

**Working both-ways: the role of culture and relapse
prevention medicines in care for unhealthy alcohol
use in Aboriginal and Torres Strait Islander
Community Controlled Health Services**

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DEDICATION

I dedicate this thesis firstly to the Aboriginal Community Controlled Health Services who participated in a larger trial, data from which informed two of the three empirical chapters in this thesis.

The second dedication is to my parents:

Mum, your everyday kindness to those grappling from addiction or marginalised from society, lingers in my childhood memories. Your actions are a reminder to not *look away*. As you have often said, “everyone, was once someone’s precious baby”. We are placed on a path to serve others, just as we too will need a hand from time-to-time. So, thank you mum, for setting such an admirable example.

Dad, your story is Australia’s story. Being stolen from your parents, separated from siblings, and raised in an orphanage, was a terrible injustice. Colonisation is incredibly recent in Australia, and your story tells the truth about ongoing institutional racism. You passed away just over 10 years ago now, but we remember your resilience. We also remember your mantra: the Creator, love, joy, and peace in nature. You’d drive us crazy with these words; but it was core to healing. That search for healing (not just treatment) is what this thesis is all about. Western approaches alone do not address the spirit...maybe working both-ways will help.

Finally, I dedicate this thesis to anyone in need of healing from unhealthy alcohol use. I truly hope this research in some small way, may contribute to alcohol care that is more inclusive and effective for First Nations peoples, and other minority groups.

DECLARATION OF ORIGINALITY

This is to certify that to the best of my knowledge, the content of this thesis is my own work, except as acknowledged in the author contribution statement. I hereby declare that I have not submitted this material, either in full or in part, for a degree at this or any other institution.

Gemma Purcell-Khodr

27 February 2024

STATEMENT OF AUTHORSHIP

This thesis contains three published papers. For all of these, I was involved in all aspects, from conceptualisation to writing of the manuscripts for publication in refereed journals. I am lead and corresponding author on all three publications.

Chapter 2 of this thesis is published as:

Purcell-Khodr G, Lee KSK, Conigrave JH, Webster E, Conigrave KM. What can primary care services do to help First Nations people with unhealthy alcohol use? A systematic review: Australia, New Zealand, USA and Canada. *Addiction Science & Clinical Practice*. 2020;15(1):1-21. <https://doi.org/10.1186/s13722-020-00204-8>

My contributions to this paper were as follows: designed search strategy, literature search, title and abstract screen, full-text screen, data extraction and interpretation, drafted paper, synthesised co-author's comments.

My co-authors' contributions to this paper were as follows:

KL: co-conceived idea for review, contributed to independent title and abstract screen, full-text screen, data extraction, reviewed drafts of paper. JC: contributed to full-text screen, data extraction, reviewed drafts of paper. EW: reviewed drafts of paper and advised on theoretical underpinnings for the discussion. KC: co-conceived idea for review, adjudicated on areas of discrepancy between two independent full-text screens and in data extraction, reviewed drafts of paper, responsible for overall integrity of the study. All authors read and approved the final manuscript.

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My contributions to this paper were as follows: conceived idea for study, conceived idea to apply 8-Ways pedagogy as novel qualitative analysis methods, conducted analysis and designed diagrams, drafted paper, synthesized co-author feedback.

My co-authors' contributions to this paper were as follows: E Webster: conducted analysis independently, gave feedback on articulation of methods, reviewed drafts of the diagrams and paper. K Harrison: conducted interviews. A Dawson: gave feedback on articulation of methods, reviewed drafts of the paper and diagrams. KSK Lee: reviewed drafts of the paper and diagrams. K Conigrave: reviewed drafts of the paper and diagrams, responsible for overall integrity of the study. All authors read and approved the final manuscript.

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My contributions to this paper were as follows: conceptualisation, formal analysis, original draft preparation, writing, review & editing.

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Gemma Purcell-Khodr

As co-primary supervisors for the candidature upon which this thesis is based, we can confirm that the authorship attribution statements above are correct.

Professor Katherine Conigrave

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27 February 2024

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ABSTRACT

Background

Globally, unhealthy alcohol use disrupts the wellbeing of communities and is a leading cause of premature death and disability. Primary care services help individuals with the full spectrum of unhealthy alcohol use. Incorporating First Nations approaches alongside standard evidence-based (Western) approaches, may improve intervention acceptability and effectiveness.

Aims

To identify peer-reviewed studies of outpatient alcohol treatments for First Nations peoples of Australia, New Zealand, USA, and Canada; explore the role of culture in alcohol care delivered in 11 Aboriginal Community Controlled Health Services (ACCHSs); and assess prescription rates of alcohol relapse prevention medicines in 22 ACCHSs over 12-months and identify associated factors.

Methods

A systematic review summarises scope and nature of literature including culture underpinning interventions (Western; First Nations culture; bicultural). A qualitative analysis of interview data with First Nations ACCHS staff investigates the role of culture in alcohol care using a novel analytic method. Routinely collected data on prescription rates of relapse prevention medicines were analysed, and (using logistic regression) associated client or service factors.

Results and discussion

Cultural and bicultural interventions were described for First Nations peoples in New Zealand, USA and Canada, but not Australia. US-based studies included trials of relapse prevention medicines. The qualitative study highlighted a comprehensive bicultural model of alcohol care. Prescription rates were low across the 22 ACCHSs. Prescription was more likely for clients screened with AUDIT-C, who were male, middle age, and attended an urban service.

Conclusion

Internationally, First Nations culture and healing traditions have played a role in primary care treatment for unhealthy alcohol use alongside Western approaches. This research describes use of a bicultural approach in Australian ACCHSs.

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¹ Centre of Research Excellence in Indigenous Health and Alcohol

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PREFACE

During the first few months of my candidature I attended a community consultation for a research project, Clinical Yarning. During the meeting, Uncle Frank Doolan (Wiradjuri Elder) passed me a piece of paper with a handwritten poem. While I didn't know it then, it would cut right to the crux of my thesis.

Aboriginal health

In a first world country grown fat on mineral wealth,
 A question asked of me is, "what is Aboriginal health?"
 Is it living on the margins, a life of constant hunger?
 Prisons instead of hospitals, dying twenty, or more years younger
 What is this thing you classify with fancy government speak
 While statistics expose and tell that everything's not sweet
 And why do my people, Australian from the start
 What do we have to do, before you'll hear our heart?
 When we're dying in police cells, expiring in the streets
 How can you self-congratulate 'cause everything's not sweet
 Acting more holistically you'll do a better job
 With Aboriginal health, the patient is the mob
 And if I say it loud enough, the white man just might hear it;
 To fix up Aboriginal health, you must first address the spirit

-Uncle Frank 'Riverbank' Doolan, Wiradjuri and Gamilaroi Elder.

Included in this thesis with his permission.

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DISSEMINATION OF STUDY FINDINGS

The following publications and presentations have arisen from the research presented in this thesis.

Peer-reviewed publications

1. **Purcell-Khodr G**, Lee KSK, Conigrave JH, Webster E, Conigrave KM. What can primary care services do to help First Nations people with unhealthy alcohol use? A systematic review: Australia, New Zealand, USA and Canada. *Addiction Science & Clinical Practice*. 2020;15(1):1-21.
<https://doi.org/10.1186/s13722-020-00204-8>
2. **Purcell-Khodr G**, Webster E, Harrison K, Dawson A, Lee KSK, Conigrave KM. The importance of culture in alcohol care: Listening to First Nations staff in Australian Aboriginal Community Controlled Health Services. *The International Indigenous Policy Journal*. 2020;13(3).
<https://ojs.lib.uwo.ca/index.php/iipj/article/view/14030/12140>
3. **Purcell-Khodr G**, Conigrave JH, Lee KSK, Vnuk J, Conigrave KM. Low rates of prescribing alcohol relapse prevention medicines in Australian Aboriginal Community Controlled Health Services. *Drug Alcohol Rev*. 2023.
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Report to participating services and interview participants

Purcell-Khodr G, Webster E, Lee KSK, Conigrave K. (2021). *Culture in Alcohol Care: Listening to First Nations staff in Australian Aboriginal Community Controlled Health Services – research participant feedback report*. Centre of Research Excellence in Indigenous Health and Alcohol, University of Sydney, Australia.

Community feedback report

Purcell-Khodr G, Webster E, Harrison K, Dawson A, Lee KSK, Conigrave K. (2022). *An Australian Bicultural Model of Care framework: community feedback report*. Centre of Research Excellence in Indigenous Health and Alcohol, University of Sydney, Australia.

Presentations

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November 2018	National Indigenous Drug and Alcohol Conference 2018 (symposium in a plenary session). Creating Pathways for Indigenous Australians to Lead the Way in Alcohol Research. "From medicines to cultural healing: helping people change their drinking". Adelaide, South Australia
September 2019	Centre of Research Excellence: Indigenous Health and Alcohol 2019 Public Symposium. "Systematic review: findings and implications". Sydney, New South Wales
September 2020	Centre of Research Excellence: Indigenous Health and Alcohol 2020 Public Symposium. "The importance of culture in alcohol care: perspectives of First Nations staff in Aboriginal Community Controlled Health Services". Sydney, New South Wales
October 2021	Centre of Research Excellence: Indigenous Health and Alcohol 2021 Public Symposium. "Alcohol relapse prevention medicines in Aboriginal Community Controlled Health Services". Sydney, New South Wales
February 2023	Centre of Research Excellence: Indigenous Health and Alcohol 2023 Public Symposium. "Bicultural approaches to alcohol care in primary settings". Sydney, New South Wales

ABBREVIATIONS

ACCHS	Aboriginal and Torres Strait Islander Community Controlled Health Service
AI/AN	American Indian/Alaska Native
ANTAC	Anangu Ngangkari Tjutaku Aboriginal Corporation
AoD	Alcohol and other drug worker
ASI-NA	Addiction Severity Index adapted for use with Native Americans
AUDIT	Alcohol Use Disorders Identification Test
AUDIT-C	Alcohol Use Disorders Identification Test - Consumption
AXIS	Critical appraisal tool for cross-sectional studies
BI	Brief intervention
CI	Confidence interval
CIW-Ar	Clinical Institute Withdrawal Assessment-alcohol (revised version)
DSM	Diagnostic and Statistical Manual of the American Psychiatric Association
ICD	World Health Organization's International Classification of Diseases
IRIS	Indigenous Risk Impact Screen
MICRA	Motivational interviewing and community reinforcement approach
NACCHO	National Aboriginal Community Controlled Health Organisation
NHMRC	National Health and Medical Research Council (Australia)
NSW	New South Wales
NT	Northern Territory
OR	Odds ratio
PBS	Pharmaceutical Benefits Scheme
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analyses
QLD	Queensland
RCT	Randomised controlled trial
SA	South Australia
SBIRT	Screening, Brief Intervention and Referral to Treatment
USA; US	United States of America
WHO	World Health Organization

GLOSSARY

Term	Definition
Aboriginal Community Controlled Health Services	Aboriginal and Torres Strait Islander Community Controlled Health Services (ACCHSs). A network of health care services across Australia that deliver culturally appropriate care, informed by the local Aboriginal and Torres Strait Islander communities they serve. Primary care is a central focus
Bicultural	A practice or idea that combines the cultural attitudes, protocols or epistemological views of two nations, peoples, ethnic groups or communities (e.g. of the scientific community and of First Nations Elders)
Both-ways	Synonymous with 'bicultural' and 'two-ways'. A term referring to the practice of following protocols established in at least two (distinct) systems of knowledge (e.g. conducting standard medical approaches whilst following local First Nations healing practices or protocols)
Cultural Interface	There is no uniform definition of the term coined by Professor Martin Nakata and is more complex than its application in the current research (1, 2). In this thesis, the cultural interface is metaphorical space where two distinct knowledge systems, scientific (Western) and Traditional (Indigenous), intersect on common ground, equally valued. This space allows for generation of new knowledge that is valid in both systems. In Chapter 3, the term is adapted to describe the interface between worldviews of health professionals and clients (regardless of their cultures), when there is a trusting relationship
First Nations peoples	Traditional custodians and inhabitants of lands prior to colonisation. Note: this term refers to a specific group of peoples in Canada for legal purposes and excludes Aboriginal, Inuit and Métis peoples of Canada. However internationally, this is a respectful umbrella term to refer to the Indigenous peoples of any country that has been colonised
Ganma	Term coined by Yolngu peoples in Northern Territory of Australia. Describes an interface between two knowledge systems, where knowledge is (re)created (3, 4)
Indigenous	Traditional owners and custodians of lands prior to colonisation (see also First Nations, terms may be used interchangeably)
Mainstream	Defined in this thesis as: any health intervention, treatment programme, model or approach that is

	administered and/or delivered by an organisation, service or agency that is designed for the dominant cultural group (non-Indigenous) and not specifically designed for First Nations clients
Malparra Way	A term coined (early 1990s) to describe a cross-cultural framework specific to the Ngaanyatjarra Pitjantjatjara Yankunytjatjara Women's Council (central Australia). 'Malpa' means 'friend or colleague' in Pitjantjatjara, and 'malparara' means 'alongside a friend or colleague'. Malparara describes a way of working where two staff members, one Anangu and one non-Aboriginal, partner up to deliver services." (5)
Pluralism	A theoretical stance that acknowledges axiological, ontological and epistemological assumptions in two or more knowledge systems, allowing for coexistence and new knowledge creation at the 'interface'
Relapse prevention medicines	Pharmacotherapies that aid in the prevention of relapse to alcohol dependence
Unhealthy alcohol use	Alcohol use which exceeds national recommended limits. This encompasses hazardous alcohol use though to dependence in the ICD nomenclature. Accordingly, mild to moderate alcohol use disorder in DSM-V is a subset of unhealthy alcohol use
Traditional Knowledges	Knowledge, innovation, skills and practices that are developed and passed on (typically orally) from generation to generation within a community, often forming part of its cultural or spiritual identity. Knowledge tends to be collectively owned and is the source for the Traditional Medicine (6, 7)
Traditional Knowledge holders	Elders or carefully selected individuals among First Nations communities who are gifted the rights to hear sacred cultural knowledge
Traditional Medicine	This has been described as "The sum total of the knowledge, skill, and practices based on the theories, beliefs, and experiences Indigenous to different cultures, whether explicable or not, used in the maintenance of health as well as in the prevention, diagnosis, improvement or treatment of physical and mental illness" (8). Term broadly refers to practices, practitioners and products from the relevant Indigenous (First Nations) knowledge system
Two-Eyed seeing	A term coined by Mi'kmaw (Canada) Elder Albert Marshall in 2004 (9). Describes the Aboriginal tradition of seeing from multiple perspectives and "learning to see from one eye with the strengths of Indigenous knowledges and ways of knowing, and from the other eye with the

strengths of Western knowledges and ways of knowing, and to using both these eyes together, for the benefit of all” (9)

Two-ways

Synonymous with ‘both-ways’ and ‘bicultural’

**Waka-Taurua
(double-canoe)**

Term developed in 2017-18 in New Zealand marine management sector. Refers to a framework with two canoes lashed together to achieve a common purpose: “Each canoe represents the worldview and values of the people who are coming together to achieve a common purpose/whaingā. It recognises that each group is inherently different, and the knowledge, values and actions of each, are not made to fit into the other” (10)

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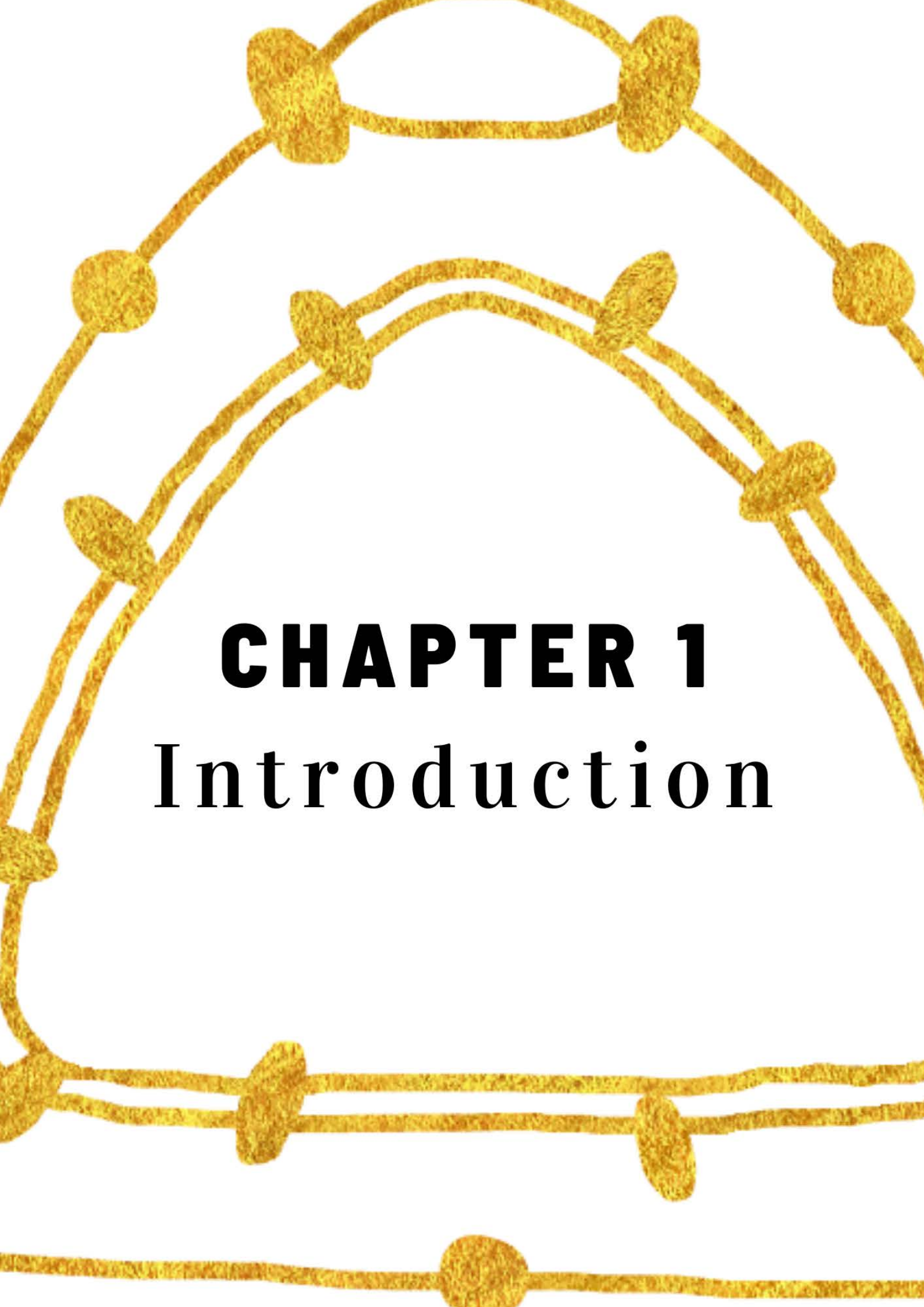
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CHAPTER 1

Introduction

1.1 Overview

This thesis explores the concept of using evidence-based (Western) approaches to alcohol care, alongside First Nations Traditional Knowledges, culture, and healing traditions. In this thesis, the term 'First Nations' is used in reference to the traditional custodians and inhabitants of lands prior to colonisation (commonly termed 'Indigenous' peoples). This research is focused on approaches to alcohol care that are available in, or suitable to, primary care. Primary care is defined as entry-level healthcare, delivered in outpatient or ambulatory settings (11). A key primary care setting in Australia is Aboriginal and Torres Strait Islander Community Controlled Health Services (ACCHSs). This thesis contains three published reports: a systematic review that explores the full scope of treatment approaches available to First Nation peoples; then in ACCHS settings, a qualitative study on First Nations culture in alcohol care and a quantitative study that analyses prescription rates of alcohol relapse prevention medicines.

1.2 Alcohol use among general populations

1.2.1 Globally

More than half of the world's population currently drink or have consumed alcohol sometime in their life (12). Globally in 2016, the effects of alcohol use resulted in 3 million deaths (over 5% of total deaths) and were the third leading cause of premature death and disability (12).

Alcohol is a psychoactive, depressant drug with toxic and dependence-inducing properties (12). Alcohol can damage almost all organs in the body and is associated

with more than 60 diseases and health conditions (13). For example, alcohol is a causal factor in breast, bowel, liver, and mouth cancer, as well as several types of throat cancers (12). Cardiovascular disease accounts for a significant proportion of deaths attributed to alcohol use (19% in 2016), including heart rhythm disorders, myocardial infarction, and strokes (12). Alcohol is also a causal factor in a multitude of acute harms, such as motor vehicle accidents, falls, drownings and burns (12, 14). Unhealthy alcohol use can lead to unplanned pregnancy (15), and women who consume alcohol while pregnant have an increased risk of miscarriage and bearing children with foetal alcohol spectrum disorder (16, 17). There are also a range of negative consequences from alcohol use for partners, families, and the wider community (18, 19). For example, alcohol consumption increases the risk of domestic and interpersonal violence (20). Children of individuals who experience an alcohol use disorder, are more likely to experience substance use issues, harms to self and others (21), and poorer educational outcomes (compared to peers not exposed to alcohol use disorders in the home) (22).

The embedding of frequent and heavy alcohol consumption in social traditions, has led to its broad acceptability and the major public health challenge we now face (23). As a response, the World Health Organization (WHO) have repeatedly called for efforts to reduce the harms from drinking, including accessible treatment, early intervention, and harm minimisation (24).

1.2.2 In Australia

Australia sits with a minority of nations in the world where over 50% of the population are current drinkers (as observed in three WHO regions: Europe, The Americas and

Western Pacific) (12). In 2019, more than three-quarters (77%) of Australians aged 14+ had consumed alcohol in the previous 12-months (25). At that time, there were 1,950 alcohol-related injury deaths and 30,000 hospitalisations (2019-20). For both deaths and hospitalisations, the leading causes were intentional self-harm and alcohol poisoning, followed by either transport accidents or falls, respectively (26). Males comprised nearly 80% of all deaths, which is consistent with increased risks among males internationally (12).

1.3 Alcohol use among First Nations peoples

1.3.1 Globally

First Nations peoples are rich in culture and diversity and hold strong to family values (kinship). Prior to colonisation, cultural practices and Traditional Knowledge systems were used by First Nations communities to maintain wellbeing for thousands of years. For countries now known as Canada, United States of America (USA), Australia and New Zealand, the colonisation process took place relatively recently in the timeline of these societies, between the 15th and 19th centuries. The resulting cultural hegemony in these countries (27), where ideas and values of the ruling class dominated, disrupted every aspect of First Nations peoples' lives. Social, religious and educational institutions were used as a means to establish and maintain power of the ruling Anglo-Saxon population by influencing the ideas, values and norms of society at large (27). This included efforts to dismantle First Nations cultural traditions and preventing transmission of knowledge to younger generations (28-31). Despite these trials, First Nations individuals continue to have strong connections to their Traditional Knowledge, Elders, kin, lands, waters and animals (32). At the same

time, First Nations communities are facing a battle against the harms of substance use. Psychoactive substances, such as alcohol, have been used as a mechanism to cope (33) with intergenerational trauma and institutional racism which persists post-colonisation (34-36).

Current data on First Nations individuals' alcohol consumption need to be interpreted with caution. This is due to variability within and between Nations (37, 38), surveys not stratifying analyses for First Nations groups separately to non-Indigenous individuals, and surveys where recruitment is not always representative and questions may not be culturally appropriate (39). Despite these limitations, data suggest a tendency towards either abstinence or episodic heavy drinking. This drinking pattern has been recorded in the US (40-42), Canada (43) and New Zealand (44). Despite a higher prevalence of current non-drinkers, First Nations peoples disproportionately experience harms from alcohol. For example, in all three of these similarly colonised countries, the rate of alcohol-attributable deaths are more than double the rates of their non-Indigenous peers (34 vs 14 deaths per 100,000 people in New Zealand (45); and 73.8 vs 27.5 deaths in USA [combined total across Alaska and several Nations] (46). This disproportionate experience of alcohol-related harms for First Nations peoples is underpinned by the historical and ongoing impacts of colonisation, and trickle-down effect this has had on the overall socio-cultural and economic environment in which drinking occurs (23, 47, 48).

Populations with intergenerational trauma and low-socioeconomic status face an increased risk of unhealthy alcohol use (49, 50). Advocates for improving the health outcomes and wellbeing for First Nations communities, recognise the detrimental effects of alcohol and other harmful substances (e.g. tobacco) as a key priority as

they are legal, affordable and easily accessible (51).

1.3.2 Aboriginal and Torres Strait Islander Australians

Australia is home to the world's oldest living continuous culture. Aboriginal and Torres Strait Islander peoples have occupied and maintained this land for at least 65,000 years (52-54). Prior to colonisation, the community was observed to be healthy and thriving (55). It was long thought that First Nations Australians had no history of brewing or consumption of alcoholic beverages, and therefore social traditions and internal controls of 'responsible' consumption had not been developed. However, there is evidence that alcohol was brewed by several Nations on the mainland, as well as in Tasmania and the Torres Strait Islands (56, 57). Accounts suggest alcoholic substances were predominantly low-strength brews, and consumption was not associated with significant social or behavioral problems (57).

Australia's First Nations peoples, have a similar colonial experience to many of their global counterparts. Also, there are marked similarities in health status (47, 58, 59), in alcohol consumption patterns (60-62) and in disproportionate rates of related harm (63). Despite the widespread historical racist stereotyping of First Nations Australians as having a tendency towards alcohol dependence (64), they are more likely to be abstinent from alcohol than non-indigenous Australians (38). However, in 2019-20 the rate of alcohol-attributable hospitalisations was 9.5 times higher for First Nation Australians (26). Rates of alcohol-related disease for that same period, were 22 per 100,000 for First Nations individuals compared to 7.7 for non-Indigenous Australians (crude rate) (26).

Due to disproportionately high rates of alcohol-related harms among First Nations Australians unhealthy alcohol use is a key concern for community leaders (65).

1.4 Terms used to classify alcohol use

Two systems are widely used to classify disorders related to alcohol use: the International Classification of Diseases, 11th Revision (ICD-11) (66) and the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-V) (67). These systems are directed by the World Health Organization and the American Psychiatric Association, respectively. While there is broad agreement between ICD-11 and DSM-V approaches, the key difference is that ICD-11 is applied in a dichotomous way (yes/no to the three main categories of consumption), whereas DSM-V disorders are seen as being on a spectrum (mild, moderate, severe) (68).

