 x 60 min transport (70% of clients)
Assertive follow up 12 x 2 x 60 min transport (70% of clients)

Rehabilitation – day program – 25 days – standard

Aboriginal and Torres Strait Islander People DASPM
Assessment – complex 3 x 2 x 60 min transport (70% of clients)
Withdrawal Management – outpatient 8 x 2 x 60 mins transport (70% of clients)
Group or Individual Psychosocial interventions 25 x 2 x 60 min transport (70% of clients)
Case management and support – complex 16 x 2 x 60 min transport (70% of clients)
Return to Country 180 minutes (20% of clients) 2 x 60 min transport (70% of clients)
Ongoing care 24 x 2 x 60 min transport (70% of clients)
Assertive follow up 12 x 2 x 60 mins transport (70% of clients)

Residential rehabilitation – 13 week stay, 13 weeks aftercare and 13 weeks outclient program

Aboriginal and Torres Strait Islander People DASPM
Assessment – complex 2 x 2 x 60 min transport (70% of clients)
Withdrawal Management – complex 3 x 60 min transport (70% of clients)
Admission 1 x 60 min transport (70% of clients)
Week 1 and 2 of program 2 x 2 x 60 min transport (medical/clinical/legal appointments) (70% of clients) 2 x 1 x 60 min transport (family/community days and cultural days) (applies to 30%)
Weeks 3, 4, 5, and 6 of program 4 x 1 x 60 min transport (clinical, legal) (70% of clients) 2 x 2 x 60 transport (family/community days and cultural days) (30% of clients)
Weeks 7 and 8 of program 2 x 1 x 60 min transport (clinical, legal) appointments (70% of clients) 1 x 2 x 60 min transport for Family/community days and cultural days (30% of clients) 1 x 2 x 20 min medical/legal consultation (off site)
Discharge and transfer of care 1 x 60 min transport (70% of clients)
Start 13 weeks ongoing care – in community or in transitional accommodation 26 x 2 x 60 min transport (70% of clients)
Return to Country 180 minutes (20% of clients) 2 x 60 min transport (70% of clients)

Assertive Follow-up 12 x 2 x 60 mins transport (70% of clients)

Translating Transport Time to Clinical FTE and Costing Estimates

The process of translating transport minutes to Clinical FTE staff and costing estimates is outlined in the below tables. To explain the operations within the tables, the Mild Intervention care package for Aboriginal and Torres Strait Islander People will be used as an example.

Column (A) represents the amount of people in demand of treatment as allocated to each care package. For example, as shown in Chapter 3, DASPM predicts that in the NT 1,762 people are in demand of a Mild Intervention (see Table 17).

As shown in Chapter 2 (and followed in Chapter 3), 88% of all episodes/encounters of alcohol treatment in the NT are from Aboriginal and Torres Strait Islander peoples. Therefore, 88% of people in demand of treatment are considered to be in potential need of transport. This calculation is represented in column (B).

It is assumed that 70% of Aboriginal and Torres Strait Islander people require transport to and from their appointments. This calculation is represented in column (C). As shown in this column is that in the Mild Intervention care package it is estimated that 1,085 people require transport to and from their appointments.

Each care package has different appointments. For the Mild Intervention care package there are two appointments "assessments" (screening and brief interventions) and "tobacco interventions" (prescribing, dosing, assessment). Transport is required to and from each appointment (2 x 60 minutes). As detailed in the tables above, there are 3 "assessment" appointments per year per person, which equates to 360 minutes of transport time (3 x 2 x 60 minutes). For "tobacco interventions" there are 12 appointments per year per person, which equates to 1,440 minutes of transport time (12 x 2 x 60). These numbers represent the Transport minutes per person and are represented in column (D).

To calculate total transport minutes (E), the transport minutes per person (D) is multiplied by number of people requiring transport (C). In the Mild Intervention care package, this equates to 390,519 minutes for assessment, and 1,562,077 minutes for tobacco intervention. The minutes are translated to hours in column (F) - 6,509 hours for assessment, and 26,035 hours for tobacco interventions.

The next step is to calculate how many Clinical FTE staff are required to provide transport to and from appointments. According to the DASPM Technical Manual, each AOD worker has 1,171 reportable client related hours per year (this is taking out annual leave (6 weeks), and time allocated to training and supervision (one third of time)). Therefore, the total transport hours shown in column (F) need to be divided by 1,171 – this gives a number of Clinical FTE staff required to provide transport. This calculation is shown in column (G). To provide transport for assessment appointments in the Mild Intervention care package, 6 Clinical FTE staff are required, and to provide transport for tobacco intervention appointments 22 Clinical FTE staff are required.