ICD-11 describes three key categories of alcohol use: hazardous, harmful, and dependent. Hazardous drinking is defined as a pattern of consumption which places an individual or others at an increased risk of physical or mental harm and that justifies advice from a health professional. Harmful use occurs when a pattern of consumption has caused harm to an individual's physical or mental health or has caused harm to others. Alcohol dependence manifests from prolonged, excessive exposure to alcohol. Features include an inability to regulate use, prioritising alcohol consumption over other activities, and continued use despite negative consequences. Physiological symptoms or signs may also be present, such as an urge to drink (cravings), increasing tolerance, and withdrawal symptoms (66). The umbrella term 'unhealthy alcohol use', is sometimes used for hazardous through to dependent use (69).

In DSM-V, an individual is classified as having an alcohol use disorder after meeting at least two criteria (out of a possible eleven) in a 12-month period. The severity of alcohol use disorder is determined by the number of criteria present. Accordingly, mild equates to the presence of 2-3 symptoms; moderate, 4-5 symptoms; and severe, six or more symptoms (67). A moderate to severe alcohol use disorder is considered equivalent to ICD-11 dependence (70).

Figure 1 illustrates the spectrum of alcohol use covered by the umbrella term 'unhealthy alcohol use', depicting both ICD-11 and DSM-V classifications. This thesis often uses ICD-11 terminology, because it is designed to capture the full spectrum of unhealthy alcohol use, including hazardous use. This is a good match to what is seen in primary care. In this thesis, the term 'alcohol use disorder' is also used to describe presence of an ICD-11 diagnosis of harmful or dependent alcohol use (68).

Figure 1. The spectrum of unhealthy alcohol use across ICD-11 and DSM-V classification systems

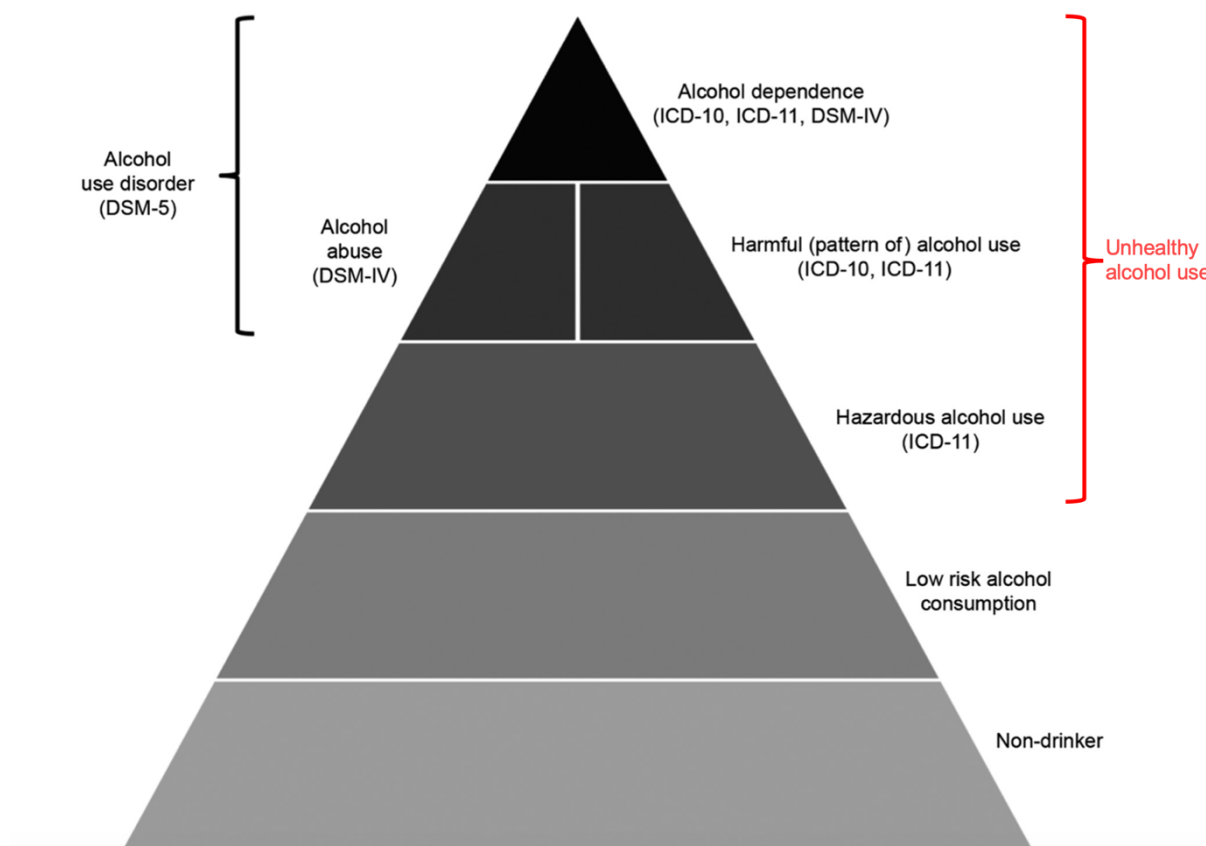


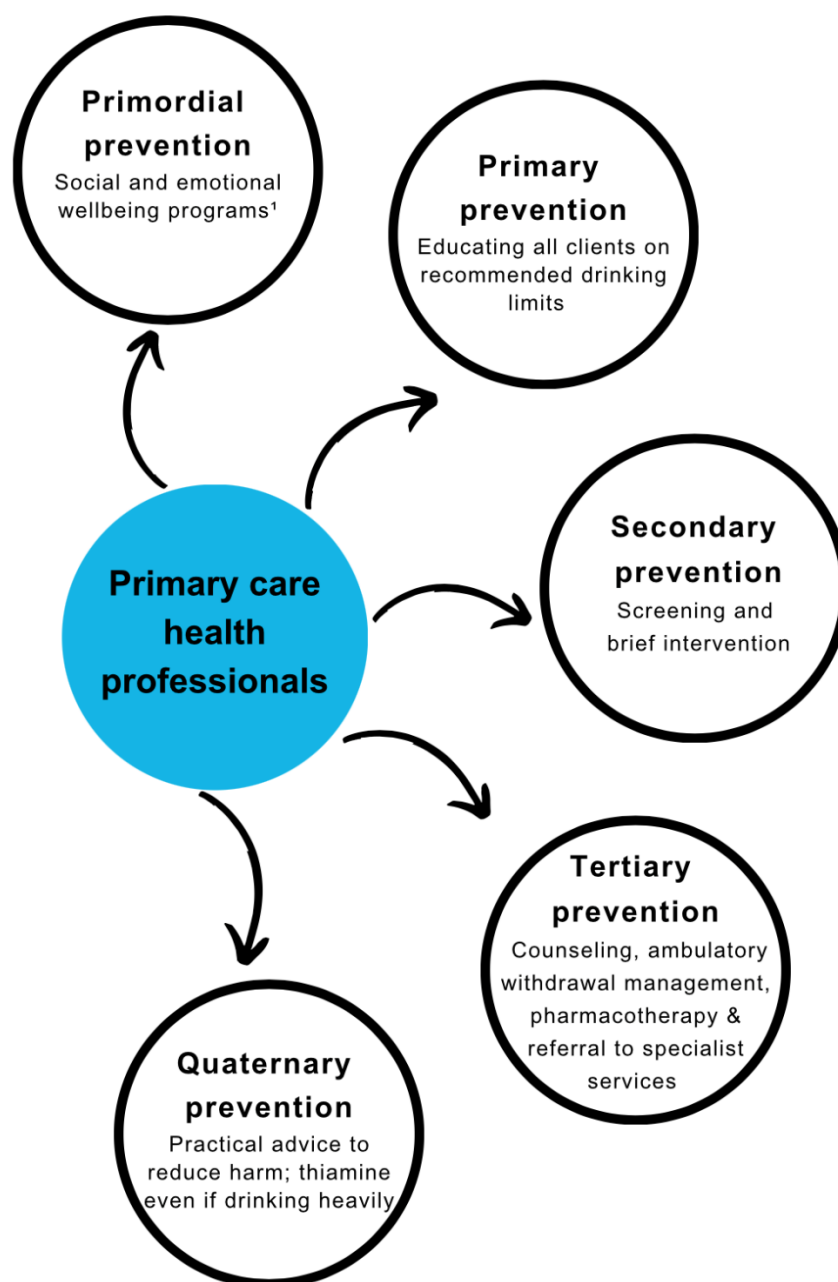
Figure adapted from Saunders (2016) (71) to specify range of drinking categories that are encompassed by the term “unhealthy alcohol use”. DSM-IV= Diagnostic and Statistical Manual of Mental Disorders (DSM), 4th edition; DSM-V= DSM, 5th edition; ICD-10= International Classification of Diseases (ICD), 10th revision; ICD-11= ICD, 11th revision.

1.5 Responses to unhealthy alcohol use

Overview

Within a public health framework there are a range of strategies to prevent or reduce harms from unhealthy alcohol use. These approaches are categorised as: primordial, primary, secondary, tertiary, or quaternary. This thesis follows the definitions cited here from Bond et.al (72). In practice strategies may overlap or be combined, and many can be delivered in primary care settings (see Figure 2).

Figure 2. Examples of primary care strategies to prevent or reduce harms from alcohol use



¹Primordial prevention is not always provided by mainstream primary care services however, social and emotional wellbeing programs are delivered by ACCHSs across Australia (73). A key feature of such programs is connectedness and meaningful relationships to land, sea, culture, spirituality, family and community.

Primordial

Primordial prevention addresses social determinants of health to decrease risks of disease and enhance protective factors, for an entire population (74). For example, good school and social connectedness in early secondary years, has been shown to decrease substance use (including alcohol) in later life (75). For First Nations Australians, ACCHS programs aim to enhance cultural and relational connectedness through wellbeing programs (76). These programs often include cultural activities (e.g. ceremonial celebrations, arts, and engagement with Elders) and sporting competitions (77, 78).

Primary

Primary prevention aims to reduce population risks for acute and chronic harms of alcohol. An example is education on drinking guidelines in primary care settings (74). Government led approaches include taxation, minimum unit price, and advertising restrictions (79). For First Nation Australian communities, some legislative restrictions have been driven by community representatives to establish 'dry zones' where consumption, and buying or selling of alcohol, is illegal (65).

Secondary

Secondary prevention focuses on early detection of hazardous or harmful drinking in individuals who may appear healthy. Unhealthy alcohol use can be detected with screening tools (see 1.7.2). Brief interventions are often conducted when feeding back screening results to clients and this cost-effective measure has been shown to reduce alcohol-related harms (80). Screening tools and brief intervention guidelines

have been tailored for First Nation Australians (and briefly discussed in section 1.7.2) (81).

Tertiary

Tertiary approaches focus on treatment or care for established disorders, such as alcohol dependence. Clients experiencing alcohol dependence can be treated in primary care or be referred to specialist services if needed. Referral partners may include community-based peer support groups, inpatient withdrawal units and residential rehabilitation services. Some ACCHSs in rural and remote regions offer camping trips for individuals with severe alcohol problems (82). These restrict access to alcohol or other harmful substances, as well as remove individuals from negative influences of peers. A key part of this approach is reconnecting to country (traditional homelands, and the natural environment), family and culture.

Quaternary

Harm reduction is sometimes referred to as a quaternary approach (83). Harm reduction can involve advising clients on strategies to cut down risks of heavy drinking (e.g. asking a friend to be a designated driver on drinking days and taking thiamine even if drinking continues). This advice can be delivered by general practitioners, however quaternary strategies are also used in community settings. For example, in First Nation Australian communities, some ACCHSs facilitate late night basketball games (program type and duration varies from service to service) to keep adolescents safe from the effects of substance use of others, which is more

likely on holidays and weekends (84).

1.6 Settings

Overview

The range of responses to unhealthy alcohol use can occur in a range of settings including in the community, hospitals, and specialised services. Primary care health professionals also regularly interact with these contexts (e.g. through referral, co-managing care and aftercare).

Community

Almost the entire range of public health strategies to prevent or reduce harms from alcohol, can be implemented in community settings. Primary prevention approaches such as supply control, pricing, and taxation on alcohol are experienced by entire communities. An example of a secondary prevention strategy in a community setting, includes using screening and brief intervention tools (e.g. 'Alcohol Awareness project') (85). Meanwhile, mutual-support groups such as Alcoholics Anonymous and SMART recovery are tertiary level approaches based in community settings (86). Night patrols and transportation services (e.g. from clubs to an individual's home) are quaternary level strategies (87).

Hospitals

Hospitals often focus on tertiary level approaches, i.e. treatment for acute and chronic harms from alcohol (including alcohol dependence). However, hospital staff may also use other types of intervention (e.g. screening and brief intervention).

Specialised services

There are specialised services for individuals experiencing harmful and dependent alcohol use. Care may be limited to one specific mode e.g. inpatient withdrawal management or out-patient only, or a combination such as a residential facility with out-patient programs. Residential services provide clients with therapeutic programs designed to support alcohol treatment and relapse prevention. The philosophy underpinning care can vary from service to service, and popular approaches include cognitive behavioural therapy, 12-step models and First Nations traditional healing approaches (88).

First Nations culture and healing traditions associated with residential settings

In residential rehabilitation settings with significant First Nations client populations, culture and healing traditions are a core part of treatment (65). Some of the best known healing practices include the 'sweat lodge' in North America (89) and the use of cultural customs, traditional language and interpersonal protocols (e.g. greetings, discussion of kinship connections) in New Zealand (90) and Australia (91).

Traditional dance, ceremony, food, arts and crafts are also often provided in residential rehabilitation services in New Zealand (90, 92) and Australia (65, 93).

1.7 Care provided for unhealthy alcohol use in primary care settings

1.7.1 Overview

As mentioned above, primary care settings offer a broad spectrum of care for unhealthy alcohol use. In this section, the focus will be on secondary and tertiary approaches, that is, screening, brief intervention, and treatment for established alcohol use disorders. Several health staff may be involved in offering alcohol care (e.g. general practitioners, nurses and alcohol and drug workers).

1.7.2 Early detection, screening and brief intervention

Screening is important as many individuals may not realise their alcohol use is a health risk (and they may appear healthy) or they may not seek treatment for fear of judgement. Screening helps clinicians establish whether a client is at risk of or experiencing harms, and guides clinicians on the appropriate response. Screening for unhealthy alcohol use can be conducted in primary care with tools such as the Alcohol Use Disorders Identification Test (AUDIT; 10-items) (94), AUDIT-consumption (AUDIT-C; shorter 3-item version) (95) and the Indigenous Risk Impact Screen (IRIS) (96). IRIS was developed with and for Aboriginal and Torres Strait Islander peoples, to assess alcohol, drug and mental health issues (96). Meanwhile AUDIT-C has become a national key performance indicator and is recommended for routine use in ACCHSs (97).

Brief interventions are aimed at reducing alcohol consumption in hazardous and harmful drinkers who are not seeking help for alcohol-related problems. Brief interventions are also provided to hazardous or harmful drinkers who are seeking

help. Brief interventions include structured feedback on scores, harms of consumption and advice on potential benefits of reducing intake (80). Elements of motivational interviewing are often used, and other interventions can be made available as needed. In ACCHSs, staff often have strong kinship connections to their client population, this can be both an advantage (i.e. established trust) and a disadvantage (i.e. privacy concerns) in conducting brief interventions (98).

1.7.3 Psychosocial approaches

Overview

In the treatment of alcohol use disorders, psychosocial interventions refer to non-pharmacological approaches (99). These interventions work on the dynamic between an individual's thoughts or behaviours (psychological) and their social context (e.g. family, friends, culture) (100). These approaches include motivational interviewing and cognitive behavioural therapy (99).

A range of cultural approaches used in ACCHSs sit within the psychosocial category (101) (see section 1.9).

Mutual support groups

Some larger primary care services, including some ACCHSs, host mutual support groups such as 12-step models (e.g. Alcoholics Anonymous) (102) and the cognitive behavioural therapy-based SMART Recovery groups (Self-Management and Recovery Training) (103). Some group approaches have been adapted for First Nations peoples (86). These mutual support group models have commonalities with

the well-known “yarning circles” in Australian First Nations communities (86).

1.7.4 Withdrawal management

For clients with alcohol dependence, assistance in withdrawal is often needed prior to commencing treatment with a relapse prevention medicine. Withdrawal management can be facilitated by primary care health professionals (ambulatory withdrawal) or in inpatient hospital or non-governmental residential withdrawal management ('detox') units (99, 104). The medically assisted withdrawal process typically includes the administration of a tapering dose of a benzodiazepine over 3-7 days (99). Use of benzodiazepines reduces the severity of withdrawal symptoms, including reducing risk of a seizure or delirium.

1.7.5 Pharmacotherapies

1.7.5.1 Overview

Where dependence is detected, pharmacotherapies such as naltrexone, acamprosate and disulfiram are available to help prevent relapse after withdrawal has been completed. In Australia, naltrexone and acamprosate are subsidised by the federal government under the Pharmaceutical Benefits Scheme (PBS) (105). To access alcohol relapse prevention medicines under this scheme, the prescription must be part of a comprehensive treatment plan, such as with psychosocial supports. Abstinence as a goal is required. First Nations Australians registered under the Close the Gap scheme may access these medicines with a small co-payment (approximately \$6.60) or for free, for some health care card holders (106).

Naltrexone, acamprosate and disulfiram work via different mechanisms (99). Broadly speaking, relapse prevention medicines have been designed to either disrupt the pleasurable effects of alcohol consumption and/or to reduce cravings. Disulfiram involves a serious adverse reaction to drinking. For naltrexone, acamprosate and disulfiram, a minimum treatment course of three months is often recommended for optimal efficacy (99). Below is an overview of key information for naltrexone, acamprosate and disulfiram.

1.7.5.2 Naltrexone

Mechanism of action

Naltrexone is a mu-opioid receptor antagonist (blocker). By competitively binding to these receptors in the brain, naltrexone reduces the number of receptors available to endorphins, that would otherwise lead to a chain reaction producing dopamine. In blocking this reward pathway, naltrexone reduces the pleasurable effects of consuming alcohol. Naltrexone also appears to reduce alcohol cravings (107), however the exact mechanism behind this is not yet fully understood.

Efficacy

Naltrexone has been the subject of several meta-analyses of randomised controlled trials (107, 108). These indicate that naltrexone reduces levels of alcohol consumption and can help prevent relapse to heavy drinking (108). The number needed to treat is 12 (99). In simple terms, to prevent one client relapsing to heavy

drinking, 12 clients need to be treated with naltrexone.

Prescription protocol, dosing schedule, cost, and contraindications

In Australia, naltrexone requires 'authority' from a government hotline prior to prescription (99). Dosing is typically commenced approximately 3-7 days after alcohol is ceased. The dosing schedule is one 50mg tablet per day. Naltrexone is contraindicated for clients who: currently use opioids including as pain medicines; have acute hepatitis or severe liver failure; or are pregnant or breastfeeding. Liver enzymes should be periodically monitored during treatment.

1.7.5.3 *Acamprosate*

Mechanism of action

The exact mechanism of action for acamprosate is not known. However, it is thought that acamprosate, is a glutamatergic antagonist and a GABA agonist, working to interrupt the alcohol-induced neurotransmission imbalance (glutamatergic) of inhibition-excitation in alcohol dependence (109). Acamprosate is not metabolised in the body and is excreted renally unchanged.

Efficacy

Meta-analyses of randomised controlled trials indicate that acamprosate is effective in maintaining abstinence and reducing the risk of relapse to any drinking (108, 110,

111). The number needed to treat is also 12 over placebo (99).

Prescription protocol, dosing schedule, cost and contraindications

Acamprosate can be commenced 3-7 days after withdrawal. This is recommended so that side-effects and withdrawal symptoms can be differentiated. The dosage can vary based on renal health and an individual's weight. For individuals with functioning kidneys, above 60kg, the dose would be 1998mg achieved with two tablets, three times a day (99). The average cost per month is \$6.60 AUD on the PBS (112). Acamprosate is contraindicated where individuals have a hypersensitivity to the drug, have insufficient renal function, severe hepatic failure, during pregnancy, or lactation.

1.7.5.4 Disulfiram

Mechanism of action

The mechanism of action for disulfiram is very different to naltrexone and acamprosate. Disulfiram inhibits an action of an enzyme, aldehyde dehydrogenase, in the second phase of alcohol metabolism. Inhibiting this enzyme stops acetaldehyde being converted to acetate. With a build-up of acetaldehyde after drinking alcohol, comes a host of unpleasant symptoms. The reaction would typically involve hot flushes, heart palpitations, dizziness, nausea, vomiting, breathlessness, and headaches. Severity of symptoms vary greatly from person to person, however, in some cases, individuals may need to attend a hospital. Additionally, once an effective blood (plasma) level of disulfiram is established, the effects can last for

several days after the last dose (113). This duration of effects can help individuals avoid drinking in high-risk situations (e.g. at social events or whilst craving alcohol).

Efficacy

Due to the risk of serious alcohol-disulfiram reactions, studies on efficacy are mostly open-label (i.e. where participants and researchers are not blinded). These open-label studies have found disulfiram to be effective in maintaining abstinence relative to controls when there is high compliance or supervised dosing (114).

Prescription protocol, dosing schedule, cost and contraindications

A risk-benefit analysis is conducted by general practitioners prior to prescription (99) and considers contraindications, risks of serious adverse reactions, and harms of continued unhealthy alcohol use. Prescription is only appropriate where the client is motivated to maintain abstinence from alcohol. As supervised dosing is a key element of successful trials of this medicine, the national Australian alcohol treatment guidelines (99) recommend a spouse, family member or friend to fulfill this role. Disulfiram is a once daily dose and costs approximately \$80-90 AUD per month. It is not available on the PBS or 'close the gap' subsidy.

Broadly, disulfiram is contraindicated in clients with various serious health concerns including cardiovascular, hepatic or pulmonary disease. Use during pregnancy or lactation is not indicated. Monitoring liver and heart function during the first 2-3 months of treatment is recommended (99).

1.7.6 Referral to specialised services

Clients may not be suitable for, or may not desire, treatment in a primary care setting. In this scenario, general practitioners can refer clients to specialist service (as discussed earlier in section 1.4.2.3). General practitioners and other primary care health professionals play a role in aftercare, and in shared care arrangements (e.g. with specialised outpatient services).

1.8 Barriers to treatment in primary care

Although there is a wide range of care available in primary care settings, there are several barriers to treatment, and these may be a combination of client, staff, service, or system-wide factors. Client level barriers include a lack of self-awareness of drinking problems, fear of stigma associated with treatment, or lack of knowledge that help is available (115). For First Nations clients, fears of stereotyping may be compounded by Australia's history of institutional racism (116), and mandatory reporting laws (e.g. general practitioners may be required by law to report clients to the child protection services if there is a fear of danger due to alcohol misuse) (117, 118). Barriers for general-practitioners may include a perception that clients are to blame for their unhealthy alcohol use and thus do not deserve treatment (119), or that the problem is too hard to address (115). A lack of routine alcohol screening and failure to detect unhealthy use can compound barriers to treatment. Where unhealthy use is detected, general practitioners may lack confidence in addressing the alcohol use disorder (115) or believe that referral is more appropriate (120). A structural barrier is time pressure (121), particularly when clients present with acute needs. In this scenario, background complex issues such as unhealthy alcohol use, may take

a lesser priority. A lack of financial reimbursement (Medicare billing items) for intervention is also likely to be contributing to the low rates of alcohol treatment in primary care (115).

First Nations Australians have a higher reported rate of comorbidities than non-Indigenous Australians, which could contribute to prioritising other health issues above unhealthy alcohol use. Service-level barriers may include a lack of advocacy for and awareness of treatment in primary care. Also, a lack of established referral partners, and poor government reimbursement for offering treatments for unhealthy alcohol use (115).

1.9 Care for unhealthy alcohol use in Aboriginal Community Controlled Health Services

For First Nation Australians, in addition to mainstream primary care services (discussed above), there is a large network of ACCHSs. ACCHSs are primary care providers that operate within a holistic model which privileges the local First Nation culture and Traditional Knowledges of the area it serves (122, 123). These models are distinct from holistic, patient-centred models of care practiced in mainstream primary care which are based on Western traditions (124, 125). Across Australia, there are approximately 145 Aboriginal Community Controlled Organisations, operating 550+ sites, and employing a large First Nations workforce (n=3500/6000 [58%] staff identified as Aboriginal or Torres Strait Islander (123).

A key feature of the ACCHSs model is a flexible and longer clinical consultation time compared to mainstream primary care providers (30 minutes versus 15, in

mainstream services) (126). ACCHSs are also more likely to provide home visits, and client transport, to and from the clinic. As discussed previously in Section 1.4, ACCHSs are unique in providing primordial prevention strategies (wellbeing programs), addressing social determinants of health, and enhancing protective factors (127).

Some large ACCHSs operate satellite clinics, for example in remote and very remote areas, which further increases accessibility for First Nations Australians. Each ACCHS is independently governed and overseen by a committee of community representatives (122). This structure is important in ensuring the cultural appropriateness of individual services and that local health priorities are addressed by each ACCHS. ACCHSs consistently deliver better outcomes for First Nations clients than do mainstream services (128).

Literature reports suggest limited use of routine alcohol screening and brief interventions in ACCHSs, although implementation rates are comparable with mainstream services (129). On the one hand, little is known about the nuanced approach providers in the ACCHS sector take towards treatment or care for unhealthy alcohol use. On the other hand, ACCHSs are known to participate in community events such as sporting events and cultural days, with booths promoting good health and wellbeing, including alcohol misuse prevention programs (130). The representative body for this sector, NACCHO (National Aboriginal Community Controlled Health Organisation) has discussed the importance of culture in health and wellbeing, however it is not known how this value manifests in alcohol care.

Alcohol relapse prevention medicines are feasible for delivery in ACCHSs and have been identified as a priority for this sector (131). The rate of relapse prevention

medicine prescription to First Nations Australians, inside or out of ACCHSs, is currently unknown. Theoretically the full range of primary care treatment options (described in Section 1.7) should be available. It is not clear to what extent culture and healing practices grounded in Traditional Medicine traditions (such as cultural activities and the use of bush medicines or healers), play alongside standard evidence-based approaches to alcohol care (132).

1.10 Knowledge gap

Very little has been reported on the nature and scope of alcohol care for First Nations peoples attending primary care services. Evidence is largely limited to case studies (133). For health professionals in the ACCHS sector, it is unclear how the holistic health care principles (including healing traditions and culture) are applied to alcohol care. Current prescription rates of alcohol relapse prevention medicines amongst First Nations Australians are not known, as well as any client or service level characteristics that may be associated with prescription.

For general practitioners working in ACCHSs or in mainstream primary care, there is an Aboriginal and Torres Strait Islander specific, alcohol treatment guideline published in 2007. The guideline describes principles of cultural awareness, competence and safety (134). While the guideline discusses historic and contemporary contexts for unhealthy alcohol use, it does not address healing from the perspective of traditional healing practices or protocols, and if or how, these could be combined with (Western) evidenced-based approaches.

1.11 Reflexive statement

I am an Aboriginal (Gundungurra) researcher writing a thesis that includes First Nations cultural themes and treatment modalities. My personal experiences include exposure to Traditional Knowledges and approaches to healing. Equally, I value the Western, 'scientific' system of knowledges and methods, and have embraced a pluralist approach.

Taking a pluralist perspective in this thesis means that I acknowledge that multiple, valid, knowledge systems co-exist in the world. Pertinent to my thesis, I learned that both Western scientific and First Nation Traditional Knowledge systems co-exist and have unique beliefs (ontology), value systems (axiology), and ways of creating new knowledge (epistemology). By acknowledging this, I gave value to the experiential (based on observation and uncontrolled trials) therapeutic practices of First Nation peoples, which have not yet been examined in the scientific literature.

I have attempted to remain objective in my description of First Nation cultural approaches (Chapter 3), by following a system of analysis that involved cross checking and scrutinising based on well-established methodologies (e.g. grounded theory methods, see Chapter 3). Meanwhile, I have also privileged a First Nations methodology (8-Ways Aboriginal pedagogy) and demonstrated the utility of taking a pluralist approach to data analysis itself (separate to a pluralist philosophical stance).

1.12 Thesis aims

The overarching aim of this thesis is to investigate First Nations cultural and standard (Western) care approaches for unhealthy alcohol use, in Aboriginal and

Torres Strait Islander Community Controlled primary care services. The investigation will centre on two under-researched treatment modalities: Australian First Nations culture and healing practices; and alcohol relapse prevention medicines (naltrexone, acamprosate and disulfiram). The objectives of this thesis are:

1. To consolidate evidence on the range of alcohol treatments provided in (or feasible for delivery in) primary care for First Nations individuals in Australia, New Zealand, USA and Canada. The scope of care approaches will be established by examining all historical studies that meet the inclusion criteria. The quality of evidence will be assessed from a Western paradigm with a published scientific appraisal tool, and with a measure of First Nations community participation in the research process.
2. To examine how First Nation staff incorporate culture into delivery of alcohol care in 11 Aboriginal Community Controlled Health Services across Australia. A qualitative analysis explores the strengths and challenges in this approach.
3. To determine the extent of prescribing of alcohol relapse prevention medicines in 22 Aboriginal Community Controlled Health Services over a 12-month period; and to investigate factors associated with prescription of these medicines.

1.13 Thesis outline

This thesis is comprised of five chapters, three of which (Chapters 2-4) are published in peer-reviewed journals.

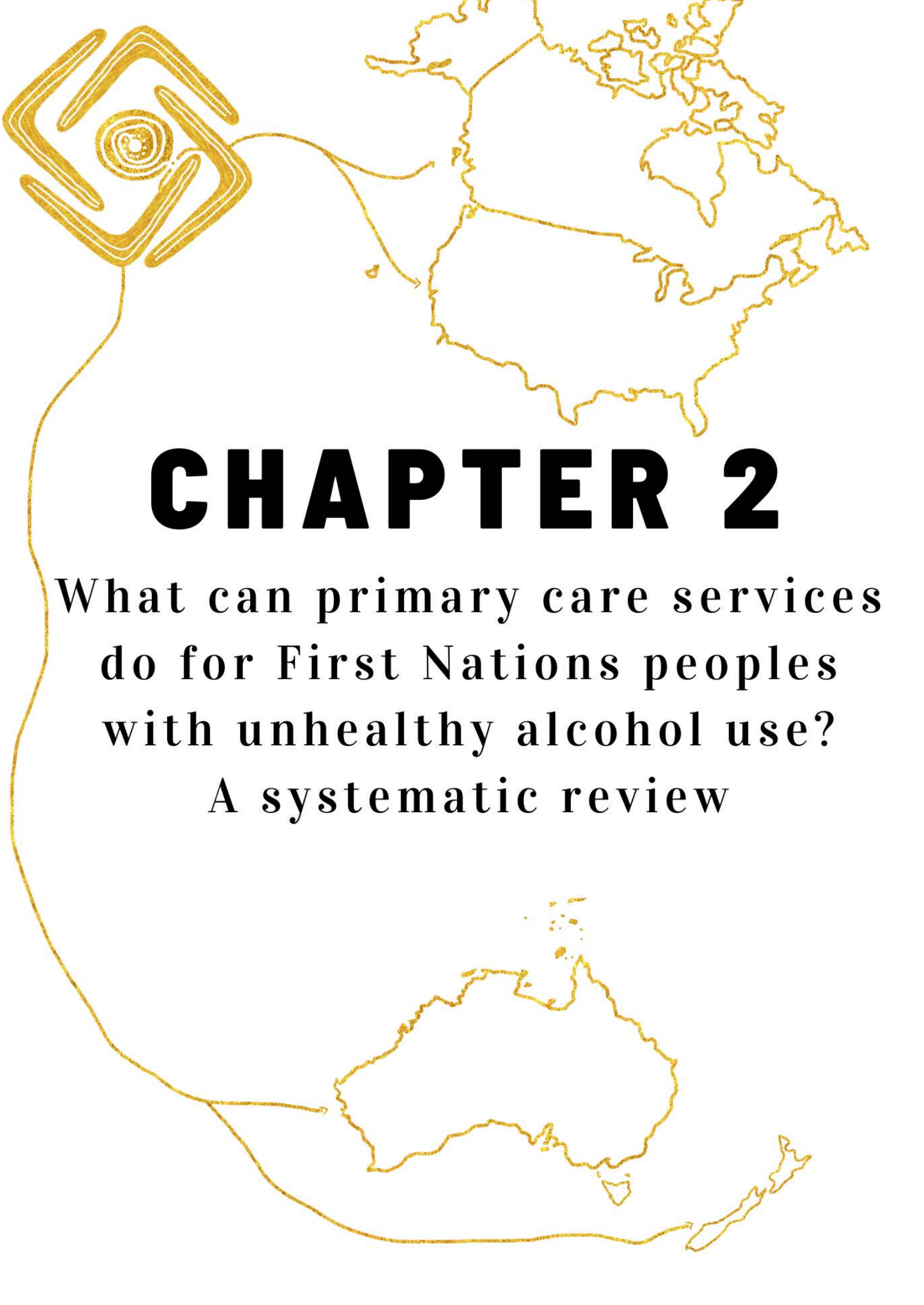
Chapter 1 presents an overview unhealthy alcohol use among general (non-Indigenous) populations and First Nations populations, in Australia and Internationally. The range of care approaches and the setting in which they can be delivered, are discussed. In Chapter 2, a systematic review examines peer-reviewed literature from Australia, New Zealand, USA and Canada. The review follows PRISMA guidelines (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) (135). Publications give a picture of the field dating back over 50 years, through to current developments. The scope and nature of treatments and care approaches are examined. The scientific quality of the literature is appraised as well as the level of reporting on community participation in the research process.

In Chapters 3 and 4, two separate but complementary approaches to care for unhealthy alcohol use are investigated in an ACCHS context: First Nations cultural approaches, and alcohol relapse prevention medicines. Both Chapters draw on baseline data collected in a large cluster randomised wait-control trial (trial registration number: ACTRN12618001892202). The trial was designed to test the effectiveness of a model of tailored support for ACCHSs to enhance alcohol screening, brief intervention, and treatment approaches.

Chapter 3 presents a qualitative analysis of interviews with First Nations staff from 11 of the 22 participating services in the trial. The interviews were conducted with staff to inform development of the multipronged model of training and support used in the trial (Harrison et al., 2019).

Then, Chapter 4 presents a cross-sectional analysis of prescription of alcohol relapse prevention medicines (naltrexone, acamprosate and disulfiram), at baseline in the 22 participating services (intervention and wait-list control services).

In Chapter 5 the nuances, major findings and implications of each study are discussed.



CHAPTER 2

**What can primary care services
do for First Nations peoples
with unhealthy alcohol use?**

A systematic review



2.1 Introduction

Chapter 1 discussed the prevalence of unhealthy alcohol use and acute and chronic harms among non-Indigenous and First Nations peoples in Australia, and internationally. The role of colonisation was discussed as a determinant of unhealthy alcohol use and intermittent heavy drinking patterns. The need for accessible care was established, and a broad range of alcohol care approaches in primary care and other settings were discussed. Overall, there was a lack of clarity on how First Nations clients receive alcohol care in the ACCHS sector, as well as in mainstream services. The notion of culture and healing techniques (Traditional Medicine) while emphasised by Australian ACCHSs and residential rehabilitation services, has not been explored in an Australian primary care context, for alcohol care specifically. This theme appeared similar in treatment services for First Nation peoples in New Zealand, USA and Canada.

To address this knowledge gap, a systematic review was conceived. Firstly, a scoping search was conducted to inform, a systematic review search strategy. The scoping search identified very few studies based in primary care settings. Therefore, the inclusion criteria were expanded to include services available in the community, in an outpatient capacity (i.e. other non-residential or ambulatory settings). This following study presents a summary of the literature on this important topic.

2.2 Published article

This chapter was published as in a peer reviewed, open access article as:

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REVIEW

Open Access



What can primary care services do to help First Nations people with unhealthy alcohol use? A systematic review: Australia, New Zealand, USA and Canada

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Abstract

Background: First Nations peoples of Australia, New Zealand, the United States of America (USA) and Canada are more likely to be non-drinkers than other people in these countries. However, those who do drink may be at greater risk of alcohol-related harms (at a population level) due to the ongoing impacts from colonisation and associated oppression. Addressing unhealthy drinking (drinking above recommended limits including alcohol use disorders) in primary care settings is one important way to increase accessibility of treatment.

Methods: This systematic review identifies peer-reviewed studies of alcohol treatments delivered in primary care or other non-residential settings for First Nations peoples of Australia, New Zealand, USA and Canada. Literature searches were conducted in seven academic databases from their inception until March, 2020. We assessed evidence of treatment or implementation effectiveness, perceived acceptability or accessibility, and the study quality as assessed by the AXIS tool and by a measure of community participation in the research process.

Results: Twenty-eight studies were included, published between 1968 and 2018. Studies reported on a range of alcohol treatments, from brief intervention to ambulatory withdrawal management, relapse prevention medicines, and cultural therapies. Brief intervention was the most studied approach. Cultural healing practices and bicultural approaches were a key theme amongst several studies. Four studies measured treatment effectiveness, including one randomised controlled trial (naltrexone vs naltrexone plus sertraline vs placebo) and two uncontrolled trials of disulfiram. Of the six implementation studies, three were (hybrid) effectiveness-implementation designs. Most of the remaining studies ($n = 21$) focused on treatment accessibility or acceptability. Community participation in the research process was poorly reported in most studies.

Conclusions: Research evidence on how best to care for First Nations peoples with unhealthy alcohol use is limited. Trials of naltrexone and disulfiram presented promising results. Cultural and bicultural care were perceived as highly important to clinical staff and clients in several studies. More effectiveness studies on the full scope of alcohol treatments are needed. Greater community participation in research and more transparent reporting of this in study methods will be key to producing quality research that combines scientific rigour with cultural appropriateness.

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Keywords: Indigenous, First Nations, Alcohol, Primary health care, Outpatient, Relapse prevention medicines, Naltrexone, Disulfiram, Culture, Cultural healing

Background

Globally, unhealthy alcohol use is a leading cause of mortality and disability [1]. Unhealthy use includes the full spectrum of drinking above recommended limits, from hazardous alcohol use to severe alcohol use disorders. Harms from alcohol are exacerbated by colonial legacies which see First Nations peoples bearing a disproportionate burden of disease [1]. In this review, the term ‘First Nations’ will be used to respectfully refer to the distinct and diverse Indigenous tribal groups of all included countries, including Inuit and Métis peoples of Canada.

Alcohol consumption patterns in First Nations people of Australia, New Zealand, the United States of America (USA) and Canada have some similarities. Amongst these populations, data suggests a polarising trend to either abstinence or episodic heavy drinking [2–4]. For example, in Australia, Aboriginal and Torres Strait Islander peoples are more likely to abstain from drinking than their non-Indigenous counterparts [2]. However, as a population they are estimated to be 20–30% more likely to drink above recommended levels, and experience at least twice as many alcohol-related hospitalisations [5, 6]. These patterns do not represent individual vulnerability. There is large variability within and between communities [7, 8]. Complex sociocultural factors resulting from colonisation have exposed First Nations peoples to additional risks of harms from alcohol [9]. Factors include cultural hegemony (where the colonising culture dominates), racism, transgenerational trauma, unemployment, poor housing and disconnection from ancestral homelands, family and culture [9–11].

Primary care services can play an important role in helping people to change their alcohol consumption [12, 13]. In this systematic review, primary care is defined as the first point of contact with the health care system where generalist, holistic care is delivered, minimising the need for specialist care where safe to do so [14, 15]. There are a wide range of treatments available for unhealthy alcohol use in primary health settings [16, 17]. Brief interventions (BI) can be provided to individuals with hazardous or harmful drinking (non-dependent, or mild alcohol use disorders [AUDs]) [16]. For those with alcohol dependence (moderate-severe AUDs), motivational interviewing and other psychosocial therapies are available, though research on their effectiveness in primary care settings is limited

[18, 19]. Where alcohol withdrawal management is necessary, home detoxification (ambulatory management) can be provided for carefully selected individuals [20, 21]. Pharmacotherapies such as naltrexone and acamprosate have been found to prevent relapse in combination with ongoing psychosocial supports and counselling amongst the general population in primary care settings [22]. These treatments offer promise for First Nations peoples, although minimal research has been done in this area [23, 24]. Those with severe alcohol dependence, or significant physical or mental health disorders or major social challenges, often require referral to a specialist service, and sometimes inpatient or residential care [16, 25].

For First Nations Peoples, the ability to receive treatment in primary health settings may be important due to several factors. For example, access to treatment ‘on Country’ (traditional homelands) or within one’s community is linked with spiritual, emotional and physical well-being [26–28]. Furthermore, kinship obligations (cultural caring) to children, partners and large extended families are a deterrent for individuals to travel for treatment, which for alcohol dependence may be for extended periods due to the relapsing nature of the condition. There are also financial barriers, including cost of transport, which may make residential facilities hard to access [29–31]. First Nations peoples may also fear discrimination in mainstream residential services [29, 32]. In addition, there is less stigma attached to attending primary care than to a specialised drug and alcohol unit [29]. From a health policy perspective, delivering alcohol care locally where it is appropriate, is also an economical and pragmatic solution to the chronic shortage of places in hospitals and residential rehabilitation services [33, 34].

Research on alcohol care in primary services for First Nations peoples has followed a similar trajectory as research on interventions for the general population. Historically abstinence-oriented approaches for treatment of alcohol dependence dominated [35]. From the 1980s a broader treatment philosophy arose, including earlier intervention and harm-reduction for those who cannot or do not want to change their drinking [35–37]. A greater understanding of the social determinants of health and the importance of ‘cultural competency’ or ‘cultural safety’ for First Nations peoples also has been embraced [38–40]. These two terms refer to ethical and effective conduct in cross-cultural settings, where the clinician’s own cultural values and

worldview are acknowledged and implications of these (for interactions) are considered [41].

A recurring challenge in health research for First Nations peoples has been the epistemology underpinning research methods. In many cases the scientific approach has been at odds with Indigenous ‘ways of knowing’ [42, 43]. There is growing recognition of the need for culturally-informed studies, and for research methodology that has a decolonising frame [44, 45]. Involving First Nations communities in the co-design and co-production of research that impacts them is encouraged to meet ethical obligations and produce quality research [46].

There is a need to consolidate knowledge on the range of alcohol treatments available for First Nations clients in a primary care setting. In this paper we present a systematic review of the current evidence on treatments for unhealthy alcohol use in such settings. The aims were to: (1) quantify the number of peer-reviewed publications; (2) document the treatment approaches which have been studied (western or cultural) and assess evidence of their effectiveness; and (3) comment on the quality of the studies; both in terms of appraisal of study quality using a published scientific appraisal tool, and from assessing extent of community participation in the research process.

Methods

A systematic search of peer-reviewed literature was conducted to determine what treatments are readily accessible in primary care to help First Nations individuals with unhealthy drinking.

The following electronic databases were searched on March 11, 2020: CINAHL, Psychinfo, Scopus, Informit, Medline, Web of Science and PubMed. Three other databases were also searched: Google Scholar, Australian Indigenous HealthInfoNet (including the Alcohol and Other Drugs Knowledge Centre) and the Lowitja Institute. Search terms are listed in Table 1, and included terms for population, country, substance, treatment and setting. Syntax and subject headings were adapted for each database as necessary. In one instance a set of search filters was applied to optimise search results in the PubMed database. These search filters are available at the Lowitja Institute [47] and were developed to link all variants of the term ‘Aboriginal’ with major topics in Indigenous (Australian) health. Additional records were identified by handsearching reference lists and consulting researchers from the field.

Inclusion criteria

Studies were included if: (1) they presented data on programs or interventions for reducing alcohol consumption or the harms caused by unhealthy alcohol use in First Nations individuals from Australia, New Zealand, United States of America, or Canada; (2) the program

Table 1 Search strategy

Population			Country	Substance	Treatment		Setting	
Indigenous	Aleut*	Cheyenne*	Austral*	Alcohol*	Naltrexone	Intervention*	Outpatient	Aboriginal medical
Aboriginal	Inupiat*	Blackfoot	Canad*		Acamprosate	Program*	Primary care	service
"First Nation**"	Yuit	Seminole*	North		Disulfiram	Sweat lodge*	Primary health	Aboriginal health
"First people**"	Athabaskan*	Hopi Sho-	Americ*		Counsel*	Brief interven-	care	service
"Torres Strait	Tlingit*	shone*	USA		Men* group*	tion*	General prac-	"Aboriginal Com-
Island**"	Haida*	Mohican*	"United		Women* group*	CBT	tice*	munity Controlled
Maori*	Navajo*	Shawnee*	States of		Culture	DBT	GP*	Health Service"
Native*	Cherokee*	Mi'kmaq*	America"		Cultural approach*	Cognitive	Doctor*	
"Native Ameri-	Arikara*	Crow*	Americ*		Cultural healing	behavioural	Physician*	
can"	Iroquois*	Paiute	Alaska*		Traditional culture*	therap*	Family practic*	
"American	Pawnee*	Wampanoag*	New		Home detox*	Cognitive	Medical	
Indian**"	Sioux*	Ho-chunk*	Zealand*		Healing circle*	behavioral	practic*	
Indian*	Apache*	Chumash*	Hawaii*			therap*	Medical	
Inuit*	Comanche*	Haida*				Dialectic	center*	
Metis	Cree	Suquamish				behavioural	Medical	
Alaska*	Ojibwa*	"Oceanic				therap*	centre*	
	Mohawk*	ancestry				Dialectic		
	Duwamish	group"				behavioral		
						therap*		
						Relapse		
						prevention		
						medicine*		
						Motivational		
						Interview		

In applying the search strategy, "AND" was used between columns. "OR" was used within columns

or intervention was aimed at individuals with known unhealthy drinking (i.e. above recommended limits 'hazardous drinking' or an alcohol use disorder), OR aimed at improving accessibility or acceptability of alcohol care in primary health care services; (3) the program or interventions were implemented in a primary care setting or other setting that was readily available to individuals in the community on an outpatient basis and; (4) data on First Nations participants was presented separately to other ethnic groups. Studies focusing on 'Alcoholics Anonymous' or similar mutual support groups were excluded as they are the subject of a separate review [48]. Studies which focused solely on screening were excluded. No language restrictions were implemented. Due to the dearth of research on this topic, no start date for the search was specified. Databases were searched from inception to 11 March 2020.

Record screening

The search strategy was developed (GK, KC, KL) and then refined by two academic librarians. The search was conducted by one author (GK) and titles and abstracts of all retrieved articles were screened and reviewed independently by two authors (GK and KL). Discrepancies were discussed and resolved by consensus. Papers meeting inclusion criteria were subject to a full-text screen conducted independently by three authors (GK, KL, JC). Disagreements were debated and where unable to be resolved, an additional author adjudicated (KC). Reference lists of included articles from the full-text screen and articles recommended by colleagues were reviewed (GK) against the inclusion criteria. These additional papers were independently full-text screened (by GK and either KL or JC). No disagreements were found. A summary of the articles retrieved is presented in Fig. 1.

Data extraction

Data extraction was completed by GK. Two authors (KL and JC) independently extracted data from half of the articles each. Care was taken to not allocate these authors any article on which they were a co-author. Data extracted included country and Indigenous population, participant characteristics, data collection methods, nature of the conditions treated, system used to categorise participants' alcohol use, treatment strategy type (western [i.e. mainstream or non-Indigenous] or cultural), study focus (e.g. treatment effectiveness, implementation), length of follow-up, intervention details and outcomes. Studies that focused on implementation research were categorised according to a framework developed for the WHO [49], as either implementation or effectiveness-implementation design. The latter examines both the treatment effectiveness and implementation

processes. 'Western' studies were defined as those that did not explicitly mention Indigenous cultural values or practices. 'Cultural' studies were grounded in traditional practices and philosophies of the respective First Nations participants. The three authors resolved discrepancies to form a combined version of data. Data extraction was independently checked (KC).

Quality assessment

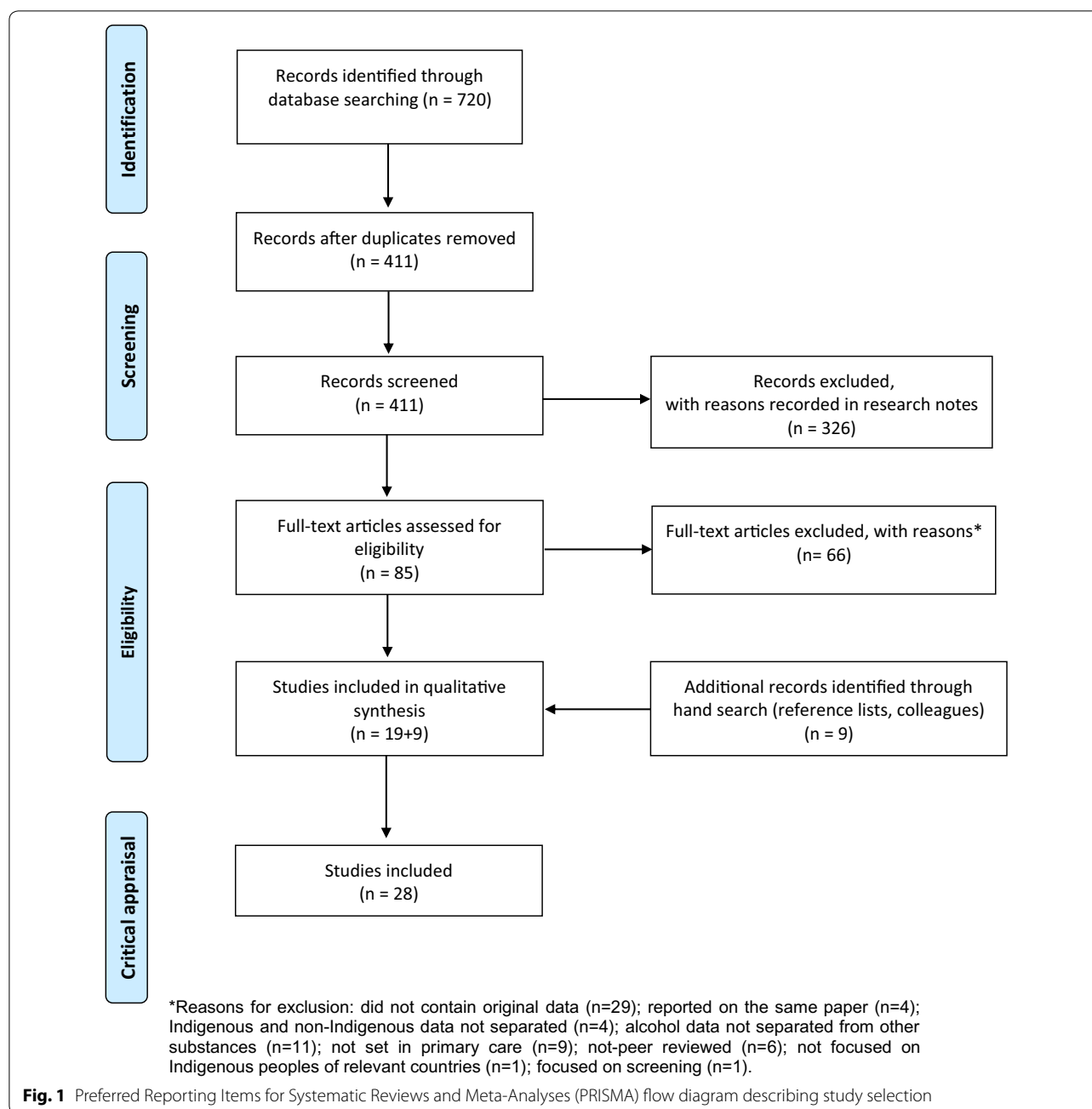
Study quality and risk of bias assessment was conducted using two tools: a version of the AXIS critical appraisal tool [50], which was later adapted by its authors to include assessment of the quality of randomised controlled trial (RCT) and cohort designs; and an adapted version of a tool to assess community participation in research [51–53]. The latter categorises First Nations community participation across seven levels, from no participation to self-mobilisation. Studies are classified on this scale based on participation at four time-points during research projects: diagnosis (identifying a community's priorities), development (appropriate strategies to address the priorities), implementation (of the strategies) and evaluation (of the effectiveness of the project; Table 2). Scoring was conducted independently by three authors (GK, KL, JC). Discrepancies were discussed and resolved by consensus. Where participation data was not presented or unclear, an 'unknown' classification was allocated.

Results

Twenty-eight records met the selection criteria (Fig. 1). The included articles were published between 1968 and 2018, with the majority after 2010 ($n=19$) [29–31, 54–69]. Most studies were conducted in Australia ($n=17$) [29, 30, 54–62, 65, 67, 68, 70–72], followed by the USA ($n=7$) [24, 31, 66, 69, 73–75], Canada ($n=2$) [63, 64] and New Zealand ($n=2$) [76, 77] (Table 3).