To calculate the costs associated with providing transport, the amount of staff (G) is multiplied by an AOD salary of $92,718.42. This calculation is shown in column (H). Shown here is that for the Mild Intervention care package, $515,348 is required in order to provide transport (in the form of Clinical FTE staff) for assessment appointments, and $2,061,391 is required to provide transport for tobacco intervention appointments.

The same process was carried out for the other 6 care packages, and a total of $15.63 million was projected (as shown in the below table).

Care Package	Appointment Type	(A) # in demand	(B) # of Indigenous (A x 0.88)	(C) # requiring transport (B x 0.7)	(D) Transport minutes per person	(E) Total transport minutes (C x D)	(F) Total transport hours (E/60)	(G) # of Clinical FTE (F/1,171)	(H) Costs $ (G x 92,718.42)
Mild	Assessment	1,762	1,551	1,085	360	390,519	6,509	6	$515,348
	Tobacco intervention	1,762	1,551	1,085	1,440	1,562,077	26,035	22	$2,061,391
Moderate			0						
	Assessment	1,900	1,672	1,170	600	702,240	11,704	10	$926,709
	Relapse prevention pharma	1,900	1,672	1,170	540	632,016	10,534	9	$834,038
	Psychosocial	1,900	1,672	1,170	720	842,688	14,045	12	$1,112,051
	Return to country	1,900	1,672	1,170	120	140,448	2,341	2	$185,342
	Return to country (20%)	1,900	1,672	334	180	60,192	1,003	1	$79,432
	Assertive follow-up	1,900	1,672	1,170	720	842,688	14,045	12	$1,112,051
Psychosocial									
	Assessment	256	226	158	240	37,916	632	1	$50,035
	Psychosocial	256	226	158	1,920	303,326	5,055	4	$400,284
	Group family	256	226	158	840	132,705	2,212	2	$175,124
	Relapse prevention	256	226	158	540	85,311	1,422	1	$112,580
	Case management	256	226	158	1,920	303,326	5,055	4	$400,284
	Return to country	256	226	158	120	18,958	316	0	$25,018
	Return to country (20%)	256	226	45	180	8,125	135	0	$10,722
	Ongoing care	256	226	158	2,880	454,989	7,583	6	$600,426
	Assertive follow-up	256	226	158	1,440	227,495	3,792	3	$300,213
Withdrawal – outpatient									
	Assessment	466	410	287	240	68,938	1,149	1	$90,974
	Withdrawal management	466	410	287	960	275,751	4,596	4	$363,894
	Psychosocial	466	410	287	1,920	551,502	9,192	8	$727,789
	Group/family	466	410	287	840	241,282	4,021	3	$318,408
	Pharmacotherapy	466	410	287	540	155,110	2,585	2	$204,691
	Case management	466	410	287	1,920	551,502	9,192	8	$727,789
	Return to country	466	410	287	120	34,469	574	0	$45,487
	Return to country (20%)	466	410	82	180	14,772	246	0	$19,494
	Ongoing care	466	410	287	2,880	827,254	13,788	12	$1,091,683
	Assertive follow-up	466	410	287	1,440	413,627	6,894	6	$545,841
Withdrawal – residential									
	Assessment	242	213	149	240	35,848	597	1	$47,306
	Withdrawal management	242	213	149	120	17,924	299	0	$23,653