Study characteristics

Studies examined treatments for a range of severity of unhealthy alcohol use, from hazardous use to alcohol dependence. Nine studies focussed on alcohol dependence or 'alcoholism' (*sic*) [24, 29, 56, 64, 69, 72–75]. Two studies focused on alcohol use disorders more broadly (severity not specified) [30, 31]. No study was found to exclude clients with dependence. Of the remaining 17 studies, a variety of terms were used to describe the nature of the alcohol problem being treated (Table 3). No diagnostic criteria or screening thresholds were provided for the majority ($n=19$, 68%) of studies (Table 4). Of the 28 studies, almost half ($n=13$; 46.5%) were quantitative [24, 55, 57, 61, 62, 69, 70, 72–77], nine were qualitative



(32%) [31, 54, 56, 58, 60, 63, 64, 66, 71], and six were mixed methods (21.5%) [29, 30, 59, 65, 67, 68].

Study interventions, primary outcomes, and analytic strategies were highly varied. We classified studies according to their research focus (Table 3). Two-thirds (n=18) of the studies focused on treatment accessibility or acceptability from the perspective of clients (n=6), staff (n=8) or both (n=4) [30, 31, 55, 57, 65, 76]; [54, 56, 58, 60, 68, 70, 71, 77]; [63, 64, 66, 74]. The remaining one-third focused on treatment effectiveness (n=4)

[24, 69, 73, 75]; effectiveness-implementation (n=3) [29, 62, 72] or implementation research (n=3) [59, 61, 67]. One effectiveness-implementation study also evaluated client access and staff access and acceptability [29], and another study evaluated implementation and client and staff acceptability [59].

The majority of studies (n=17; 60%) reported on western treatment approaches [24, 29, 30, 54–61, 68, 70–73, 75], with only 3 reporting specifically on cultural approaches (n=3) [74, 76, 77] for addressing

Table 2 Definitions of seven levels of community participation in the four phases of research project development [51–53]. Sourced from Snijder et al. [51], originally adapted from Pretty [52] and Wagemakers et al. [53]

Seven levels of community participation	Four stages of project development			
	Diagnosis	Development	Implementation	Evaluation
1. No participation	Completely top-down, community is not informed about or asked about issues in their community	Top-down, community is not informed about the development of the project	Top-down, community is not informed about the implementation of the project, only about activities they're involved in	Top-down, community receives no information about evaluation
2. Passive participation	Outsiders decide on the issues that need to be addressed, community is informed	Outsiders control development, community is informed, but has no input	Outsiders control the implementation, community is informed, but has no input	Outsiders control the evaluation, community is informed, but has no input
3. Participation by information	Outsiders have control, community participates by providing information about their community. No feedback to the community and no checking for agreements	Outsiders have control over development, community potentially provides information about what they want, but outsiders don't necessarily respond to this	Outsiders control implementation, community might provide information useful for implementation, but outsiders don't necessarily listen to this	Outsiders control evaluation, community provides information through surveys and/or interviews, focus groups. Findings are not shared or checked for accuracy
4. Participation by consultation	Outsiders define problems and consult with community about their agreement, using outsider defined processes	Outsiders consult with community about potential projects to develop, but outsiders make final decision	Community participates in activities decided upon by the outsiders	Outsiders define evaluation process, community provides information and might make suggestions for improvement and feedback provided
5. Functional participation	Outsiders have predetermined goals and community assists in defining issues within those goals, outsiders make final decisions	Community works together with outsiders to develop projects decided upon by the outsiders.	Community and outsiders work towards implementation of projects, based on outsiders' goals and processes	Community and outsiders work together in evaluation, based on goals as set by the outsiders
6. Interactive participation	Outsiders and community work together to identify the issues in the community and set goals for the project	Outsiders and community work together to develop suitable projects to address the agreed upon goals.	Community and outsiders implement the developed projects together, community has control and uses local resource	Evaluation methods are decided upon together and conducted in partnership
7. Self-mobilisation	Completely bottom-up, community identifies their own issues and sets their own goals, might contact outsiders to assist them where needed	Bottom-up, community makes decisions about project development, apply for funding and potentially contact outsiders where needed	Community implements projects, contacts outsiders for resources where needed, but remains in control over resources	Community conducts evaluations, potentially contacts outsiders for assistance, but stays in control over evaluation

Table 3 Scope of the literature meeting inclusion criteria (n = 28)

Author (year)	Country (Indigenous population)	Primary focus of study ^a	Description of alcohol problem treated	Strategy: Western/cultural/both	Intervention/therapy studied
Treatment effectiveness					
Savard [75] ^b (1968)	USA (Navaho)	Treatment effectiveness	Alcoholism	Western	Pharmacotherapy (disulfiram) ^c
Ferguson [73] (1970)	USA (Navaho)	Treatment effectiveness	Alcoholics	Western	Pharmacotherapy (disulfiram) ^c
O'Malley et al. [24] (2008)	USA (American Indian/Alaska Native)	Treatment effectiveness	Alcohol dependence	Western	Pharmacotherapy (naltrexone)
Venner et al. [69] (2016)	USA (American Indian/Alaska Native)	Treatment effectiveness	Substance use disorder and alcohol abuse/dependence	Both	MICRA (CBT)/cultural practices
Implementation research					
Kahn and Fua [72] (1992)	Australia (Aboriginal)	Effectiveness-implementation	Alcoholism	Western	Counsellor training as therapy
Clifford and Shakeshaft [59] (2011)	Australia (Aboriginal and or Torres Strait Islander)	Implementation research; staff and client acceptability	At-risk drinkers	Western	BI
Clifford et al. [61] (2013)	Australia (Aboriginal and or Torres Strait Islander)	Implementation research	At-risk of alcohol-related	Western	BI
D'Abbs et al. [62] (2013)	Australia (Aboriginal)	Effectiveness-implementation ^d	Alcohol problems	Both ^e	CBT/social-cultural support/pharmacotherapy (naltrexone)
Lovett et al. [67] (2014)	Australia (Aboriginal and Torres Strait Islander)	Implementation research	Problematic alcohol use	Both	Culturally appropriate introduction to BI and case management
Brett et al. [29] (2017)	Australia (Aboriginal)	Effectiveness-implementation ^d ; client access; staff and client acceptability	Alcohol dependence	Western	'Home detox' (ambulatory withdrawal)
Treatment access and/or accessibility					
Hall [74] (1986)	USA (American Indian)	Client access; staff acceptability	Alcoholism	Cultural	Cultural practices
Brady et al. [70] (1998)	Australia (Aboriginal)	Staff acceptability	Alcohol problems	Western	BI
Huriwai et al. [76] (2000)	New Zealand (Māori)	Client acceptability	Alcohol problems	Cultural	Cultural practices
Robertson et al. [77] (2001)	New Zealand (Māori)	Staff acceptability	Alcohol problems	Cultural	Cultural practices
Brady et al. [71] (2002)	Australia (Aboriginal)	Staff acceptability and staff perception of client acceptability	Hazardous alcohol use	Western	BI
DeVerteuil and Wilson [63] (2010)	Canada (Aboriginal)	Client access; staff acceptability	Alcohol use problems	Both	Cultural practices
Panaretto et al. [68] (2010)	Australia (Aboriginal and Torres Strait Islander)	Staff perceptions of client access; staff acceptability	Alcohol abuse and alcohol harms	Western	BI
Allan [54] (2010)	Australia (Aboriginal and or Torres Strait Islander)	Staff access and acceptability	Problematic alcohol use	Western	BI
Gone [64] (2011)	Canada (Algonquian)	Client access; staff and client acceptability	Alcoholism	Both	Counselling/cultural practices
Allan and Campbell [55] (2011)	Australia (Aboriginal)	Client access and acceptability	Harmful substance use	Western	MI/BI/Counselling

Table 3 (continued)

Author (year)	Country (Indigenous population)	Primary focus of study ^a	Description of alcohol problem treated	Strategy: Western/cultural/both	Intervention/therapy studied
Clifford et al. [60] (2012)	Australia (Aboriginal and or Torres Strait Islander)	Staff acceptability	Risky drinking	Western	BI
Conigrave et al. [30] (2012)	Australia (Aboriginal)	Client accessibility/awareness	Alcohol problems and alcohol use disorder	Western	BI
Legha and Novins [66] (2012)	USA (American Indian/Alaska Native)	Client access; staff acceptability	Alcohol abuse	Both	Cultural practices
Calabria et al. [57] (2013)	Australia (Aboriginal)	Client acceptability	Alcohol-related harms	Western	CBT (CRA + CRAFT)
Lee et al. [65] (2013)	Australia (Aboriginal)	Client access and acceptability	Alcohol use disorder	Both	Women's group (cultural)
Brett et al. [56] (2014)	Australia (Aboriginal and Torres Strait Islander)	Staff perspective of treatment acceptability and accessibility	Alcohol dependence	Western	'Home detox' (ambulatory withdrawal)
Calabria et al. [58] (2014)	Australia (Aboriginal)	Staff acceptability	Alcohol-related harms	Western	CBT (CRA + CRAFT)
Hirchak et al. [31] (2018)	USA (American Indian/Alaska Native)	Client acceptability	Alcohol use disorders	Both	Contingency management/cultural practices

^a Studies are ordered in tables according to their focus and year of publication

^b Results for this trial of disulfiram therapy were gathered from the background section of the cited publication (published 1964). The cited source for the data was an unpublished conference presentation by the same author who was involved with conducting the trial. Sufficient detail was presented to allow the methods to be described. This was cross-checked against a thesis by the same author. Data was not published elsewhere in refereed journals. Given the scarcity of quantitative data it was decided to include this study

^c Both disulfiram trials required in-patient detoxification and commencement of therapy before participants were discharged to continue disulfiram therapy as outpatients. As part of the initial hospitalisation, after commencement of disulfiram, a "challenge dose" of alcohol was administered to measure the severity of reactions in a controlled environment. This is not standard practice today

^d Primary focus was implementation but there were outcome results from a series of patients in these studies

^e This intervention is mostly western, cultural care was planned but not delivered due to practical constraints

unhealthy alcohol use. Eight studies reported on both [31, 62–67, 69]. The balance of western compared to cultural approaches varied by country. Of the Australian publications, the majority ($n=13/17$) examined use or implementation of a western approach, most often BI [30, 54–61, 68, 70–72]. The two studies from New Zealand solely focused on the importance and acceptability of culture in alcohol care [76, 77]. Half of US-based studies ($n=4/8$) included cultural approaches [31, 66, 69, 74]. The two Canadian studies explored bicultural approaches [63, 64].

Study outcomes

Treatment effectiveness outcomes

Seven studies in total measured alcohol consumption (e.g. frequency of 'binges' and duration of abstinence) [24, 29, 62, 69, 72, 73, 75]. These were the only studies that examined effectiveness, and include both treatment effectiveness and effectiveness-implementation studies (Table 3).

Of these seven studies, one was a double-blind, randomised-controlled trial (RCT) of naltrexone alone and

in combination with sertraline, conducted with Alaska Natives [24]. Alcohol-related consequences were significantly lower (38%) in the naltrexone monotherapy group compared with placebo (72%; $p=0.026$). There was a high abstinence rate in both the naltrexone only and the placebo group over 68 weeks (percentage days abstinent of $96.6\% \pm 2.9\%$ vs $88.8\% \pm 3.0\%$ respectively). Differences between the two naltrexone conditions were not significant on any measure. However, the small sample ($n=68$), may not have given sufficient power to detect moderate effect sizes.

Two of the older studies were trials of disulfiram on Navaho country with several clan groups. In both trials, patients were administered an alcohol challenge in hospital after starting disulfiram. The first, in 1968, reported over half of the participants ($n=16/30$) maintained abstinence at 6–18 months after detoxification and commencement of disulfiram. Another seven participants ($n=7/30$) had relapsed but resumed disulfiram therapy and were again abstinent at the post-intervention assessment [75]. Study participants reported disulfiram as helpful in avoiding social pressure to drink. The second trial

Table 4 Study methods and outcomes

Author (year) ^a	Participant characteristics	Classification of alcohol consumption	Study type	Length of follow-up	Client outcomes ^b : effectiveness or perceptions	Staff/service outcomes ^b
<i>Treatment effectiveness</i>						
Savard [75] (1968)	1) n = 30 alcoholic males 2a) n = 62 alcoholic males 2b) n = 39 non-abstinent, non-alcoholic males	ndp ^c	1) Follow up study of 30 disulfiram-treated alcoholics (<i>sic</i>) 2ab) Quantitative (cross-sectional)	1) 18 months 2ab) baseline interview only	1) decreased binge drinking and increased sober periods; 2ab) disulfiram is accepted excuse to decline alcohol and social pressures reduced (consumption not measured).	
Ferguson [73] (1970)	65 clan groups; 1) Intervention group n = 115 2) Comparison group n = 60	WHO 'alcoholism'	Non-randomised controlled trial	6 months	Reduced incarceration; n = 50/115 sober 12–24 month following disulfiram therapy; sobriety not measured in controls.	
O'Malley et al. [24] (2008)	12 tribal groups; n = 68 American Indian/Alaska Native (AI/AN) participants	DSM-IV; CIWA-Ar	RCT	68 weeks	Significant decrease in alcohol-related consequences for naltrexone monotherapy vs placebo (p < 0.026)	
Venner et al. [69] (2016)	n = 8 members of one tribe	DSM-IV	Uncontrolled, pre-post study	8 months	Increase in days abstinent; decrease Addiction Severity Scores	
<i>Implementation research</i>						
Kahn and Fua [72] (1992)	n = 240 participants	ndp	Uncontrolled pre-post study	N/A ^d	n = 138/145 maintained sobriety post-graduation	
Clifford and Shakeshaft [59] (2011)	n = 32 health staff; n = 24 clients	ndp	Mixed methods, pre-post study	N/A		Increased staff confidence to deliver BI; increase documentation and delivery; high-risk drinkers resistant to alcohol referral
Clifford et al. [61] (2013)	n = 4 Indigenous health services n = total of 50 clients	2001 NHMRC guidelines	Uncontrolled, pre-post study	N/A		Increased BIs
D'Abbs et al. [62] (2013)	n = 19 clients; n = 30 quasi control; n = 32 program staff/other stakeholders	ndp	Trial with quasi-controls	N/A	n = 15/19 reported decrease or stop drinking post program contact. n = 21/30 quasi-control with similar result.	Implementation challenges incl: time constraints, staff turnover, GP hesitancy to prescribe naltrexone; strengths incl multidisciplinary care, flexibility

Table 4 (continued)

Author (year) ^a	Participant characteristics	Classification of alcohol consumption	Study type	Length of follow-up	Client outcomes ^b : effectiveness or perceptions	Staff/service outcomes ^b
Lovett et al. [67] (2014)	n = 34 health service staff	ndp	Mixed methods: quantitative (cross-sectional); literature review	N/A		Proposed 'yarning style' BI; implementation challenges noted; staff least confident in BI when client not seeking help
Brett et al. [29] (2017)	Qual: n = 7 staff (1 GP, 1 GP trainee, 2 nurses, 3 Aboriginal DandA workers), n = 4 clients; n = 8 community stakeholders (incl. 4 Elders) Quant: n = 8 clients	2009 NHMRC guidelines	Mixed methods (cross-sectional)	N/A	Qual: clients rate program as accessible, streamlined and holistic; challenges also noted. Quant: n = 5/8 abstinent at 6-week follow up; n = 8/8 still engaged with supports. No major adverse events reported during detox	Qual: desired model principles incl. cultural safety, privacy (preventing community shame), keeping family together, peer support, accessible and streamlined. Feedback given on strengths and challenges of model as implemented
<i>Treatment access and/or acceptability</i>						
Hall [74] (1986)	n = 44 services ^e	ndp	Quantitative (descriptive)	N/A		n = 22 services incl. sweat lodge or encouraged use at external sites; n = 8 provided access to community-based sweat lodge; medicine man used on and off-site
Brady et al. [70] (1998)	n = 29 services	ndp	Quantitative (cross-sectional)	N/A		Aboriginal health services more likely to offer exclusive abstinence-based/Minnesota model of care; BI offered in half of services
Huriwai et al. [76] (2000)	n = 6 services ^f ; total n = 105 clients	ndp	Quantitative (cross-sectional)	N/A	Clients rated strongly the importance of cultural elements in treatment	
Robertson et al. [77] (2001)	n = 90 alcohol and drug-user treatment services; n = 217 staff	ndp	Quantitative (cross-sectional)	N/A		Strong support for cultural interventions with Māori clients
Brady et al. [71] (2002)	n = 8 health care workers; n = 6 general practitioners; n = 25 clients	AUDIT (tns ^g) and 2Q's on consumption	Qualitative (not clearly specified)	18 months		5/6 doctors still using BI

Table 4 (continued)

Author (year) ^a	Participant characteristics	Classification of alcohol consumption	Study type	Length of follow-up	Client outcomes ^b : effectiveness or perceptions	Staff/service outcomes ^b
DeVerteuil and Wilson [63] (2010)	n = 7 services ^e ; total of n = 24 frontline staff; n = 1 staff member identified as Aboriginal	ndp	Qualitative (service case study)	N/A		n = 6 services refer for off-site cultural activities; n = 1 service has on-site cultural programs (incl. sweat lodge accessible by non-residents)
Panaretto et al. [68] (2010)	n = 4 health services; total of n = 46 staff	ndp	Mixed methods (cross-sectional)	N/A		n = 3/4 services offered BI in past 12mths; challenges noted
Allan [54] (2010)	n = 47 staff (DandA workers; primary health care workers)	ndp	Qualitative (action research)	N/A		Conflicting approaches to care between staff
Gone [64] (2011)	n = 4 current/former administrators; n = 4 counsellors; n = 11 clients ^h	ndp	Qualitative (ethnography)	N/A		Program philosophy was based on medicine wheel and spiritual elements of AA; positive client experiences documented
Allan and Campbell [55] (2011)	n = 149 Aboriginal people attending community events; n = 16 sewing group participants; n = 5 DandA and Aboriginal health workers	ndp	Uncontrolled pre-post study	N/A	Strong client engagement and client acceptability	
Clifford et al. [60] (2012)	n = 5 ACCHSs; total of n = 37 health staff	ndp	Qualitative (descriptive)	N/A		Scepticism of BI effectiveness and outcomes
Conigrave et al. [30] (2012)	n = 47 participants	AUDIT score of 8+	Mixed methods (cross-sectional)	N/A	Participants unaware of outpatient treatments e.g. ambulatory withdrawal and medicines	
Legha and Novins [66] (2012)	n = 18 substance abuse treatment programs serving AI/AN communities (representing 3 tribes across 7 states); n = 77 service providers (n = 22 clinical admin staff; n = 55 frontline staff)	ndp	Qualitative (grounded theory)	N/A		Cultural beliefs/values core to program; adapted western models used

Table 4 (continued)

Author (year) ^a	Participant characteristics	Classification of alcohol consumption	Study type	Length of follow-up	Client outcomes ^b : effectiveness or perceptions	Staff/service outcomes ^b
Calabria et al. [57] (2013)	Clients of an ACCHS or DandA service n = 110 Indigenous; n = 6 non-Indigenous but have Indig. spouse or child	AUDIT (tns)	Quantitative (cross-sectional)	N/A	Strong client acceptability ratings	
Lee et al. [65] (2013)	n = 21 staff; n = 24 female Aboriginal clients	AUDIT-C score of 4 +	Mixed methods cross-sectional survey; qualitative (descriptive)	N/A	Participant self-esteem and identity improved	
Brett et al. [56] (2014)	n = 4 Indigenous health services; n = 1–3 staff at each service	2009 NHMRC guidelines	Qualitative (descriptive)	N/A		Feedback for/on implementation of outpatient detox
Calabria et al. [58] (2014)	n = 19 DandA treatment agency staff; n = 3 ACCHS health staff	ndp	Qualitative (not clearly specified)	N/A		Tailoring process is documented and feedback gathered for adapting the counselling and counselor certification process and improving feasibility
Hirschak et al. [31] (2018)	n = 61 participants (incl. individuals with AUDs, treatment providers, and community members)	ndp	Qualitative (not clearly specified)	N/A	Rated culturally acceptable	

^a Studies are ordered in tables according to their focus and year of publication

^b These columns contain the outcome data, qualitative or quantitative with regard to the type of participants (clients or staff and services) included in the study

^c No definition provided

^d Not applicable

^e All services were residential. Study was included as sweat lodge available for outpatients on-site or in a community-based facility

^f Study included data from residential and outpatient services. Only outpatient service data was included

^g Threshold score not specified

^h Service offered residential and outpatient programs with facilities also open to broader community. All data included is relevant to outpatient settings

of disulfiram in 1970, reported that nearly half of participants ($n=50/115$) were abstinent at 12–24 months [73]. During the 18-month treatment period the number of arrests for drunkenness (*sic*) decreased by 78% compared with the prior 18 months. Neither study had a true control group and alcohol consumption was not measured in their comparison groups.

Two studies trialled interventions in Australian Aboriginal Community Controlled Health Services (ACCHS). The first (uncontrolled) study examined a multi-disciplinary alcohol intervention, including naltrexone [62]. However, the untreated comparison group reduced their drinking at similar rates to the participants who received the intervention. The second study documented the development of a ‘home detox’ (ambulatory withdrawal management) program and the outcomes with $n=8$ clients [29]. The program typically ran for 5 days with daily administration of diazepam (weaning dose) and thiamine in combination with counselling and a relapse prevention plan. Home visits and transport were provided. At the 6-week follow up over half ($n=5/8$) of the clients remained abstinent (including one who had transitioned to residential rehabilitation). All eight clients were still engaged with service supports. No major adverse events were reported during detox.

The (non-random, uncontrolled) ‘counsellor training as therapy’ study [72] reported a high rate of abstinence at 24 months (95% of participants). Individuals with known past ‘very severe alcohol abuse’ were nominated to take part in the training by community leaders or existing treatment program staff. Potential participants were deemed eligible based also on their current interest, level of motivation and perceived capacity to complete the program. Lastly, an uncontrolled pilot study that used a culturally adapted form of MICRA (Motivational Interviewing and Community Reinforcement Approach) [69] reported an increase in days abstinent and a decrease in addiction severity scores (using a culturally adapted version of the Addiction Severity Index, ASI-NA) at 8-month follow-up compared to the pre-treatment period and baseline respectively.

Client awareness or perceptions

Client awareness or perceptions were investigated regarding three domains: acceptability of a treatment approach; awareness of treatments and perceived accessibility; and opinions on the importance of cultural elements in care, and documentation of cultural treatment content.

Three Australian studies assessed and documented the acceptability of an intervention with clients [29, 55, 57]. Tailoring to optimise cultural appropriateness and acceptability was conducted in two other studies [31, 58].

Both of these interventions were reported as acceptable after tailoring. Community-based education and group brief intervention was piloted in one study with Aboriginal Australians [30]. In this study, participants were found to be unaware of non-residential treatment options such as ambulatory withdrawal management and relapse prevention medicines. Client acceptability and accessibility of one such non-residential option were explored in a separate Australian study from the perspective of staff and service providers [56]. Staff perceived ambulatory withdrawal management as a viable and underutilised approach, and feedback for optimal implementation was documented (Table 4). In a third Australian study focusing on ambulatory withdrawal [29] (described in the treatment effectiveness section), participants reported being ‘satisfied’ or ‘very satisfied’ with the program, would repeat it if needed, and would recommend it to a friend. Clients in this study reported preferring ACCHS over mainstream services. Cultural appropriateness was a core aim in developing the pilot program of this western treatment.

Two studies explored cultural practices in treatment, one with First Nation Americans and the other with Māori peoples [64, 76]. Clients and clinical staff rated cultural elements as highly important in both studies (Table 4).

Staff and service outcomes or perceptions

Fourteen studies included data on treatment implementation outcomes (implementation studies) or staff perceptions of the acceptability and accessibility of alcohol treatments [29, 54, 59–61, 63, 64, 66–68, 70, 71, 74, 77]. Most of these studies examined brief intervention (BI) ($n=6/14$) [59–61, 67, 68, 71]. Training and outreach support were found to increase staff confidence to deliver BI [59] and resulted in increased BI delivery rates [61]. Two studies reported on perceived barriers to delivering BIs. These included: scepticism of BI effectiveness [60]; time pressure in the clinical environment, and high staff turnover [68]. It was also noted in a survey of ($n=29$) Australian services, that service philosophy (abstinence as a goal versus moderated drinking) dictated BI delivery [70]. Lastly, one study described implementation of a culturally-tailored BI [67].

Five studies presented data from staff and clients on service delivery of cultural or bicultural treatment approaches [63, 64, 66, 74, 77]. Of these, three studies documented the importance of cultural interventions; this included two staff surveys [66, 77] and one case study [64]. The surveys reported: strong support from non-Indigenous and First Nation clinicians to use cultural interventions to increase client wellbeing and engagement [77]. Also, that services with cultural beliefs at their

core (i.e. holistic views of health; spiritual care; importance of kinship etc.) could implement traditional healing interventions alongside western approaches when those western approaches had been tailored for the local First Nations communities [66]. The case-study described a largely cultural model of care centred on the medicine-wheel philosophy [64]. However, this treatment approach also included spiritual elements of Alcoholics Anonymous. The two other studies investigating service delivery of cultural and bicultural interventions reported the 'sweat-lodge' as the most frequently used therapy [63, 74]. Other cultural activities were also described at one residential service which allowed access for out-patients [63]. Staff attitudes towards the integration of cultural healing interventions within a standard western-treatment facility varied. Some staff at that service expressed scepticism and devalued cultural elements in care. This was most frequently expressed by staff in facilities which did not provide sweat-lodge access on-site but outsourced cultural activities to community organisations [63].

Study quality

There were only two controlled trials (one blinded RCT [24] and one non-randomised controlled trial [73]). The remainder of the quantitative studies had no control group ($n=5$) [55, 61, 62, 69, 72]. Most studies were of moderate quality when examined with the AXIS critical appraisal tool [50].

Objectives and aims were clearly described, and study design was appropriate for the stated aims in two-thirds of studies ($n=25$, 89%; $n=20$, 71% respectively) [24, 29–31, 55–61, 63–74, 76, 77]; [24, 29–31, 54, 56–60, 63–68, 70–77]. Study populations were clearly defined ($n=25$, 89%) and taken from samples which were likely representative in most studies ($n=23$, 82%) [24, 29–31, 54, 57–70, 72–77]; [24, 29–31, 54, 57–63, 65–68, 70, 72–77]. However, most studies ($n=25$, 89%) did not describe non-responders or missing data [24, 29–31, 54–59, 61–65, 68–77]. Methods were insufficiently described in a third of studies ($n=10$, 36%) to allow replication [30, 31, 54–56, 62, 64, 66, 71, 75]. Basic data (e.g. demographics) were not described in nearly half of studies ($n=13$, 46%) [54–56, 59–64, 70, 71, 74, 75], of which, nine were published in the last decade [54–56, 59–64]. Discussion and conclusions did not appear justified by the results in a quarter of studies ($n=6$, 21.5%) [24, 54–56, 61, 69] and ethical approval was not mentioned in just under a third of studies ($n=9$, 32%) [54, 63, 64, 70–75].

Extent of community participation

Community participation by First Nations peoples varied (Table 5). The highest levels of participation (Levels 5 to 7) were found in both the 'diagnosis' phase of the

research, and the 'development' phase, with nine studies (32%) each [24, 29–31, 62, 65, 69, 73, 75]; [29–31, 62, 64, 65, 69, 73]. This was followed by the 'implementation' phase ($n=7$; 25%) [29–31, 62, 64, 65, 73]. Four studies scored highly in all of the first three phases (14%) [30, 31, 62, 73]. Only one study scored highly in all four phases [29]. Participation was described with insufficient detail to be assessed in twelve studies (43%) [56–61, 63, 67, 68, 74, 76, 77].

Discussion

This is the first systematic review of treatments for unhealthy alcohol use for First Nations peoples that are feasible in or from primary care settings. Publications from Australia, New Zealand, Canada, and the USA were considered. The 28 included studies report on all aspects of standard alcohol treatment, from brief intervention to ambulatory withdrawal management, relapse-prevention medicines, as well as on cultural treatments. Between countries, we found Australian studies were heavily focused on early intervention for non-dependent drinkers while in the USA there was greater emphasis on interventions for alcohol use disorders, including dependence. Terminology used to classify participant alcohol use varied. Only seven studies attempted to measure intervention effectiveness. Of these, there was only one RCT. Accordingly, insight into what approaches lead to the best clinical outcomes for First Nations clients is limited. Furthermore, quality was negatively impacted by low levels of community participation in research processes and often a lack of transparency in this regard. Large effectiveness studies, conducted in close partnership with communities, are required to inform best practice with these populations.

Western approaches

Western approaches were studied in a variety of ways. Some trialled the standard western treatment approach, while others engaged First Nations clients or staff in tailoring it for the Indigenous context. Western approaches were also used in conjunction with cultural therapies, sometimes as a bicultural strategy, and other times the cultural elements were outsourced to community organisations as 'clip-on' elements of care.

Brief intervention was the most studied approach; however, no study measured its effectiveness. Effective client–clinician communication is at the core of BI and is likely impacted by the communication preferences and cultural protocols of First Nations peoples [78, 79]. The one study which implemented a culturally-influenced version of BI [67], did not describe the development of the approach. Tailoring and implementation studies are

Table 5 Level of community participation across the development of each study

Author (year)	Four stages of project development			
	Diagnosis	Development	Implementation	Evaluation
Treatment effectiveness				
Savard [75] (1968)	5–6	– ^a	–	–
Ferguson [73] (1970)	6	4–5	4–5	–
O'Malley et al. [24] (2008)	5	4	4	–
Venner et al. [69] (2016)	6	5	4	4
Implementation research				
Kahn and Fua [72] (1992)	3	–	3	–
Clifford and Shakeshaft [59] (2011)	–	–	–	–
Clifford et al. [61] (2013)	–	–	–	–
D'Abbs et al. [62] (2013)	7	7	7	4
Lovett et al. [67] (2014)	–	–	–	–
Brett et al. [29] (2017)	6–7	6	7	6
Treatment access and/or acceptability				
Hall [74] (1986)	–	–	–	–
Brady et al. [70] (1998)	1	1	1	1
Huriwai et al. [76] (2000)	–	–	–	–
Robertson et al. [77] (2001)	–	–	–	–
Brady et al. [71] (2002)	3	3	3	–
DeVerteuil and Wilson [63] (2010)	–	–	–	–
Panaretto et al. [68] (2010)	–	–	–	–
Allan [54] (2010)	3	–	–	–
Gone [64] (2011)	–	4–5	5	–
Allan and Campbell [55] (2011)	2	–	–	–
Clifford et al. [60] (2012)	–	–	–	–
Conigrave et al. [30] (2012)	6	6	6	–
Legha and Novins [66] (2012)	2	2	–	–
Calabria et al. [57] (2013)	–	–	–	–
Lee et al. [65] (2013)	7	6	5	4
Brett et al. [56] (2014)	–	–	–	–
Calabria et al. [58] (2014)	–	–	–	–
Hirschak et al. [31] (2018)	5	5	5	4

^a Insufficient data to apply assessment criteria

needed to optimise BI delivery and should record client perceptions of acceptability, as well as effectiveness.

Ambulatory withdrawal management was examined in two Australian studies in relation to Aboriginal Community Controlled Health Services. For carefully selected individuals, this approach may help increase accessibility and acceptability of withdrawal management. The research also demonstrated how community partnerships can be a part of developing, running and evaluating such programs within a primary health care service.

A small number of studies trialled alcohol relapse-prevention medicines. The RCT of naltrexone reported significant reduction in alcohol-related consequences compared to placebo despite low participant numbers

[24]. Inclusion criteria for the trial may have been a barrier for First Nation people's participation as interested persons were required to provide confirmation of "tribal enrolment" or a "Certificate of Indian Blood". Of the 28 included studies, this was the only study where verification of First Nations status was discussed. This may have been due to the study's exploratory aim of looking at predicted responses to treatment based on genetic traits. Consultation with community partners may help to respectfully decide on terms of participation and reduce barriers to participation in clinical trials.

The two other studies involving relapse prevention medicines trialled disulfiram. Both were performed half a century ago (1968 and 1970) and involved administration

of a test dose of alcohol to precipitate a reaction. This is not standard practice today and would raise ethical concerns. Due to the scarcity of relapse prevention medicine trials with First Nations peoples, it was decided to include these studies. Disulfiram is not as frequently prescribed as it once was, due to concerns over serious adverse reactions in the event of relapse to drinking and debate over its effectiveness, particularly with unsupervised dosing. Despite these concerns, disulfiram is still prescribed internationally for carefully selected and voluntary patients [80]. In Australia, lack of government subsidies on the cost has also been identified as a barrier to its use [81]. The models of support offered alongside disulfiram therapy in these two studies appeared to be culturally tailored and progressive for their era. However, given the studies were conducted over 50 years ago, client acceptability data may need to be re-examined. Acamprosate, was not trialled or mentioned in any study. In contrast, amongst the general population both acamprosate and naltrexone have been trialled extensively.

Underutilisation of these medicines is a population-wide trend, although a range of social determinants may see First Nations peoples being less likely to access alcohol pharmacotherapy than non-Indigenous populations [82, 83]. Based on the included studies, medicines to prevent relapse seem acceptable within a culture-informed framework [24, 56]. Methods to increase awareness of the medicines and their availability through primary care services, could be considered in future research [30].

Cultural and bicultural approaches

Cultural healing practices and spiritual customs were a major theme in this review. Traditional healing approaches have also appeared in other areas of First Nations health research, responding to the communities' call—"our culture is our treatment" [17, 42, 84, 85]. The integration of cultural protocols and traditional therapies into primary health care has been associated with the movement for cultural reclamation. These themes were highlighted in one of the earliest included studies [74]. Along with innovations in treatment content and tailoring of delivery to increase acceptability and accessibility for minorities, community leaders are pushing for control over what is studied and how research questions are framed [86]. First Nations Elders are resisting the framing of research in deficit-based rhetoric, in favour of strength-based approaches and stories of resilience [87–89]. With this paradigm shift comes opportunities to create knowledge that incorporates the best of western, evidence-based practice with traditional knowledges, forming a third stream valuable in both spheres. This concept has been articulated in "two-eyed seeing" and

"Ganma" philosophies [90, 91], from Canada and Yolngu Nation (Australia) respectively.

The notion of Indigenous culture in health care is tied to holistic definitions of health. This invariably involves connectedness to family, traditional homelands, spirituality, community identity and reciprocal relationships [26, 92, 93]. In research of the general population, factors such as connectedness have also been identified as important on the recovery journey for addictions [94, 95]. Likewise, connectedness has been identified as a protective factor against AUDs by First Nations peoples [66, 86, 96].

Overarching health policy has recognised the need for culturally-informed and tailored health care [38–40, 97]. However, cultural and bicultural therapies are still largely unconsidered in the national alcohol treatment guidelines of all four included countries [16, 25, 98–100].

Study quality

The quality of the included studies was assessed from two lenses—from a (western) scientific lens and from a community values lens. We found reporting was more complete for scientific measures. Privacy concerns for smaller study sites may account for the lack of basic demographic data. Over half of the studies collected data through qualitative interviews and observations. While qualitative methods are important in understanding participants' thoughts and feelings, it does not allow quantification of effectiveness. Limitations also apply to pre-post treatment comparison studies, as individuals are most likely to enrol in a trial when they are highly motivated or at a point of crisis. This can falsely inflate intervention success rates, as the participants may have already been on a path to abstinence or moderated drinking (regression to the mean). While there was only one RCT, strict conditions maintained in the study environment may not hold up in many routine clinical settings. In addition to further efficacy trials, studies establishing the effectiveness of interventions for improving unhealthy alcohol use outcomes in real world settings are also needed.

Almost half of the studies did not report on community participation. This is concerning as the value of community engagement (even outside community-based, participatory study designs) is well recognised and promoted through research ethical guidelines [46, 101, 102]. According to these guidelines, best practice with First Nations communities involves meaningful engagements, where all parties are consulted before the 'problem' is defined and well before study aims and designs are planned. Reporting details of the tailoring process may be challenging due to journal word constraints. Until this is a standard requirement of reporting, onus is placed

on researchers to succinctly describe the processes undertaken.

It is clear from the included studies, there is often a divergence of beliefs (ontology), value systems (axiology) and ways of knowing what is truth (epistemology), between the scientific and First Nation communities. This is particularly apparent with the qualitative data identified in this review. An individual's or community's experiences, perceptions and opinions (anecdotal evidence) rate low in the scientific pyramid of evidence. Meanwhile, this type of evidence has an important place in *Indigenous ways of knowing* [42]. Future research collaborations with First Nations communities will have to navigate these differences to generate knowledge that is valuable in both knowledge bases (pluralism).

Implications

The small number of controlled trials and effectiveness studies identified in this review, is one example of the pressing need to build on community partnerships. For example, First Nations communities have expressed concern over ethical issues with RCT designs (withholding beneficial treatment from one part of the community) [103]. Alternative study designs such as the 'stepped-wedge trial' and 'wait-list control' have been approved as culturally safe by several communities [86, 104]. Given the cultural diversity within First Nations tribal groups, tailoring of treatment approaches to suit local cultural beliefs, values, protocols, and communication preferences is encouraged to promote client engagement with primary care services. Future studies could also consider attitudes to alcohol as a factor influencing treatment acceptability or delivery. Such attitudes may vary greatly between and within First Nations communities. Some communities may have a strong preference for abstinence as goal, based on past community experience of alcohol's harms, desire to avoid risk behaviours arising from non-Indigenous culture, or missionary influence [6, 105]. For such communities, the idea of a controlled drinking goal (for non-dependent drinkers or for community) may be controversial [70]. Anecdotal evidence suggests in many communities (Indigenous and non-Indigenous) that there is a high awareness of the social harms from alcohol, but less awareness of its health effects. Any treatment efforts may need to be accompanied by sensitively conducted, community-based health promotion around alcohol.

To ensure comparability between studies, improved reporting of inclusion and exclusion criteria is needed, for example the thresholds used to define unhealthy drinking or alcohol use disorders (i.e. DSM or ICD criteria, or screening questionnaire score). Lastly, many promising treatment approaches have been abandoned

after a single descriptive study, so there are many potential treatment approaches to build on and study.

Limitations

This review did not include grey literature due to practical constraints. There is likely documentation of cultural and western treatments with First Nations peoples in that literature which has been missed. Additionally, approaches such as 'managed alcohol programs' were not within the scope of this review, but have been reported to offer some promise in improving health and wellbeing outcomes [106, 107]. Community participation quality ratings may not be a true reflection on all studies' actual conduct as there may be more engagement than was recorded.

Conclusions

Overall this area is under researched with very few treatment effectiveness studies conducted, and on a limited range of therapies. Much work is needed to define approaches to unhealthy alcohol use that are most effective and acceptable for First Nations clients in a primary care setting. Trials of naltrexone and disulfiram yielded promising results, and acamprosate is yet to be studied. Cultural and bicultural approaches were generally delivered by Indigenous-specific health services or mainstream services with strong links to a First Nations community. These were found acceptable, but effectiveness outcomes have not yet been studied. Taking a strengths-based approach through community partnerships will be an essential next step if we are to produce quality research that combines scientific rigour with cultural appropriateness. First Nations researchers and Indigenous research methodologies will be an important part of this process.

Abbreviations

AI/AN: American Indian/Alaska Native; DandA: Drug and alcohol; AUD: Alcohol use disorder; USA: United States of America; DSM-IV: Diagnostic and Statistical Manual of Mental Disorders, 4th edition; BI: Brief intervention; MICRA: Motivational interviewing and community reinforcement approach; ACCHS: Aboriginal Community Controlled Health Service; ASI-NA: Addiction Severity Index adapted for use with Native Americans; CIW-Ar: Clinical Institute Withdrawal Assessment-alcohol (revised version); RCT: Randomised controlled trial; NHMRC: National Health and Medical Research Council (Australia); WHO: World Health Organization; AUDIT: Alcohol Use Disorders Identification Test; ndp: No definition provided; N/A: Not applicable; tns: Threshold score not specified; GK: Gemma Khodr; KL: Kylie Lee; JC: James Conigrave; KC: Katherine Conigrave.

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Authors' contributions

GK: literature review, title and abstract screen, full-text screen, data extraction and interpretation, drafted paper, synthesised co-author's comments. KL: co-conceived idea for review, title and abstract screen, full-text screen, data extraction, reviewed drafts of tables, reviewed drafts of paper. JC: full-text screen, data extraction, reviewed drafts of paper. EW: reviewed drafts of paper and advised on philosophical matters in the discussion section. KC: co-conceived idea for review, adjudicated full-text screen and data extraction, reviewed drafts of tables, reviewed drafts of paper, responsible for overall integrity of the study. All authors read and approved the final manuscript.

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Availability of data and materials

Data for this project is stored at the University of Sydney, Camperdown 2006 New South Wales, Australia.

Ethics approval and consent to participate

No ethical approvals were sought for this study as it is a review of literature from academic databases (a systematic review).

Consent for publication

Not applicable.

Competing interests

The authors have no competing interests to declare.

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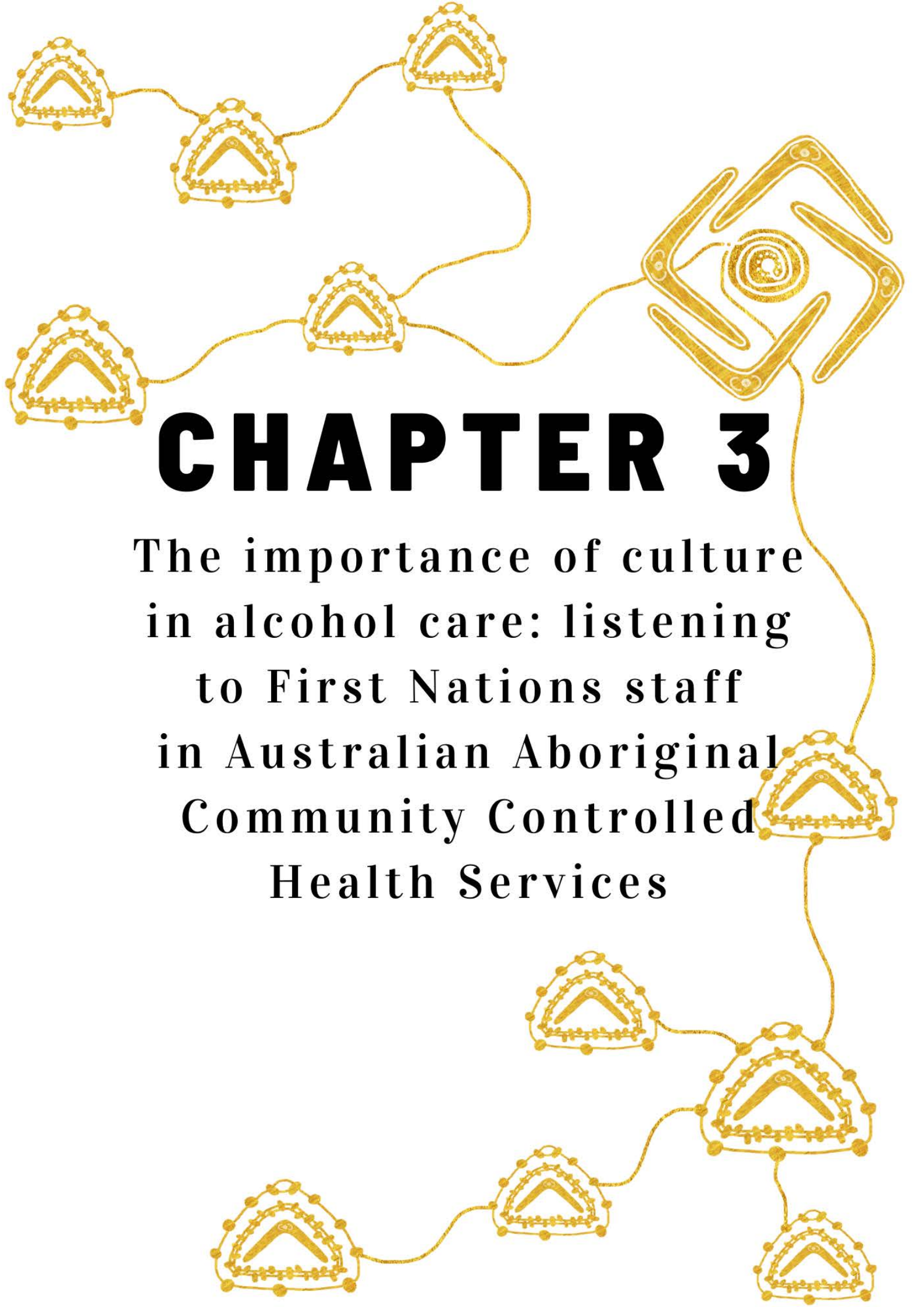
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CHAPTER 3

The importance of culture
in alcohol care: listening
to First Nations staff
in Australian Aboriginal
Community Controlled
Health Services

3.1 Introduction

“A river of water from the sea (Western knowledge), and a river of water from the land (Indigenous knowledge) mutually engulf each other upon flowing into a common lagoon and becoming one. In coming together, the streams of water mix across the interface of the two currents and foam is created. This foam represents a new kind of knowledge. Essentially, Ganma is a place where knowledge is (re)created”

- Pyrch & Castillo 2001; Yunggirringa & Garngulkpuy 2007 (3, 4)

The previous chapter presented a systematic review of alcohol care studies in primary care or outpatient programs for First Nations peoples from Australia, New Zealand, USA and Canada. The review highlighted the disparate nature of the literature in this field. Australian studies comprised of more than half of the entire body of literature, and all but one of these Australian studies were set in ACCHSs. Internationally, cultural and bicultural approaches to treatment were a strong theme. The included studies featured three trials of relapse prevention medicines. However, Australian studies were the exception with a few details provided on cultural protocols used in brief interventions, and scant details contained in one abandoned trial of naltrexone (136).

Given these findings I approached a fellow PhD candidate, Kristie Harrison (Wiradjuri), who had conducted interviews with First Nations staff working across 11 ACCHSs across Australia as part of the same larger study. The interviews explored staff perceptions of strengths and challenges in delivering alcohol care, to inform a model of training and support for a large, cluster-randomised waitlist controlled trial (137). The trial aimed to increase screening and treatment for alcohol dependence in

participating services. Kristie had conducted a preliminary analysis of qualitative data and identified 'culture' as a meta-theme. Given the results of our systematic review, this qualitative data provided an opportunity to further explore the role of culture in alcohol care, from the perspective of First Nations ACCHS staff. This deeper analysis was also an opportunity to gauge mention of alcohol relapse prevention medicines.

This Chapter describes use of a novel qualitative analysis method that combines grounded theory methods with processes from the 8-ways Aboriginal pedagogy (138). The 8-ways pedagogy is composed of eight methods for learning, only three of which were used in the present study. Further details of the full eight ways, and a comprehensive discussion of both rationale for the novel approach and its limitations are presented in Chapter 5.

3.2 Published article

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The Importance of Culture in Alcohol Care: Listening to First Nations Staff in Australian Aboriginal Community Controlled Health Services

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The Importance of Culture in Alcohol Care: Listening to First Nations Staff in Australian Aboriginal Community Controlled Health Services

Abstract

Integration of cultural knowledges and healing practices with Western medical approaches to alcohol care has been reported for residential and community settings. However, there is little evidence on how culture features in alcohol care in primary health settings. We analysed data from semi-structured interviews (from a broader study) with 17 First Nations Australian staff (n=8 men, n=9 women) from 11 Aboriginal and Torres Strait Islander Community Controlled Health Services. We used grounded theory and the 8-ways Aboriginal pedagogy in analysis. We describe three key themes: 1) interpersonal processes; 2) a both-ways approach to healing and alcohol care; and 3) service-wide strategies to achieving both-ways healing. We discuss policy implications of facilitating bicultural alcohol care in primary health settings.

Keywords

Indigenous Peoples and alcohol care, cultural healing, alcohol use disorder

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The Importance of Culture in Alcohol Care: Listening to First Nations staff in Australian Aboriginal Community Controlled Health Services

While alcohol harms are a universal concern (World Health Organisation, 2018), they disproportionately affect colonised Indigenous Peoples worldwide (Australian Institute of Health and Welfare, 2015; Health Canada, 2014; Health Promotion Agency, 2017). In Australia, a higher proportion (29.3%) of Indigenous Peoples (Aboriginal and Torres Strait Islander) are non-drinkers compared with non-Indigenous Australians (23.8%) (Australian Institute of Health and Welfare, 2020). Despite this, at a population level, Indigenous Australians experience twice as many alcohol-related hospitalisations as their non-Indigenous counterparts (Australian Institute of Health and Welfare, 2011; Gray et al., 2018). Similar patterns are seen with Indigenous Peoples in New Zealand (Health Promotion Agency, 2017), the United States of America (USA) (Substance Abuse and Mental Health Services Administration, 2019) and Canada (Health Canada, 2015).

Disproportionate rates of harm are in part due to episodic heavy drinking (Australian Institute of Health and Welfare, 2020; Shore et al., 2006; Zheng et al., 2022). This drinking pattern is linked to a colonial legacy of dispossession (Gracey & King, 2009), where Indigenous Peoples continue to be socially and economically marginalised, experience intergenerational trauma, racism and have poorer opportunities for sharing traditional cultural values and practices with younger generations (Dudgeon et al., 2016; King et al., 2009; Wynne-Jones et al., 2016). Indigenous Australians have used their culture, including traditional healing techniques, to maintain wellbeing for over 60,000 years. This cultural knowledge has been suppressed due to colonisation during the last 230 years. Reconnection to culture is an essential part of healing. Therefore, supporting services to reinstitute Indigenous knowledges and healing traditions in health care is needed to promote good health and wellbeing post-colonisation (Department of the Prime Minister and Cabinet, 2020).

Primary care is a critical setting for incorporating culture into care for unhealthy alcohol use (including hazardous use through to dependence). This setting is crucial to engage clients as it is the gateway to the broader healthcare system. There can be cultural, financial, institutional, and stigma-related barriers with referral to specialist alcohol treatment services. The primary care setting allows for a range of treatment across the spectrum of unhealthy alcohol use. For example, brief interventions for hazardous and harmful use, motivational interviewing, home detoxification (for carefully selected clients), and relapse prevention medicines are available for clients with alcohol dependence (Rombouts et al., 2020). Primary care is especially important for rural and remote communities that are less likely to have access to specialist care.

In Australia, there are more than 140 Aboriginal and Torres Strait Islander Community Controlled Health Services (ACCHSs). ACCHSs are primary care services controlled by the local Indigenous community via elected boards of management (National Aboriginal Community Controlled Health Organisation, 2020). Volunteers initially developed these services to provide free, holistic healthcare to under-served Indigenous communities. Today these services have government funding and often employ local Indigenous staff, provide community transport, home visits and (generally) flexible consultation practices compared to mainstream services (Australian Institute of Health and Welfare, 2016). Culturally appropriate and safe care has been shown to increase access by Indigenous Australians (Campbell et al., 2018).

Literature Review

Peer-reviewed literature on alcohol care in primary healthcare settings for Indigenous communities is scarce. A recent systematic review of literature on alcohol treatment approaches suited to primary care from Australia, New Zealand, the USA, and Canada identified just 28 studies published between 1968 and 2018 (Purcell-Khodr et al., 2020). Of all the studies, over half ($n=16$) were set in primary care services. The remaining studies ($n=12$) featured various forms of ambulatory treatment (outpatient programs) or care in settings feasible for primary care delivery (e.g., at home or community-based).

Of the studies in primary care settings, all but one ($n=14/16$) featured treatment approaches set in or facilitated by Australian ACCHSs. These studies almost exclusively focused on assessing staff and client perceptions of Western treatments ($n=13$). They often investigated the accessibility and acceptability of brief interventions or counselling techniques. One study trailed a model of ambulatory detoxification ('home detox') facilitated by an ACCHS with at-home care and clinical supports (e.g., dispensing of relapse prevention medicines at home or at the service). Only two of the Australian studies in this setting were classified as bicultural (Indigenous and Western). However, neither discussed the cultural treatment elements in detail. For example, the study 'Walan Giri' described a culturally-influenced form of brief intervention—introduced by questions on traditional homelands and kinship connections. Details of the development or implementation were not provided. The one study set in a primary care setting outside Australia, was based in the USA (Hirschak et al., 2018). This study documented the acceptability and cultural tailoring of contingency management ('reinforcers' to support and promote abstinence) with Elders and Indigenous community members.