	Psychosocial	242	213	149	1,920	286,781	4,780	4	$378,450
	Group/family	242	213	149	840	125,467	2,091	2	$165,572
	Case management	242	213	149	1,920	286,781	4,780	4	$378,450
	Pharmacotherapy	242	213	149	540	80,657	1,344	1	$106,439
	Return to country	242	213	149	120	17,924	299	0	$23,653
	Return to country (20%)	242	213	43	180	7,682	128	0	$10,137
	Assertive follow-up	242	213	149	1,440	215,086	3,585	3	$283,838
Rehab – Day Program – 25 days									
	Assessment	47	41	29	240	6,894	115	0	$9,097
	Withdrawal	47	41	29	960	27,575	460	0	$36,389
	Psychosocial	47	41	29	3,000	86,172	1,436	1	$113,717
	Case management	47	41	29	1,920	55,150	919	1	$72,779
	Return to country (20%)	47	41	8	180	1,477	25	0	$1,949
	Return to country	47	41	29	120	3,447	57	0	$4,549
	Ongoing care	47	41	29	2,880	82,725	1,379	1	$109,168
	Assertive follow-up	47	41	29	1,440	41,363	689	1	$54,584
Rehab – 13 week stay									
	Assessment	140	123	86	240	20,681	345	0	$27,292
	Withdrawal	140	123	86	120	10,341	172	0	$13,646
	Admission	140	123	86	60	5,170	86	0	$6,823
	Week 1 and 2 (medical)	140	123	86	240	20,681	345	0	$27,292
	Week 1 and 2 (family)	140	123	37	120	4,432	74	0	$5,848
	Weeks 3-6 (medical)	140	123	86	240	20,681	345	0	$27,292
	Weeks 3-6 (family)	140	123	37	240	8,863	148	0	$11,697
	Weeks 7-8 (clinical)	140	123	86	120	10,341	172	0	$13,646
	Weeks 7-8 (family)	140	123	37	120	4,432	74	0	$5,848
	Weeks 9-13	140	123	86	60	5,170	86	0	$6,823
	Ongoing care	140	123	86	720	62,044	1,034	1	$81,876
	Ongoing care	140	123	86	3,120	268,857	4,481	4	$354,797
	Return to country (20%)	140	123	37	180	6,648	111	0	$8,772
	Return to country	140	123	86	120	10,341	172	0	$13,646
	Assertive follow up	140	123	86	1,440	124,088	2,068	2	$163,752
TOTAL							**197,349**	**169**	**$15,625,879**

Attachment 11: Interview schedule

Demand Study Alcohol Treatment Services in the Northern Territory

Interview Schedule -Participant Copy:

Please note - these questions are indicative of some of the questions participants may be asked during the interview process

Initial discussion:

Why we are here, what we want to achieve, the purpose of the study, outline the study process and timeframes.

Demographic information

What type of organisation do you work for (government, non-government, ACCHO, specialist ACCHO)? Do you consider you work in an urban, regional or remote context?

Do you identify as Aboriginal or Torres Strait Islander person?

Local context and funding

- What is your understanding of A/OD treatment services in the NT?)
- Are existing alcohol treatment services and programs meeting client needs in the NT?
- What A/ODS treatment services and programs are you funded to deliver?
- Who funds your AOD treatment services/programs? Is this an adequate quantum of funds?
- Do you deliver additional A/OD treatment services and programs that are not specified in your funding agreements?

Nature of AOD treatment services

- Are your alcohol treatment services combined with a focus on other drugs or are they alcohol specific?
- How do you work with other alcohol treatment services across the NT?

Initial engagement and referral pathways

- How do clients initially engage with your organisation?
- Does your organisation refer to other alcohol treatment services, if so, which ones?

Client Journey

- Typically, how long is a client engaged with your service or program?
- How is client engagement/disengagement managed?
- At what point does your organisation consider an AOD treatment episode is complete?
- What aftercare is provided to your clients and their families?

Workforce

- What are the expected skill-sets and knowledge required of the alcohol treatment services sector in the NT?
- Can you explain the challenges and opportunities the alcohol treatment services workforce in the NT face?
- Are there any professional development, training, education or workforce strengths and deficits that are evident in the NT?

Culturally Responsive Services

- Evidence suggests that a culturally responsive approach is important in the planning and delivery of successful alcohol treatment services. What does an ideal culturally responsive AOD treatment service look like for you? How does your service measure up to this ideal?
- Approximately 25-30% of the NT population are Aboriginal and Torres Strait Islander people. How does your organisation ensure a culturally responsive service for these clients?
- At an individual level, what strategies do you use to contribute to a culturally responsive service?
- In what ways are cultural resilience and trauma informed approaches considered in client care?
- How does your organisation ensure your clients' cultural identity is acknowledged and sustained?

Leadership and Governance

- Who is responsible for making decisions about the alcohol treatment services in your organisation? What does this look like?
- How much autonomy do you have to tailor service delivery to individual client needs?
- How is lived experience embedded into service planning and delivery?

Reporting & Measurement

- What Key Performance Indicators (KPIs) are you currently expected to deliver and report against?
- To what extent do these drive your service delivery model?

Change/Innovation

- What would the ideal alcohol treatment service look like?
- What could be done to improve alcohol treatment services in your location?
- If you had the opportunity, what are the top two changes you would make to the alcohol treatment services system in the NT?
- What does your organisation do to monitor and evaluate its effectiveness? How is this used to support continuous quality improvement processes?

Funding/Commissioning (Decision-Makers only)

- What commissioning models does your organisation currently use? In your view, how effective are these?
- What improvements would you make to the commissioning of alcohol treatment services in the NT?
- What might a contemporary alcohol treatment services model look like in the NT?