The other 12 studies featuring ambulatory treatment ($n=12/28$) were most frequently based in residential services with outpatient programs and supports. Community-based settings also featured in several studies. Almost half of the studies in ambulatory care settings ($n=5/13$) documented bicultural treatment approaches and another three studies documented a solely cultural (Indigenous) approach to treatment. Sweat-lodge use was widespread in the USA and Canada, facilitated by residential services with outpatient and general community access. Numerous other healing techniques were also documented (e.g., pipe ceremonies, fasting camps, sacred chanting, group prayer, and administration of traditional medicines). While approaches varied by location and country, core themes were reiterated several times, including in survey responses from clients and service providers in New Zealand (Huriwai et al., 2000a; Robertson et al., 2001). Common themes were the importance of employing local Indigenous staff, incorporating Indigenous languages and language speakers; practicing traditional medicine, healing ceremonies and traditional arts; following cultural protocols; instilling pride in client heritage; and providing access to genealogical services (e.g., to reconnect families and understand the impact of colonisation on family displacement). Western treatment approaches included three US trials of alcohol relapse prevention medicines, and two Australian studies on counselling approaches.

Among the peer-reviewed literature in this field, there are clues to the rich nature of cultural and bicultural alcohol care in publications going back 50 years. Given the limited evidence on integrating these approaches in primary care, we examine how Indigenous staff incorporate culture into the delivery of alcohol care in ACCHSs. In particular, we explore the strengths and challenges involved in doing so.

Methods

Overview

This qualitative data was collected at baseline in a large cluster randomised, wait-control trial¹ (Conigrave et al., 2021). That trial was designed to test the effectiveness of tailored support for ACCHSs to enhance the uptake of alcohol screening, brief intervention, and treatment approaches. The primary aim of the qualitative interviews conducted with Indigenous and non-Indigenous staff (collected by Kristie Harrison [KHH] and Kaylie Harrison [KBH]) was to inform the development of the multipronged model of training and support (Harrison et al., 2019). The resulting support model has been published (Dzidowska et al., 2021) and included a national workshop, on-site training, regular data feedback, practice software assistance, a private online platform with resources and financial support for purchasing alcohol education tools. This paper draws on the Indigenous participant interviews and presents a deeper analysis of the meta-theme of culture (identified in that work), and how it informs alcohol care in ACCHSs.

Ethics

Ethical approval was obtained from eight ethics committees: the Aboriginal Health and Medical Research Council of New South Wales (NSW; 1217/16); Central Australian Human Research Ethics Committee (CA-17-2842); Northern Territory Department of Health and Menzies School of Health Research (2017- 2737); Central Queensland Hospital and Health Service (17/QCQ/9); Far North Queensland Human Research Ethics Committee (17/QCH/45-1143); Aboriginal Health Research Ethics Committee, South Australia (SA; 04-16-694); St Vincent's Hospital (Melbourne) Human Research Ethics Committee (LRR 036/17); and Western Australian Aboriginal Health Ethics Committee (779).

Indigenous contributions and community participation

The overarching trial has significant contributions by Australian Indigenous researchers, services, and communities (Conigrave et al., 2021). Indigenous staff of two state-wide umbrella agencies for ACCHSs (in SA and NSW) were involved in formulating the research question and design of that study. KHH is a Wiradjuri woman who played a key role in recruiting services, conducting face-to-face training, and interviews with service staff. The present study is led by a Gundungurra author Gemma Purcell-Khodr (GK).

Setting

Participants were comprised of staff from 11 ACCHSs across four states and territories of Australia (New South Wales [NSW], South Australia [SA], Queensland [QLD], and Northern Territory [NT]).

¹ Registration number: ACTRN12618001892202

Recruitment

Services were eligible for inclusion in the trial if they were an ACCHS, serviced at least 1000 unique clients per year and used Communicare patient software (Harrison et al., 2019). A total of 132 services were assessed for eligibility, and the first 22 services who agreed to participate were recruited. Services were then stratified into one of three remoteness categories (urban, regional, remote) using the Australian Statistical Geography Standard Remoteness Structure (Australian Bureau of Statistics, 2016). The services were then randomly assigned by stratum into a trial arm (early support ['intervention'] or late support [waiting-list control]). Interview participants were nominated by the participating services in the early support trial arm. At each service, these included two nominated service 'champions' for the project and up to three other staff members (n=44). Services were encouraged to include Indigenous staff members in the study. Only data from the n=17 Indigenous participants have been included in this analysis.

Data collection

Semi-structured phone interviews were conducted with 17 Indigenous (Aboriginal) Australian staff. Interviews were conducted by two Wiradjuri (Indigenous) Aboriginal health professionals (KHH and KBH) with past work experience in the ACCHS sector and conducting research interviews. KHH and KBH were aware of the potential sensitivities around discussion of alcohol, and cultural protocols which may impact on interactions.

KHH interviewed the majority of participants, with KBH acting as the live transcriber. The transcription was typed near verbatim, with any gaps filled in immediately after the interview. At other times these roles were reversed. In addition to the transcript the interviewer made a memo immediately after the interview concluded. KHH and KBH cross-checked both documents after each interview.

Informed written consent was provided prior to the interviews. Interviews were conducted between July and December 2017 (approximate duration: 40-90 minutes). The majority of interviews (65%; n=11/17) occurred before the two-day national workshop that marked the start of the first service support phase (intervention) of the project (August 29, 2017). The workshop included training for service champions on screening, brief intervention and treatment for the range of unhealthy alcohol use. There were opportunities for small group discussion where staff who had already been interviewed may have talked with those who were yet to be interviewed. The remaining six interviews were held after the workshop. The model of training and support was refined after all interviews were completed.

Interview framework

Interviews employed a strengths-based approach in asking about alcohol care (Gibson et al., 2020). Staff were asked about: approaches that they or their service use to make it easier to talk to clients about their drinking; ways that more people could be asked about alcohol; what their service offers regarding alcohol care; what skills and knowledge were needed for themselves and other staff to provide the best alcohol care at their services; innovative ways they or their services may have

worked out to help people who may be at risk because of their alcohol use; other successful programs which may give insight on how best to help with alcohol; and any other ideas staff may have to improve the way their services work with clients around alcohol.

As the interviews were conducted to inform a model of support for the trial, participants were not explicitly asked about culture in care and probing questions were not posed. This study analyses the content on culture that was raised spontaneously by Indigenous staff during interviews.

Theoretical perspective underpinning analysis

The analysis was informed by the pluralistic notion that both 'Western' scientific knowledge and Indigenous knowledge systems co-exist. Each have unique beliefs (ontology), value systems (axiology) and ways of knowing what truth is (epistemology) that guide study methodology and ultimately knowledge validation (Gone, 2012; Teffo, 2011). In acknowledging these divergent knowledge systems, value is given to the experiential, therapeutic approaches rooted in Indigenous cultural knowledge. This approach was chosen to capture conceptual nuances which may be overlooked using only Western-based analysis methods (Webster et al., 2017).

From a Western lens, grounded theory (Corbin & Strauss, 2014) and inductive coding techniques (open, axial, and selective) were applied to synthesise the data. Theoretical sampling was not applied, as the lead researcher (GK) entered the project after the data had been collected. That approach also may not have been desirable or feasible due to the busy health care settings in which staff worked. Grounded theory methods were selected to provide a structured process to aid the construction of a theory based on participants' views and practices. This was necessary because an Australian perspective on this topic has not yet documented in the literature.

The analysis was underpinned by 8-ways Aboriginal pedagogy, a unique Indigenous Australian lens (Yunkaporta, 2009). The 8-ways pedagogy resulted from collective cultural knowledge built over tens of thousands of years and passed on by Aboriginal Elders. The 8-ways provide a framework for learning which focuses on the culturally acceptable processes or ways of doing. Using this framework as a lens to analyse data does two things. Firstly, it ensures processes described by participants (consciously or unconsciously) are respected and considered whilst systematically engaging with all data. Secondly, the framework provides a unique Aboriginal Australian method to identify, examine and interpret patterns and themes in the data. A summary of the results and penultimate versions of the diagrams were shown for feedback and ratification to two Aboriginal educators who were part of the original team who had constructed the 8-ways pedagogy. The educators hold respected positions within Aboriginal communities of Western New South Wales, and as such their opinion rates highly in the Indigenous knowledge system of this area.

Data analysis

Grounded theory analytic techniques and Aboriginal pedagogical processes were applied in cycles of coding and theme refinement using the process of constant comparison. Discrepancies were highlighted for further reflection.

Transcripts and memos were first printed, read several times, and inductively open coded. Data were then imported into NVivo, and a final set of open codes were assigned. GK then applied the 8-ways

Aboriginal pedagogical processes to construct a sense of the 'whole' or conceptual understanding of a cultural approach to alcohol care described by participants. Perceived core elements of the whole were written on paper cards and grouped on a cork board (these cards were then referred back to in the axial and selective rounds of coding). A visual learning map (composed of three figures) was drafted to represent the macro-level emergent concepts. NVivo coding resumed and as data were recategorized and simplified, codes were assigned to different levels of processes represented in the diagrams. The final stage of analysis, informed by the Aboriginal pedagogy, involved the visual representation of the emergent meta-themes, themes and sub-themes in symbolic form.

All transcripts were analysed by GK. One-third of transcripts (n=5/17) were analysed independently (by EW), then discussed with GK. No major discrepancies were identified, although nuances resulting from an Indigenous and Western perspective were discussed. A larger group then discussed findings from all 17 transcripts (all authors except KHH). Kylie Lee (KL) reviewed all drafts of the diagrams and final versions of diagrams were discussed with all authors.

Results

Summary

Of the 17 staff interviewed, most (n=15/17) were aged 35 years or over, with almost equal male and female participants (males n=8/17). Staff held a range of professions, including a doctor, patient transport driver, frontline workers, managers, and a research coordinator. All participants had a clinical background regardless of their current role. There was an almost even spread of staff across geographical remoteness (Table 1).

Table 1. Aboriginal Community Controlled Health Service Interview Participant Characteristics (n=17)

Remoteness	Gender	Age	Role*
Urban (n=6)			
	Female	<35	Other
	Female	≥35	Other
	Male	≥35	AoD**
	Male	≥35	General clinical***
	Male	≥35	General clinical
	Female	<35	General clinical
Regional (n=6)			
	Male	≥35	General clinical
	Female	≥35	General clinical
	Female	≥35	General clinical
	Male	≥35	AoD
	Female	≥35	AoD
	Male	≥35	Other
Remote (n=5)			
	Female	≥35	AoD
	Male	≥35	AoD
	Female	≥35	Other
	Male	≥35	AoD
	Female	≥35	General clinical

*We have used broad occupation categories to disguise the identity of participants. All participants, regardless of role titles, were providing or had experience in providing frontline clinical care. A number of staff with clinical duties were also listed as managers or team leaders.

**AoD = Alcohol and other drug worker.

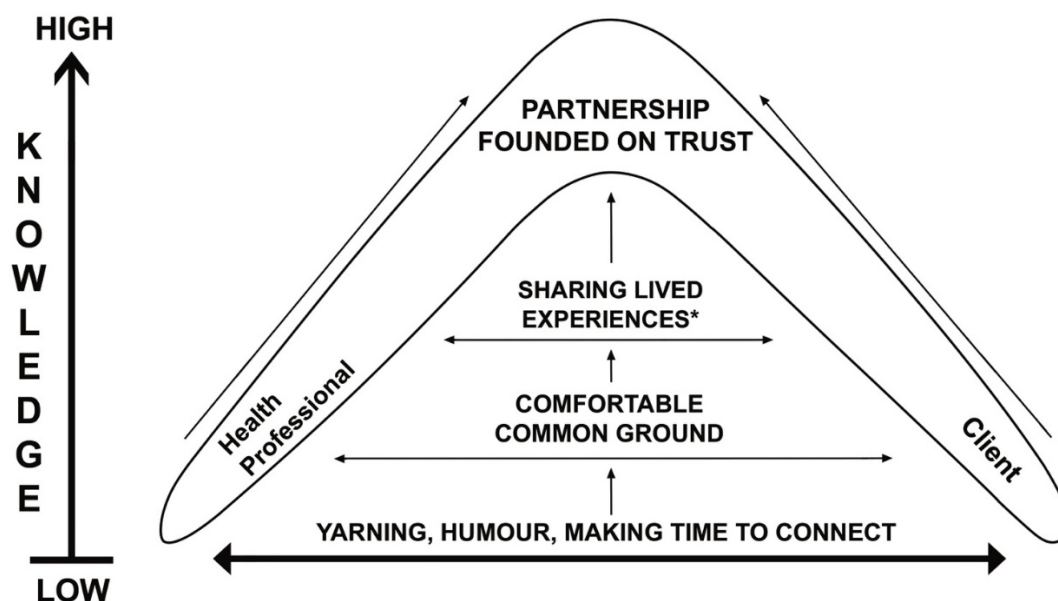
***The 'general clinical' category included staff such as a doctor, Aboriginal health workers, and other frontline workers providing alcohol care in the service and or community setting

Three themes encompassed the participants' perspectives on how alcohol care was delivered in a culturally safe and respectful way: 1) interpersonal processes; 2) a both-ways approach to healing and alcohol care; and 3) service-wide strategies to achieving both-ways healing. Each is described in detail below.

Interpersonal processes

Five interpersonal processes were identified as being central to establishing a connection with clients, making clients comfortable, and building a trusting therapeutic partnership to work on alcohol care and wellbeing goals. These processes were yarning (conversations), humour, making time to connect, establishing a comfortable common ground, and sharing lived experiences. The dynamic between the five elements is depicted in Figure 1.

Figure 1. Interpersonal processes used by Aboriginal staff to build therapeutic partnerships for alcohol care and wellbeing with Aboriginal clients in ACCHS settings



*Any personal story could be used to connect with clients. Some health professionals may choose to share their own healing journey, where applicable. This was seen as sharing 'authentic knowledge' and helped clients feel comfortable and understood

This diagram is adapted from 8-ways Aboriginal pedagogy, originally developed with knowledges from Traditional Owners across western New South Wales, Australia (Yunkaporta & McGinty, 2009). The returning boomerang diagram illustrates the process of a health professional and a client, sharing information two-ways. Together they build a relationship and ultimately a therapeutic partnership to discuss the client's alcohol care and wellbeing goals. To do this, both parties have yarns (conversations) while following cultural protocols and try to go from low to high knowledge of one another.

Yarning

Yarning was mentioned by nearly all participants as a friendly and relaxed way to talk with clients about alcohol and to build rapport:

It's gotta be a friendly approach. I've seen people do an assessment, they are so abrupt and straight forward and it's not on. (male, remote, AoD)

Two-way sharing between clients and staff was an essential element of yarning:

They do need to get to know me. They haven't seen me around here before, so I suppose I am learning from them as much as they are giving back to me. We share a lot of information. I give them as much as I can and friendships are starting to build up. It's just easing your way in. You need to speak to them and gain trust. If they don't know you, they don't trust you. But once they get to know you, that's good. (male, urban, AoD)

All participants described the importance of following cultural (gender) protocols when yarning about alcohol or taking on a new client:

[If] I'm showing them respect and speaking to an older lady I will step back and ask if I can speak to her, not just walk right up to her. And I'll say that I can put this forth to a female worker if they want. (male, remote, AoD)

Humour

Participants found humour a useful and natural way to put their clients at ease:

At first I sorta joke about it, it helps drop their guard. (male, regional, other)

While humour felt intuitive to most staff, there appeared to be tension between what is considered "professional" communication and a cultural approach to communicating and connection building:

If I was doing it with a friend or something I would probably lighten things with humour and approach it softly. It's bit different at work; you're meant to be a health professional – but you can always bring a bit of humour into it – they feel more comfortable. (female, regional, general clinical)

Making time to connect

Making time to work with clients and community in the 'right way' (e.g., yarning to get to know one another and taking clients outside clinic) was perceived as a cultural obligation. It was also seen as best practice when engaging with Indigenous clients. This sometimes was at odds with management's expectations on time management:

One thing I found working in [state/territory], they [management] don't have really good understanding of time ... you have to be careful about amount of work you can do with a client. (male, remote, AoD)

Developing a comfortable common ground

Developing a mutual sense of comfort was perceived as a necessary step in building rapport. This sense of comfort was related to the health professional or other staff member “being on the same level” as the client:

They are more relaxed when in the car, they are more comfortable, feel like we’re on the same level. I’m not some trained-up person sitting in front of them. I think that helps. (male, regional, other)

This theme was strongly intertwined with yarning:

Start a general conversation is easiest. So, you’re at their level, so they don’t think you’re intimidating them. (female, regional, general clinical)

Having the service flexibility to take clients out of the clinic (or meet them outside, planned or by chance), sit at the park or river or other culturally appropriate location was also helpful in relaxing clients and staff (i.e., helping health professionals to feel comfortable to do their best work). This was seen as creating a relaxed, culturally safe dynamic:

we go sit down with them and discuss where we want to meet, doesn’t have to be at service, can be outside, at the beach, wherever community feel safe. (female, remote, other)

Participants from one remote service mentioned a trial of community-based workers, who also described delivering health promotion and support outside the clinic in a natural environment:

The ladies and the men like to walk around communities and some of our community-based workers go pick people up and take them fishing and we take flipcharts and information to talk to people. (male, remote, AoD)

One participant described facing structural constraints within their service when conducting ‘meet-n-greets’ in the community (i.e., outreach and or initial consultation with new clients):

I had a bit of a disagreement with management, I was going out to meet someone for the first time and they wanted me to take paperwork out with me and I said that wasn’t going to, it was gonna turn them off right away. (male, remote, AoD)

To navigate around these service requirements that same participant took mental notes and transcribed them post-consultation.

instead of going out with lots of paperwork, we have to sign confidentiality report and that, but I go out and make notes in my head and I come back and write them down later. (male, remote AoD)

Sharing lived experiences

Several participants described using their lived experiences with alcohol use disorders to connect with clients. For some, this meant sharing their own journey, and for others it was being known in

the community to have moved past this issue in their lives. These participants described being perceived as having credibility and authentic knowledge in community:

Talking to clients is the easiest part for us coz [because] it just comes naturally coz we've been there. Drug and alcohol clients don't value you if you haven't lived a life ... you don't know. They don't find them credible. (male, regional, AoD)

Everyone knows what I used to do, I can't hide it, it's a positive for people coming to talk to me. (male, regional, general clinical)

A Both-Ways Approach to Healing and Alcohol Care

The philosophy

All participants described practices and treatment approaches which involved bicultural elements. This was described as blending scientific (Western) medical knowledge with local Indigenous (cultural) knowledges, healing techniques or delivery according to local cultural protocols:

I think [our service] have got it right. Management have put trust into local Indigenous staff to run with it, and know we know our people and they acknowledge we know what's best for our people, because it's both-ways. We acknowledge strength of mainstream ways and [the local Aboriginal people's] ways and bringing them together. (female, remote, other)

To deliver bicultural care, it was considered important to have strong foundations in both spheres of knowledge. For cultural aspects, this was seen as involving strong links with the local community and Elders. Strong relationships with non-Indigenous clinicians gave Indigenous frontline workers confidence in their clinical knowledge of alcohol and related harms. This enabled staff to translate their knowledge of a Western treatment approach into a cultural program, or deliver health information in a culturally appropriate manner:

We do cultural training. It is very important, need to have an understanding of how culture works here in [state] if they don't understand they won't be able to work with community. (male, remote, AoD)

the Aboriginal Health Workers are the middle person between client and [non-Indigenous] doctor ... if you miss this opportunity ... you won't see them again. (female, urban, general clinical)

Urban, regional, and remote service participants described bicultural care in similar language. A universal experience was described in navigating 'two-ways', though contextualising (tailor to local 'ways') your approach was emphasised:

if you get the right validated scientific tools and as well as a cultural view, our patients listen to us. (male, urban, general clinical)

You need to get stuff but adapt it locally ... with us we integrate with mainstream. It's tough but I think you just have to get that one standard model and everyone from their own area [cultural perspective] can add to it. (male, regional, other)

Overall, participants described seeing their clients not as individuals, but part of a family and community:

You are not just working with one person you are working with the family. (male, remote, AoD)

Finding balance and the space for cultural care

One participant described the struggles their service had in retaining Indigenous health workers due to how dominant the Western approach was in providing care:

the lady [Aboriginal health professional] I started with, she ended up leaving because CBT [cognitive behavioural therapy] was pushed so much. She was narrative, sit in the dirt with our Mob. But now it's like they have to have an appointment to come see us and that is frustrating. (female, remote, AoD)

Culturally-informed approaches to healing

Four main therapeutic approaches were discussed by participants in working with clients. These are gendered group activities; cultural days and barbeques; camps; and culture as treatment. A graphic summary of both the care philosophy and the four specific therapeutic approaches is presented in Figure 2.

Figure 2. A both-ways approach to healing and alcohol care

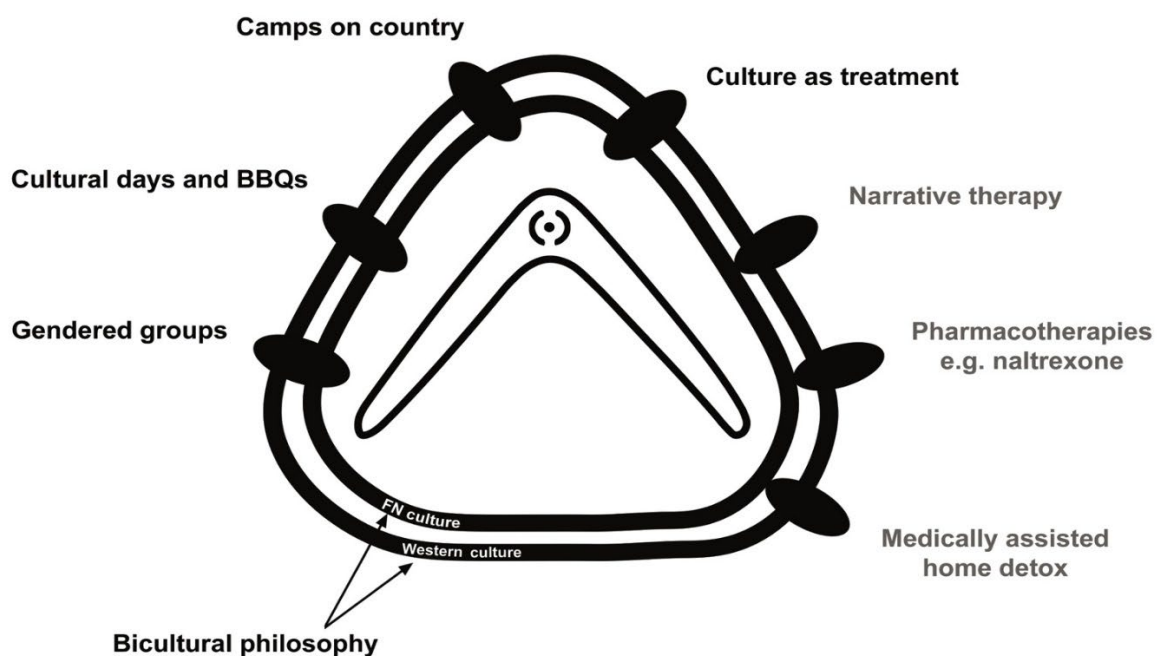


Figure 2 depicts the bicultural philosophy implemented at some ACCHSs as described by participants. The two concentric lines represent the two knowledge bases working side-by-side, with dots intersecting at varying points (First Nations, FN; western culture). The treatment or healing approaches in black type had a strong bicultural focus, whilst those in grey are examples of predominantly Western approaches that can be delivered in a culturally inclusive model. The interpersonal processes, represented by the returning boomerang at the centre, facilitate delivery of these Western treatments in a trusting partnership. Similarly, the therapeutic partnerships developed (in the inner layer) may be impacted by what treatments staff can offer clients.

Gendered groups

Gendered group activities were talked about by almost all participants. Men's and women's groups were the most common. This was followed by culturally-modified SMART Recovery (Dale et al., 2021), 'Mums and Bubs' groups, and a Men's Shed (domestic violence-focused yarning circles with alcohol focus):

If you can engage a small group, cousins and sisters they can support each other. (female, remote, AoD)

Gender segregation in groups was seen positively:

we try keep it culturally appropriate, so women with women [separately] ... I work with some partners, but mostly keep separate. (female, remote, AoD)

Groups were run at the service and off-site for daytrips, and longer overnight camps:

We had a 'walk-the-talk' program, go out bush and walk around and the old fulla's [men] would start pointing out trees or plants and we yarn up about anything and everything and sometimes it brings back memories. Especially the lads that know about it, but don't want to talk about ... We never talk about negative stuff, always positive stuff, to keep our spirit strong and our mind healthy. (male, urban, AoD)

Cultural days and barbeques (for staff and clients)

These therapeutic activities were described as popular events, giving clinicians or health workers an opportunity to present a short talk on a health issue followed by a barbeque and yarn:

Sometimes we might go have an all-men's things barbeque, we'll put on movies about dialysis, chronic liver disease, domestic violence and how drinking impacts on it, and then we talk about all of it. (male, remote, AoD)

Cultural days and barbeques were also used to prevent worker burnout while bonding with clients and celebrating culture:

We used to go on Cultural Days and go hunting for half a day...they love it. It works out both-ways, we don't want to lose it [the culture]. (male, urban, AoD)

Cultural days for women were described by one participant as a positive group activity, but offering these was hindered by a lack of car seats for children:

We used to do cultural days with women. It would be hard coz [because] you say “You can’t bring the kids”, but we’d say “No, it’s a break for you” and we didn’t have car seats, so it’s a safety thing ... but I’d like to see more work with family. (female, remote, AoD)

Camps on country

This approach was mentioned exclusively by participants from remote services. Camps for men and women were typically held in the bush, away from the distractions of day-to-day worries:

We go out camping where mobile phones don’t work. (male, remote, AoD)

could be on homelands or somewhere local. (female, remote, AoD)

When organising camps, staff would screen interested clients with tools such as IRIS (Indigenous Risk Impact Screen) (Schlesinger et al., 2007) and a general health check:

Before people come to camps (men’s, women’s) they have to go and do a full screen and health check...Most of our questions on alcohol come from communities themselves. We go yarn and they choose the topics that they want to talk about. It’s usually grog [alcohol], gunja [cannabis], and DV [domestic violence]. It works way better than us trying to jam things down their throat. (male, remote, AoD)

Camps were typically run for existing social support groups by the ACCHS:

Our team identifies a target group for camp, a lot of time the group has issues with alcohol and other drugs, we meet with them and invite to attend. (female, remote, AoD)

The health goals for camps varied but all involved bicultural approaches. Cultural elements such as reconnecting to country were intertwined with health promotion messages, positive reinforcement of healthy behaviours, counselling, and health education:

There’s group discussions and opportunities to sit around fire, share what’s going on with them and their communities, we can invite other stakeholders to attend, chat about effects of alcohol etc. and there’s hunting and fishing and allowing guys to connect to land, cultural activities, education and re-connecting to country is definitely a big one. (female, remote, AoD)

Two interviewees emphasised the direct healing (therapeutic) benefits of connecting to country:

My higher power are my people and my country, getting back to culture, that’s what saved me. (male, regional, AoD)

Culture as treatment (and ceremony in the healing process)

One participant described a smoking healing ceremony conducted at their ACCHS and at a local festival (facilitated by staff and an Elder):

a man doing traditional song with clapsticks, they go under the sheet and inhale the steam and can bite on bark... it depends on what they want to get out of it, it's a time to reflect on any wrong doings, find respect for self or community or for people suffering illness. Done in complete silence, apart from song and clapsticks. They are under there for probably 2-3 minutes then go on their way and continue journey as cleansed. We talk before about ceremony, what it is about, time to reflect on life, where they want to go, what person you want to be. (female, remote, other)

Western treatment approaches perceived as culturally appropriate

A range of standard treatment approaches were perceived as culturally acceptable and effective in alcohol care. Prominent approaches discussed by participants included narrative therapy and CBT. Culturally appropriate residential rehabilitation services were seen as highly desirable to clients (in their treatment approach and being located on country) but difficult to access or not available:

people what to go to rehab, but people don't want to leave [local area or country]. We did have facility here, it got shut down. (female, remote, other)

We support 1-2 options for detox/dry out and they can go to AA [Alcoholics Anonymous] which is mainstream. 1 or 2 rehabs for Blackfulla's, there is nothing apart from that. (male, urban, general clinical)

There was a shared interest (between staff across service remoteness) in alcohol relapse-prevention medicines and desire to implement 'home-detox' (ambulatory withdrawal) more frequently:

I haven't referred anyone [to in-patient detox at hospital] for over 2 years, first of all it's seen as part of Health Department, and a lot of stigma and distrust. They [clients] would trust us to help them detox at home. I believe, we could have good system to support them, GPs, Health Workers, nurses, they would trust us. (male, urban, general clinical)

Service-wide strategies to achieving both-ways to healing

Participants discussed three broad approaches which they perceived their services have used to satisfy the bicultural expectations of staff and community members. These are: employing local Indigenous staff, home visits, and 'social advocacy' as a cultural responsibility (Figure 3).

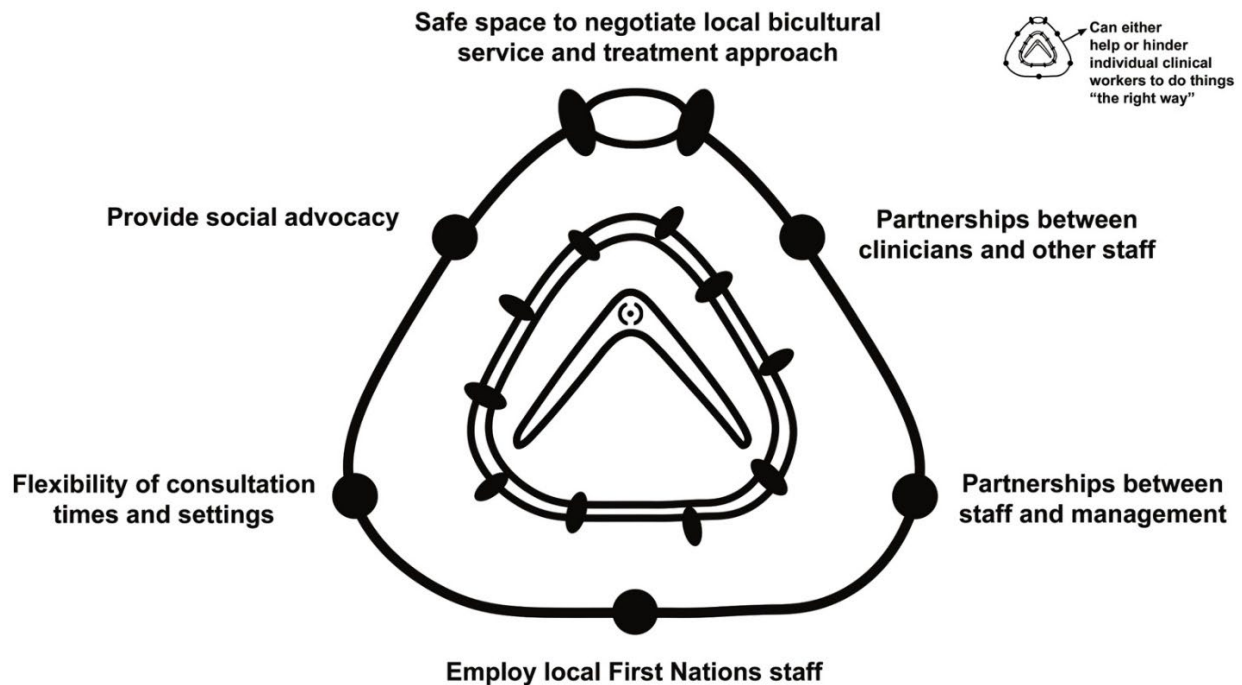
Figure 3. Service-wide strategies to achieving both-ways healing

Figure 3 depicts the service-wide strategies employed by ACHHSs to meet the bicultural expectations of staff and community. All factors in the outer layer can impact on the specific therapeutic approaches available at the service, as well as the interpersonal relationships between staff and their clients.

Employing local Indigenous staff

The benefits of employing local Indigenous staff were mentioned by several participants for the reasons set out below.

Increasing client comfort

Generally, having local people employed at the ACCHS was seen to make clients more comfortable. The ability to talk with clients outside work hours in the community (chance meetings) was also perceived as a positive, putting people at ease to yarn honestly:

They feel more comfortable with Aboriginal staff, they really open up and are honest, even after hours, a lot of them want to talk then, I don't know if they feel more comfortable with us out of uniform. At work, coz [because] they know us they come in. (male, regional, general clinical)

Although there was overwhelming recognition for the positives associated with employing locals with family connections to the area, issues around shame and privacy were raised:

when they come in, they walk into the AMS and think they don't want to talk here, there's too many people or too much family work there, they get shy. (male, urban, AoD)

Kinship (family ties)

In remote sites when kinship ties were mentioned, the ability to talk frankly with clients, knowing the context of all that was going on for clients in their lives was perceived positively, particularly at a point of crisis (e.g., where justice system may be involved with alcohol-related issues):

Also, at times we are family ... that's the benefit, local people working with community and being family, we can have a strong talk with them. (female, remote, other)

Connecting the right people (cultural practice)

Connection to the local area allowed workers to identify the right family or community members to be involved in supporting a client's care. Family ties to the area were not a prerequisite for strong connections with clients, though were seen as very helpful:

[after receiving referral] ... decide who is most appropriate to sit down with that person, consider authority of clan, someone [related] through kinship, will identify the best person to sit with them and initiate discussion. (female, remote, AoD)

For workers in remote services, communication with Elders and other appropriate people when the client was away from their home country was essential. This involved staff contacting with the right people in the homeland and getting the 'OK' for someone to be transported home; it included negotiating an agreement as to who would support the client once back. The role of local Indigenous workers is vital as these conversations can only be conducted with the right people, at the right time, in culturally appropriate terms, and potentially in the traditional language:

Furthest homeland from here is three hours there and back. Big deal to be able to offer them that option, to head back out. Wouldn't just be transport, it would be contacting Elders: "This person wants to come back would you support them?" (female, remote, other)

The cultural practice of connecting people was also expressed by staff in regional and urban services:

It's about finding someone in the area that has networks in their area, connecting people. (male, regional, AoD)

One staff member discussed supporting non-Indigenous colleagues to make these connections:

We can do the introductions so that the [non-Indigenous] workers can see there is so much more behind the scenes ... (male, urban, AoD)

Language and cultural interpreters

In remote sites, locals who are bilingual (English and Indigenous languages) were seen as an essential asset to the team. They were able to act as translators, as well as being culturally appropriate

workers for specific clan groups. Barriers to their recruitment and retention (in remote sites) included social pressures and responsibilities to large extended families:

to get someone good and with language they probably have lots going on at home, lots of people going on. We need Aboriginal people, local people with language. (female, remote, AoD)

Home visits

Offering home visits was seen as important to several participants. Home visits reduced clients' worry over shame and privacy associated with coming into the clinic:

it's important that their business is their business, so they don't think the whole service is going to be judging them; that's for the privacy of the client, make them feel comfortable. (female, regional, general clinical)

Social support and advocacy as a cultural responsibility

Staff understood that clients can have a lot going on in their lives. Providing social supports (e.g., assistance with housing and food) and advocacy (e.g., with child welfare services) was perceived as a cultural responsibility. In one instance a doctor described supporting family of a client as part of culturally appropriate caring:

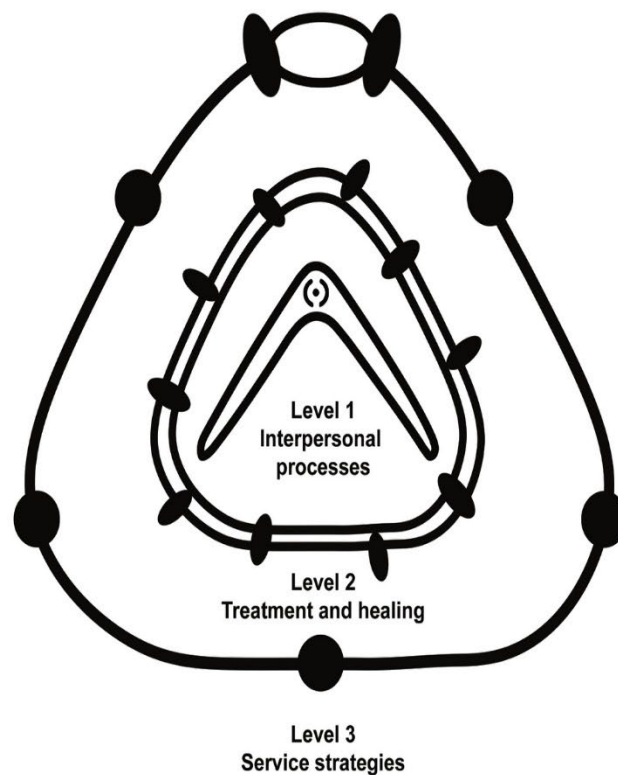
I pick up kids and take them to school in the van and that's not formalised and other parts of the service may not know we do that but if you are doing holistic care, this is why I signed up ... we need to be better at getting out, being in the community, we are part of the community. (male, urban, general clinical)

At times this balance between attending to social needs and focusing on alcohol use can be difficult for health workers to navigate. Setting personal boundaries was also important to strike the right balance between meeting community and service management expectations:

my boundaries need to get a bit tighter; I feel like I'm not getting into the alcohol stuff as I'm dealing a lot with the social stuff and trying to build rapport but trying to be a boss and that scares people away. Sometimes I feel like taxi driver and I'm not empowering them. (female, remote, AoD)

Drawing the three themes together

The findings of staff interviews cover three interconnected levels of alcohol care: interpersonal processes, a both-ways approach to healing (philosophy and treatments), and service-wide strategies to achieving both-ways to healing (Figures 1-3). If one considers all three figures as a whole, they form a meta-theme, a comprehensive model of alcohol care as described by participants. An overview of that model of care is depicted in Figure 4.

Figure 4. Comprehensive bicultural model of alcohol care described by ACCHS staff

Discussion

This is the first study to comprehensively examine the importance of culture in alcohol treatment in primary care settings for Indigenous Peoples of either Australia, New Zealand, the USA, or Canada. The study gives insight into culturally-influenced care, routinely delivered by Indigenous Australian clinical and other staff from 11 independent community-controlled services. These service locations represent a range of geographical areas, from urban to remote, in four Australian states and territories. We identified common themes and described approaches of care which were consistent across service remoteness, with local cultural nuances also noted.

Building partnerships to address alcohol care

Key to delivering alcohol care on the frontline are interpersonal relationships between the health professional or other staff members and their client. Yarning is a core part of these relationships. This narrative style communication philosophy is common throughout Australia's Indigenous communities (Fredericks et al., 2011). The best-known aspect of yarning is the social yarn (Bessarab & Ng'andu, 2010). Social yarning serves as the introduction to a conversation and is an important way to build common ground. Between Australian Indigenous peoples social yarning commonly involves a conversation about 'country' (traditional homelands) and 'mob' (what family you come from, and possible shared connections) (Lin et al., 2016; Lovett et al., 2014). However common ground could be established through discussion of any topic, for example, family, sports, or local community matters (Bessarab & Ng'andu, 2010). The ability to establish meaningful connections through yarning has been recognised in the broader health literature (Bacon, 2007; Lin et al., 2016).

In this study, Indigenous staff used the two-way sharing principle of yarning to build rapport and ultimately a therapeutic partnership with their clients. This contrasts with communication techniques taught in Western medicine, which stem from a biomedical model of care and paternalistic culture (Kaba & Sooriakumaran, 2007). In that model, information is elicited from the client by the clinician using probing and direct questioning (Kaba & Sooriakumaran, 2007). The lack of sharing by the clinician can result in them appearing aloof. Research suggests personal and interactive communication, like that described by participants, is important to peoples of all ethnic backgrounds, and relational processes are central to improved client outcomes (Rocque & Leanza, 2015).

The interpersonal processes described by study participants share many similarities with Western models of patient-centred care (Australian College of Nursing, 2020; Barry & Edgman-Levitan, 2012; Epstein & Street, 2011; Pelzang, 2010; Stewart, 2001). What sets the present findings apart is the depth of two-way sharing, and the elements of cultural humility, such as the process of self-reflection and openness to learn about other cultures (for staff not from the local community). For non-Indigenous health professionals working with Indigenous clients this two-way sharing and cultural humility may be even more important given racism experienced by many Indigenous people in healthcare settings (Awofeso, 2011; Taylor & Guerin, 2019). In this study the connectedness of client, staff, and the whole service to family and community was also seen as central.

A bicultural philosophy in alcohol care

At the core of participants' approaches to alcohol care was a bicultural treatment philosophy. The philosophy takes into account Western and local *Indigenous ways of knowing* (including cultural protocols and healing techniques, both traditional and contemporary). A bicultural approach (often termed 'two-ways' or 'both-ways' by participants) has not previously been investigated in the Australian or international literature on alcohol care in primary healthcare settings (Purcell-Khodr et al., 2020). Indeed, descriptions of any cultural elements of care in these settings have been minimal (D'Abbs et al., 2013; Lovett et al., 2014) despite widespread use in other addiction treatment settings (Berry, 2013; Brady, 1995; Gone, 2011; Huriwai et al., 2000b; James et al., 2018; Legha & Novins, 2012; Munro et al., 2017). While international studies suggest a desire of Indigenous communities to incorporate Indigenous knowledges and healing alongside Western medicine, there has sometimes been opposition by mainstream providers, where institutional racism and scepticism can remain challenging (Bourke et al., 2019; DeVerteuil & Wilson, 2010).

Gendered groups and cultural reclamation

In this study, the most common therapeutic approach facilitated by the 'both-ways' (bicultural) philosophy were gendered groups (e.g., men's and women's groups). While gender-specific roles often have a negative association in modern Western societies, they still play an important part in many Australian Indigenous communities and have been associated with the movement to reclaim cultural practices and traditional identities (Fredericks et al., 2017). The presence of cultural protocols and content described in gendered groups in this study differentiate these from peer-to-peer models in mainstream services. Sharing of personal stories of addiction is also part of Western approaches to mutual support groups (e.g., Alcoholics Anonymous, SMART Recovery). However, the group dynamic described in this study was typically freer in nature rather than following a set structure, and settings were flexible. This was illustrated in the discussion of informal barbeques with

staff and clients and camping trips on country. Such activities were also noted as a time for staff to connect to culture and reduce stress. As alcohol and other drug worker burnout rates for Indigenous staff have been described as an issue (Deroy & Schütze, 2019; Roche, Duraisingam, Trifonoff, Battams, et al., 2013; Roche, Duraisingam, Trifonoff, & Tovell, 2013) such initiatives may also aid in the retention of the Indigenous AoD workforce.

Service strategies

A key element at this macro level was creating a culturally safe work environment. This allowed staff to have open conversations about client needs and communities' cultural expectations and preferences. This environment facilitated the formation of partnerships within the clinic (e.g., between management and staff, between clinicians and other frontline staff) which contributed to delivering a pragmatic bicultural service and treatment philosophy. A tension was seen between satisfying management whilst upholding the staff member's obligations to clients and community. Thus, factors at the macro level have the ability to help or hinder frontline staff in delivering care according to their sense of best practice (Roche, Duraisingam, Trifonoff, Battams, et al., 2013). Ongoing tensions are likely to damage trust in relationships between the service and community, and further strain workers who have responsibilities to both parties.

A bicultural model of alcohol care in the ACCHS sector

Considering the three major themes discussed by ACCHS staff, a comprehensive model of alcohol care emerged (Figure 4). Each level of care is connected and somewhat interdependent. For example, to abandon or devalue Indigenous staff members' cultural duty of care at Level 1 (interpersonal processes) or 3 (service strategies) would jeopardise client and community relationships. Meanwhile insensitive or inflexible service practices (Level 3) could inhibit staff from delivering cultural and bicultural treatments (Level 2). Likewise, from a Western medical perspective, failing to uphold principles of evidence-based practice would not be in the best interests of clients, nor would it meet community expectations.

Policy Implications

The principle of merging Indigenous and Western knowledges in a healthcare setting is in line with the World Health Organization's (WHO) policy directives going back almost twenty years (Zhang & World Health Organization, 2002). WHO advocates for the integration of traditional healing practices with national health care systems, particularly in primary care settings (World Health Organization, 2013). Indigenous traditional knowledges from Australia, New Zealand, Canada, or the USA have not been a major focus in this WHO strategy compared to better known systems such as Chinese medicine, naturopathy or Ayurveda medicine. Future research into Australian Indigenous cultural approaches to healing should focus on a bicultural framework, given the existing global support for pluralism in primary care settings.

The principles of care described by staff can be incorporated into policy and practice in a clinical setting where staff and management wish to optimise their engagement with Australian Indigenous clients. The findings on interpersonal processes and the associated model of partnership building identified in this research may be relevant to clients of any ethnic and cultural background, but especially for other minority groups. In applying these principles of care, it is important to consider

all levels of care, including structural and system-level, service-wide factors, and broader policy and funding. Without attention to these factors undue strain may be placed on frontline workers (Roche, Duraisingam, Trifonoff, Battams, et al., 2013), and ultimately on retention of staff.

Government funding for ACCHSs into siloed areas of need (e.g., drug and alcohol, mental health, diabetes, kidneys) (Commonwealth of Australia Department of Health, 2020) may be a barrier to services in tailoring of holistic treatments to local needs. Similarly, key performance indicators for services are typically focused on individual elements of mainstream Western practice (Australian Institute of Health and Welfare, 2019).

More research is needed on the full scope of alcohol care discussed in this paper. A culturally focused qualitative study could further investigate the role of culture and bicultural treatment philosophies and therapies being practised. Effectiveness studies would also be valuable. Positive findings would encourage such cultural approaches to be incorporated into national alcohol treatment guidelines and may enhance funding for such approaches.

These findings are likely to be relevant to primary care service providers in New Zealand, Canada, and the USA where similar bicultural models are being called for. Future research could also investigate the model of care and theories described in this study to see if they hold in other treatment areas and mainstream healthcare settings.

Limitations

Interviewees were not asked specifically about culture in alcohol care. However, this study is in keeping with the original goal of the service interviews, which was to document the strengths of the services in alcohol care. As probing questions were not asked when cultural elements were discussed it is possible that culturally relevant information could have been missed in this study. Additionally, although interviewees were selected by services, their views may not be representative of the whole service, or of all ACCHSs. However, they give valuable insights into a broad picture of alcohol care provided by frontline staff in a range of independent services.

Conclusion

This study describes a holistic system of bicultural alcohol care delivered by Indigenous staff in Australian ACCHS primary care settings. Core principles of the approach are mirrored in addiction treatment models in residential and community settings internationally. The few existing studies of bicultural approaches in primary care also hint at similar themes, however this is the first study to present an in-depth analysis. Extension of bicultural models from residential and community settings into primary care is logical as barriers to alcohol treatment are enduring despite government and service efforts. Integrating a bicultural model of care may increase treatment accessibility and acceptability to Indigenous clients, and in turn may increase treatment effectiveness. However, implementing such a model may require some restructuring of clinical consultation times, settings, treatment options, and hiring of Indigenous staff, where these are not already in place. Widespread adoption of a bicultural model of care would be facilitated by policy changes at national and state levels to afford service flexibility. The framework described here could potentially be tailored to mainstream as well as Indigenous health services and to other health conditions. Consultation with

health professionals and community members would be required implement this framework effectively.

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CHAPTER 4

Low rates of prescribing
alcohol relapse prevention
medicines in Australian
Aboriginal Community
Controlled Health Services



4.1 Introduction

In the previous chapter, findings from a qualitative analysis of n=17 First Nations ACCHS staff interviews were presented. Staff described a comprehensive, bicultural model of alcohol care across three levels. These levels centred on developing a trusting therapeutic relationship with clients, delivering Western and First Nations approaches to healing, and considering all elements that services need to consider, to successfully facilitate a bicultural approach to alcohol care.

In the discussion of treatment options for First Nations clients experiencing alcohol dependence, alcohol relapse prevention medicines were a key Western approach that First Nations ACCHS staff would like to be able to deliver more often. The systematic review in Chapter 1 highlighted the potential benefits of these medicines for First Nations peoples, however the available studies were severely limited (e.g. two uncontrolled trials of disulfiram and a trial of naltrexone with insufficient statistical power to demonstrate effectiveness due to low participant enrolment). Among the general population there is a solid evidence base for effectiveness of alcohol relapse prevention medicines, and they are recommended in the National Alcohol Treatment guidelines (99). Several potential barriers to prescription have been discussed in Chapter 1. Completing withdrawal prior to commencing treatment is one barrier, especially when inpatient care is required. Access by First Nations Australians to these medicines is unknown. Here, we hypothesise that uptake would be low given that access amongst the general population is also low, and First Nations Australians tend to have lower access to pharmaceutical medicines generally.

This chapter presents a quantitative study examining the prescription rate of naltrexone, acamprosate and disulfiram to First Nations clients in 22 ACCHSs, at baseline in a larger cluster randomised controlled trial (137).

Please note, in general, this thesis uses the term 'client' to describe individuals attending primary care services. In the publication below, this has been replaced with 'patient' as per the publishing journal preference.

4.2 Published article

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Low rates of prescribing alcohol relapse prevention medicines in Australian Aboriginal Community Controlled Health Services

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Abstract

Introduction: Alcohol dependence is a chronic condition impacting millions of individuals worldwide. Safe and effective medicines to reduce relapse can be prescribed by general practitioners but are underutilised in the general Australian population. Prescription rates of these medicines to Aboriginal and Torres Strait Islander (First Nations) Australians in primary care are unknown. We assess these medicines in Aboriginal Community Controlled Health Services and identify factors associated with prescription.

Methods: Baseline data (spanning 12 months) were used from a cluster randomised trial involving 22 Aboriginal Community Controlled Health Services. We describe the proportion of First Nations patients aged 15+ who were prescribed a relapse prevention medicine: naltrexone, acamprosate or disulfiram. We explore associations between receiving a prescription, a patient AUDIT-C score and demographics (gender, age, service remoteness) using logistic regression.

Results: During the 12-month period, 52,678 patients attended the 22 services. Prescriptions were issued for 118 (0.2%) patients (acamprosate $n = 62$; naltrexone $n = 58$; disulfiram $n = 2$; combinations $n = 4$). Of the total patients, 1.6% were

'likely dependent' (AUDIT-C ≥ 9), of whom only 3.4% received prescriptions for these medicines. In contrast, 60.2% of those who received a prescription had no AUDIT-C score. In multivariate analysis, receiving a script (OR = 3.29, 95% CI 2.25–4.77) was predicted by AUDIT-C screening, male gender (OR = 2.24, 95% CI 1.55–3.29), middle age (35–54 years; OR = 14.41, 95% CI 5.99–47.31) and urban service (OR = 2.87, 95% CI 1.61–5.60).

Discussion and Conclusions: Work is needed to increase the prescription of relapse prevention medicines when dependence is detected. Potential barriers to prescription and appropriate ways to overcome these need to be identified.

KEYWORDS

Aboriginal Community Controlled Health Services, alcohol dependence, alcohol use disorder, primary care, relapse prevention medicine

1 | INTRODUCTION

Unhealthy alcohol use [1] is a major cause of preventable disease, early mortality [2] and a causal factor in family and community violence [3]. Unhealthy use includes hazardous, harmful and dependent alcohol use [4, 5]. For Aboriginal and Torres Strait Islander (First Nations) Australians, alcohol-related harms and hospitalisations are two to three times greater than in the general Australian population [6, 7]. This is in part due to the prevalence and context of episodic heavy drinking [8–10]. That drinking occurs on the background of grief, loss, intergenerational trauma and socioeconomic marginalisation as a result of colonisation [11, 12]. Alcohol dependence is at the severe end of the drinking spectrum (comparable to moderate to severe alcohol use disorder in the Diagnostic and Statistical Manual of Mental Disorders [13]). It is characterised by a strong internal compulsion to consume alcohol with impaired ability to control one's use. Among First Nations Australians, the prevalence of alcohol dependence is similar to that of the general Australian population (2.2% vs. 1.4%, aged 16+) [14, 15]. Harms to individuals, their families and communities can be greater in dependence [9]. To help address alcohol dependence among First Nations Australians, accessible and effective treatments are needed.

Primary care services are the first point of contact with the health-care system for most patients and provide care across the lifespan. Patients generally have longstanding relationships with primary care doctors, and these relationships can also include their families and connections to the wider community [16]. As such, primary care doctors can develop strong rapport with patients and play a key role in screening for unhealthy alcohol use, including detecting dependence and utilising existing treatments [17].

For patients who meet the criteria for alcohol dependence, there are three medicines approved for use in

Australia to help prevent relapse after stopping drinking—naltrexone, acamprosate and disulfiram [18]. These medicines can be prescribed by general practitioners (GP). The government subsidises the cost of naltrexone and acamprosate via the Pharmaceutical Benefits Scheme [19]. Disulfiram is not subsidised and costs approximately \$80–90AUD per month [20]. Despite the effectiveness (and cost-effectiveness) of relapse prevention medicines [21], they remain underprescribed compared with the level of need. Between 2009 and 2013, it was estimated that only 3% of Australians with alcohol dependence were prescribed naltrexone or acamprosate [19, 22]. No data are available on prescriptions for disulfiram. Little is known about Australian First Nations peoples' access to relapse prevention medicines. However, this population tends to have lower access to prescription medicines on average compared to their non-Indigenous counterparts. Between 2016 and 2017, the average Pharmaceutical Benefits Scheme expenditure per First Nations Australian was 29% of the amount spent for each non-Indigenous Australian [23].

There are promising results from trials of naltrexone and disulfiram among other First Nations peoples, although the study designs limit the strength of their findings. Disulfiram was trialled in two separate (uncontrolled) studies in Navaho communities. One study reported decreased binge drinking and increased sober periods at 18 months [24]. The second study reported 78% reduction of alcohol-related incarcerations and just under half the participants ($n = 50/115$) were abstinent at 12–24 months [25]. These reports were published more than 50 years ago, and the detail provided does not allow conclusions on the acceptability of this medication to these First Nations peoples. A recent randomised controlled trial in Alaska reported that naltrexone was associated with a significant

reduction in alcohol-related adverse consequences when compared with placebo. On the other hand, in this 3-arm trial, naltrexone combined with sertraline was not significantly better than placebo, though sample size ($n = 68$) and hence, power, was limited [26].

Aboriginal and Torres Strait Islander Community Controlled Health Services (ACCHS) are primary care services managed and delivered by First Nations communities across Australia [27]. ACCHSs deliver holistic, culturally informed care in over 300 clinics across urban, regional and remote settings. Understanding prescribing rates for alcohol relapse prevention medicines and potential patient and service factors associated with their prescription, could help to optimise uptake and inform use of the medicines. In the current study, we aimed to: (i) determine the extent of prescribing of alcohol relapse prevention medicines in 22 ACCHSs over a 12-month period; and (ii) investigate whether demographic factors or AUDIT-C screening were associated with prescription of these medicines.

2 | METHODS

2.1 | Overview

This is a secondary analysis of routinely collected data, provided by 22 ACCHSs as part of the baseline for a cluster-randomised trial [28]. That study examined the effectiveness of a model of multi-component, service-wide and collaborative support designed to increase screening and treatment for unhealthy alcohol use (trial registration number: ACTRN12618001892202) [29]. Here, we explore the rates and correlates of prescribing alcohol relapse prevention medicines among First Nations Australians using logistic regression.

2.2 | Study design

This study presents a cross-sectional analysis of prescription of alcohol relapse prevention medicines (naltrexone, acamprosate or disulfiram) at baseline across the entire sample (intervention and wait-list control services).

2.3 | Setting

Twenty-two ACCHSs across six states and territories of Australia (New South Wales, Queensland, South Australia, Victoria, Western Australia and Northern Territory).

The service sites include urban ($n = 10$), regional ($n = 5$) and remote ($n = 7$) areas.

2.4 | Data extraction

All services provided routinely collected data for a 1-year period prior to the intervention start date, that is from 29 August 2016 to 28 August 2017. Deidentified data were provided on patients aged 15 years and over, extracted from the 'Communicare' practice software system [30]. Individual patient records were linked with an identification (ID) variable.

2.5 | Measurements

2.5.1 | Demographics

Patient age and gender were recorded by services. Remoteness (urban, regional or remote) was determined based on service location using the Australian Statistical Geography Standard Remoteness Structure [31].

2.5.2 | Alcohol Use Disorders Identification Test- Consumption questions

The Alcohol Use Disorders Identification Test (AUDIT) is a commonly used alcohol screening tool that can be used to identify hazardous alcohol use and alcohol use disorders (including dependence). The shortened 3-item tool (AUDIT-C, i.e. AUDIT - Consumption) has been validated for use with First Nations Australians in comparison with the full AUDIT screen (10-item) [32]. The full AUDIT has been found to correlate well with another measure of alcohol consumption in one remote Australian Aboriginal community [33, 34]. For this study, AUDIT-C cut-off scores were selected to maximise sensitivity and specificity based on the literature. AUDIT-C scores were classified as 'risky' at ≥ 3 for females and ≥ 4 for males (sensitivity 0.73, specificity 0.91; sensitivity 0.86, specificity 0.89; respectively) [35]. AUDIT-C scores of 9 or above were considered to indicate likely dependence (sensitivity 0.87, specificity 0.94) [32]. Patients with no AUDIT-C recorded in their patient files were excluded from analyses relating to the score.

2.5.3 | Relapse prevention medicine prescription

Communicare patient software automatically records prescription of naltrexone, disulfiram or acamprosate. For

each relapse prevention medicine, we used binary variables to describe whether patients were prescribed it at least once (1) or not at all (0) during the reference period.

2.6 | Analysis

We merged data into a single table using the statistical software 'R' [36] and the data.table library. Data were grouped so that there was a single observation for each patient over the 12-month reference period. We coded age into four groups (15–24, 25–34, 35–54 and 55+ years) so that nonlinear relationships between age and outcome variables could be observed. For patients with multiple AUDIT-C scores, the median was used in analyses.

We calculated the number of individuals who were prescribed any one of the three alcohol relapse prevention medicines as a percentage of the total patient population, and compared this across the 22 services for the 12-month baseline period.

Bivariate logistic regressions were used to investigate the association between potential predictor variables and prescription of any alcohol relapse prevention medicine (dependent variable). Predictor variables included gender, age, service remoteness and AUDIT-C variables (binary 'screened' vs. 'not screened'; continuous AUDIT-C scores; and binary 'likely dependent' vs. 'not likely dependent'). Then, three multivariate logistic regressions were used to study the effects of AUDIT-C screening on prescribing. Pilot analyses demonstrated that findings were not clustered by service (intraclass correlation coefficient 0). Accordingly, we did not include random effects in our logistic regression models. We fit these models using the 'glm' function from the stats library in R [36].

2.7 | Ethics

Ethical approval was obtained from eight ethics committees across Australia: Aboriginal Health and Medical Research Council of NSW Ethics Committee (NSW; project 1217/16), Central Australian Human Research Ethics Committee (project CA-17-2842), Human Research Ethics Committee of Northern Territory Department of Health and Menzies School of Health Research (project 2017–2737), Central Queensland Hospital and Health Service Human Research Ethics Committee (project 17/QCQ/9), Far North Queensland Human Research Ethics Committee (project 17/QCH/45-1143), The Aboriginal Health Research Ethics Committee, South Australia (SA; project 04-16-694), St Vincent's Hospital Melbourne Human Research Ethics Committee (project LRR 036/17) and Western Australian Aboriginal Health Ethics Committee (WA; project 779).

2.8 | Australian First Nations contributions and community participation

The overarching study has significant contributions from Australian First Nations researchers, services and communities [29]. First Nations staff of two state-wide umbrella agencies for ACCHSs (in South Australia and New South Wales) helped formulate the research question and study design of the overarching trial. Kristie Harrison, a Wiradjuri woman, played a key role in recruiting services, and in other aspects of the overall study. The present sub-study is led by an Australian First Nations (Gundungurra) author (GK).

3 | RESULTS

3.1 | Sample characteristics

Across the 22 ACCHSs, there were 52,678 unique patient observations in the 12-month reference period. The sample size equates to 6.6% of the First Nations Australian population [10]. Patient demographics, AUDIT-C screening results and prescriptions by service remoteness are reported in Table 1. Females represented just over half (56.1%) of all patients. The mean age and proportion of female patients were similar across services in urban, regional and remote areas.

3.2 | AUDIT-C screening

Under a fifth of patients (17.2%) were screened with AUDIT-C during the 12-month reference period (Table 1). Of the patients with an AUDIT-C score, 42% were classified as 'risky drinkers' and 9.4% as 'likely dependent' (9.4% is a subset of the risky drinkers). Of the total patient sample, this equated to 7.3% classified as 'risky drinkers' and 1.6% as 'likely dependent'. Males tended to have higher AUDIT-C scores than women (mean score of 4.02 vs. 2.4; $p = 0.001$). Patients from regional services were more likely to have AUDIT-C scores indicating likely dependence than patients from other areas (odds ratio [OR] 1.49 [95% confidence interval [CI] 1.32, 1.69]).

3.3 | Prescription rates

In total, 118 patients (0.2%) received at least one prescription for a relapse prevention medicine. Of the three medicines, acamprosate was prescribed most ($n = 62$).

TABLE 1 Patient demographics, AUDIT-C scores and alcohol relapse prevention medicine prescription by ACCHS remoteness in the 1-year baseline period.

Characteristic	Urban	Regional	Remote	Total
Female patients	56.64	55.66	55.95	56.14
Mean age (SD)	36.96 (16.14)	38.84 (16.82)	37.45 (15.9)	37.54
Total number of patients attending services	18,720	10,326	23,632	52,678
Number of patients with:				
A screen with AUDIT-C (%) ^a	2800 (14.9)	947 (9.17)	5314 (22.4)	9061 (17.2) ^d
Risky AUDIT-C (%) ^b	1084 (38.7)	566 (59.8)	2197 (41.3)	3847 (7.30) ^d
Likely dependent AUDIT-C (%) ^c	228 (8.14)	143 (15.1)	483 (9.08)	854 (1.62) ^d
Prescriptions issued <i>n</i> (% total) ^e	70 (57.3)	13 (10.6)	39 (31.9)	122 ^f
Naltrexone (<i>n</i>)	39	8	11	58
Acamprosate (<i>n</i>)	30	4	28	62
Disulfiram (<i>n</i>)	1	1	0	2

Abbreviations: ACCHS, Aboriginal and Torres Strait Islander Community Controlled Health Services; AUDIT-C, Alcohol Use Disorders Identification Test-Consumption.

^aPercentage of patients screened with AUDIT-C from total number of patients attending services.

^bPercentage of screened patients returning a 'risky' score. AUDIT-C cut off of ≥ 3 for females and ≥ 4 for males was used.

^cPercentage of screened patients returning a 'likely dependent' score (a subset of risky drinkers). AUDIT-C cut off ≥ 9 for females and males was used.

^dPercentage of the total patient population.

^ePercentage of total number of prescriptions issued.

^fSome patients received a prescription for more than one type of medicine ($n = 4$).

followed by naltrexone ($n = 58$) and then disulfiram ($n = 2$). Four patients received prescriptions for more than one kind of relapse prevention medicine (Table 1). Overall, rates of prescription were consistently low across all services (Figure 1) with the highest rate in a service being less than one in 100 patients (0.97%). Two services did not record any prescriptions (Figure 1). Patients attending urban services were almost three times more likely to be prescribed a medicine compared to those attending regional services (OR 2.87 [1.61, 5.60]). Patients at remote services were not significantly more or less likely to be prescribed relapse prevention medicines than patients at regional services (OR 1.42 [95% CI 0.77, 2.94]).

The majority ($n = 71$, 60.2%) of patients who received a prescription had no recorded AUDIT-C score and 18 patients (15.3%) received a prescription while their AUDIT-C score was not suggestive of dependence (i.e., <9). On the other hand, of the patients with a likely dependent AUDIT-C score, only 3.4% ($n = 29$) received a prescription.

3.4 | Predictors of relapse prevention medicine prescription

Males were more than twice (OR 2.2 [95% CI 1.54, 3.28]) as likely to be prescribed any of the medicines

compared to females (Table 2). In the multivariate regression which included AUDIT-C screening status (screened, not screened) as a predictor, male gender remained an independent predictor of prescription (OR 2.24 [1.55, 3.29]). However, after accounting for AUDIT-C scores (continuous), age and remoteness in a multivariate regression, being male was no longer a significant predictor of receiving a prescription (OR 1.1 [95% CI 0.61, 2.14]).

In both the unadjusted and adjusted models (Table 2), young people aged 15–24 years were less likely to be prescribed than other age groups. When accounting for AUDIT-C score, only 35–54 year olds had higher odds of being prescribed relapse prevention medicines than young people (15–24 year olds).

Being screened with AUDIT-C was consistently a significant predictor of prescription. Accounting for demographics, patients who were screened with AUDIT-C (regardless of their score), were over three times more likely to be prescribed a medicine than those who were not screened (OR 3.29, [2.25, 4.77]) (Table 2). Patients with a likely dependent AUDIT-C score were almost 13 times more likely to be prescribed a medicine than those with a non-dependent score (OR 12.78, [6.93, 24.21]). In addition, for every increase in AUDIT-C score by 1, the odds of being prescribed a medicine increased 1.48 times ([95% CI 1.35, 1.65]).

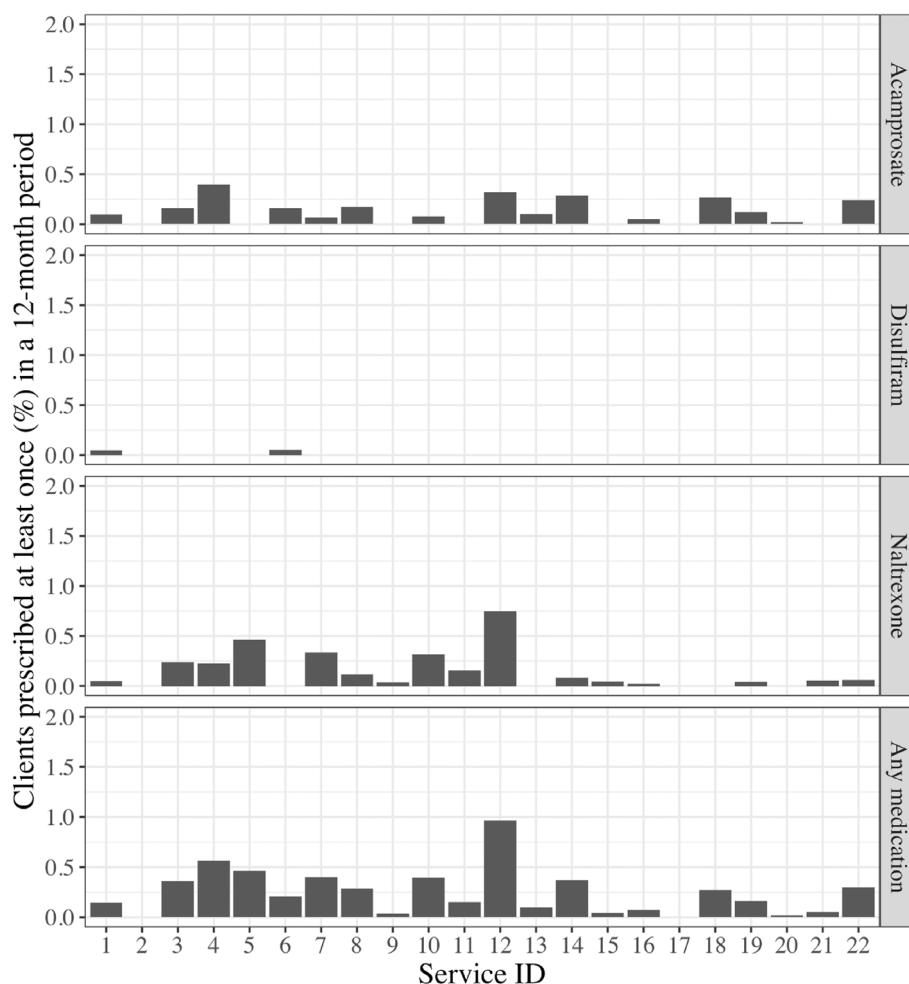


FIGURE 1 Percentage of patients who received at least one alcohol relapse prevention medicine prescription at 22 Aboriginal and Torres Strait Islander Community Controlled Health Services over the 12-month baseline period. Calculated as a percentage of the total number of patients who accessed each service during the 12-month baseline period. In total 118 patients received at least one prescription of any of these medicines.

4 | DISCUSSION

To our knowledge, this is the first study to investigate prescription of alcohol relapse prevention medicines to Australian First Nations peoples. Among these 22 ACCHSs we identified consistently low prescribing rates. In total, 0.2% of patients were prescribed relapse prevention medicines in the 12-month reference period. This included only 3.4% of those whose AUDIT-C scores suggested likely dependence. This finding is consistent with estimates that 2.7–3% of those with alcohol dependence in the general Australian population received relapse prevention scripts in 2011–2012 [22]. In our study, patients were more likely to be prescribed a medicine if they were male, middle-aged (35–54 years), attending an urban service or were screened with AUDIT-C. Predictors of prescription identified in the present study, may assist in future research and inform

clinical practice for frontline staff. Given the small percentage of likely dependent patients who received a medicine, future research should investigate barriers to prescription in this setting.

The low prescription rate of relapse prevention medicines in our sample could be due to a range of factors, including: under-detection of dependence, GPs not offering patients a prescription to eligible patients or patients declining this treatment.

4.1 | Likely under-detection of dependence

The prevalence of alcohol dependence detected in our patient sample was 1.6% (AUDIT-C score ≥ 9). This is slightly lower than in a recent First Nations Australian community sample (2.2%; an urban and remote site).

TABLE 2 Logistic regression analyses of AUDIT-C screening data as a predictor of being prescribed an alcohol relapse prevention medicine when accounting for demographics.

Variables	Unadjusted OR ^a [95% CI] ^b	Adjusted OR [95% CI] multivariate regressions ^c		
		Screened with AUDIT-C (yes/no)	AUDIT-C score (continuous)	Screened likely dependent (yes/no)
Screened with AUDIT-C (yes/no)	3.20 [2.20, 4.61]***	3.29 [2.25, 4.77]***	–	–
AUDIT-C score (continuous)	1.54 [1.39, 1.71]***	–	1.48 [1.35, 1.65]***	–
Likely dependent (yes/no)	15.99 [8.92, 29.44]***	–	–	12.78 [6.93, 24.21]***
Male gender ^d	2.24 [1.54, 3.28]***	2.24 [1.55, 3.29]***	1.12 [0.61, 2.14]	1.42 [0.77, 2.71]
Age ^e , years				
25–34	7.13 [2.75, 24.26]***	7.46 [2.88, 25.41]***	2.33 [0.53, 16.02]	2.71 [0.62, 18.59]
35–54	14.53 [6.04, 47.66]***	14.41 [5.99, 47.31]***	6.44 [1.92, 40.03]*	7.74 [2.32, 48.00]**
55+	5.88 [2.13, 20.62]**	5.96 [2.16, 20.91]**	4.34 [0.99, 29.90]	4.19 [0.96, 28.73]
Service remoteness ^f				
Remote	1.42 [0.77, 2.84]	1.12 [0.60, 2.26]	1.24 [0.50, 3.77]	1.04 [0.42, 3.16]
Urban	3.09 [1.73, 6.00]***	2.87 [1.61, 5.60]***	2.36 [0.94, 7.18]	2.05 [0.82, 6.26]

Abbreviations: AUDIT-C, Alcohol Use Disorders Identification Test-Consumption; CI, confidence interval; OR, odds ratio.

^aThe unadjusted odds ratios were derived from the bivariate regressions.

^b* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

^cThe adjusted odds-ratios were derived from multivariate logistic regressions which accounted for demographic variables and the AUDIT-C variable listed in that column.

^dThe reference group was female patients who had a log-odds of being prescribed of -6.53 .

^eThe reference group was those aged 15–24 years who had a log-odds of being prescribed of -8.16 .

^fThe reference group were regional services whose patients had a log-odds of being prescribed of -6.76 .

That study used an interactive iPad tool, validated among First Nations Australians, to ask three questions on dependence (derived from International Classification of Diseases, 11th Revision, features) [14]. Our prevalence of 1.6% is close to the 12-month prevalence of 1.4% within the general Australian community (Diagnostic and Statistical Manual of Mental Disorders, fourth edition; diagnostic interview schedule) [15]. The true prevalence of alcohol dependence in our services could be higher, given the low AUDIT-C screening rate (17.2%) during the 12-month period.

Over half of all patients screened had AUDIT-C scores in the risky category (≥ 3 females, ≥ 4 males). That prevalence is far higher than the prevalence of drinking above recommended limits in the wider First Nations Australian population (20–34% individuals at high single-occasion and life-time risk, respectively) [37]. This could suggest that staff were more likely to screen patients whom they suspected could be risky drinkers.

AUDIT-C was only introduced as a national key performance indicator for Aboriginal and Torres Strait Islander primary care services by the Australian Government 3 months before the baseline period ended [38]. In the overarching trial, from which we have drawn our data, AUDIT-C screening rates have

since increased in both the early intervention and wait-control services [39].

Another reason to suspect under-detection of dependence, is the intermittent drinking patterns that have been reported among First Nations Australians (e.g., drinking only during mourning periods [Sorry Business] or celebrations) [40]. While such patterns can occur in any setting, some participating remote services were in ‘dry communities’ where the selling and consumption of alcohol are prohibited. Heavy drinking may occur on the outskirts of dry communities [41] or on visits to nearby towns [42, 43]. Intermittent heavy drinkers can still be dependent but not readily detected by AUDIT-C, whose questions on drinking frequency assume a regular pattern [40].

The patient, GP and service-based factors that contribute to under-detection of alcohol dependence in general primary care settings [19] can be compounded for First Nations populations. For example, First Nations Australians may be more reluctant to disclose risky drinking because of experiences of institutional racism [44, 45] or fear of child removal [46]. Patients from dry communities may fear legal or social repercussions if they report drinking, particularly if drinking is occurring within the community [41]. Sensitive and periodic

screening by GPs may help to break down these barriers and increase earlier detection of risky drinking, including dependence.

GP time pressures are a recognised constraint on their alcohol screening [47]. These pressures can be greater in an ACCHS, as First Nations patients typically have a higher prevalence of morbidities than non-Indigenous Australians. In some ACCHSs, other staff (e.g., nurses, Aboriginal health workers or Aboriginal health practitioners) complete AUDIT-C screening prior to the patient seeing the GP or in health checks. If the busy GP does not notice those results or is constrained by time in their response, they may under-detect or under-treat dependence.

4.2 | Not offering medicines despite detection of dependence

As well as time pressures, limited GP knowledge and confidence to address alcohol dependence have been identified as barriers to prescription in the general population [47]. Also, a potential misconception is that treating alcohol dependence is outside the scope of general practice and instead requires referral to addiction medicine specialists [48]. Furthermore, GPs treating First Nations individuals face a higher prevalence of patient comorbidities. These may include a higher prevalence of renal failure (a contraindication to acamprosate) or viral liver disease (a potential contraindication to naltrexone). In remote communities, prescribing may also be hampered by reduced access to local pathology services (e.g., to check patient suitability for a medication or to monitor progress) and lack of proximity to hospitals in the event of serious complications, particularly from a disulfiram-alcohol reaction. Also, the medicines themselves may need to be ordered. It is not known to what extent the barriers of comorbidities or service or medication availability contributed to under-prescribing in this sample.

Of note was the finding that just over 60% of patients in this sample received a medicine without a recorded AUDIT-C screen. This could be due to a presentation with a very obvious and severe alcohol problem, or it could be that the prescription was a continuation of treatment that had started elsewhere (e.g. on leaving a detoxification unit).

4.3 | Medicines potentially offered but declined

We only had information on when the medicines were prescribed, and not on when they had been discussed but declined by the patient. How GPs explain the mechanism

of action, side effects, dosing schedule and out-of-pocket costs of the medicines are likely to impact on the patient's perception of their acceptability and value. Patients may not be aware of the medicine's role in relapse prevention. To-date, no study has been conducted into First Nations patient perceptions of the acceptability of these medicines.

4.4 | Cultural considerations

For many Australian First Nations peoples, the concept of 'holistic healthcare' extends beyond the concept of personal wellbeing to include relationships with land, family and traditional (cultural) healing practices [49]. Having a trusting therapeutic partnership where the patient and clinician have spent time developing a mutual understanding of one another is seen as the cornerstone of this care [50]. ACCHSs are leaders in this regard with many locals employed, and strong kinship and family connections to their patients [51]. Having a range of treatments available, both mainstream (Western) and First Nations cultural (e.g. flexible consultation settings and time, men's and women's groups and cultural days or camps) is likely to increase the cultural acceptability of alcohol relapse prevention medicines [50].

4.5 | Implications for practice and research

Understanding the factors associated with prescription identified in this study may help GPs optimise care and increase prescription of the medicines where appropriate. Partnership between primary care doctors within Aboriginal Community Controlled Health Services and an addiction medicine specialist has been described as increasing GP confidence to treat alcohol and other drug use disorders [52]. Such partnerships can result in sharing of skills and knowledge, and support or referral for complex cases [52]. Community-based initiatives, including campaigns to reduce stigma of treatment seeking could also help [17]. It will also be important to improve the health literacy about the medicines themselves among communities and individuals [53].

The present study draws on baseline data from a trial of a model of support to increase screening and care for unhealthy alcohol use. Analysis of the prescription rates post-intervention may provide insights into ways to increase prescription of the medicines. Future research is needed to clarify the various barriers to prescription of these medicines, and approaches to increase safe and culturally appropriate use of these medications where indicated.

5 | LIMITATIONS

While services were geographically separated, the number of discrete individuals in this sample may be slightly lower than presented, as a patient could attend more than one service. The percentage of female patients in our sample was higher than in the broader Australian First Nations population (56.1% vs. 50.7%) [54]. However, the proportion of females in our sample was only a little higher than in ACCHSs nationally (53.5% in 2016–2017) [55]. It is possible that the true number of prescriptions may vary from what was recorded in the patient software. This may occur if a prescription was written by hand rather than using the software. Also, patients may have already received a prescription from a separate service (e.g., a specialist drug and alcohol service), and so not have needed one from the ACCHS. We do not know how many eligible patients had contraindications to the medicines, or were offered the medicines but declined them.

6 | CONCLUSION

For Australian First Nations peoples, alcohol dependence occurs in the context of the ongoing impacts of colonisation. Safe, effective and accessible treatments are needed for healing and recovery. Relapse prevention medicines are one such option. However, in the 22 participating ACCHSs, the medicines were prescribed to only a very small proportion of patients who had a likely dependent AUDIT-C result. Patient and service-level factors were shown to significantly predict the likelihood of prescription in our sample. These findings may be useful for GPs with both First Nations and non-Indigenous patients who wish to increase medicine uptake for eligible patients. The findings are likely to be useful to primary care doctors working with First Nations patients in similarly colonised countries. The barriers to prescription of these medicines in ACCHS and First Nations contexts require further study.

AUTHOR CONTRIBUTIONS

Gemma Purcell-Khodr: Conceptualisation, formal analysis, original draft preparation, writing, review and editing. **James H. Conigrave:** Software, data curation, methodology, analysis support and comments on the manuscript. **K. S. Kylie Lee:** Conceptualisation and comments on the manuscript. **Julia Vnuk:** Comments on the manuscript. **Katherine M. Conigrave:** conceptualisation, comments on the manuscript and scientific integrity of the study.

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

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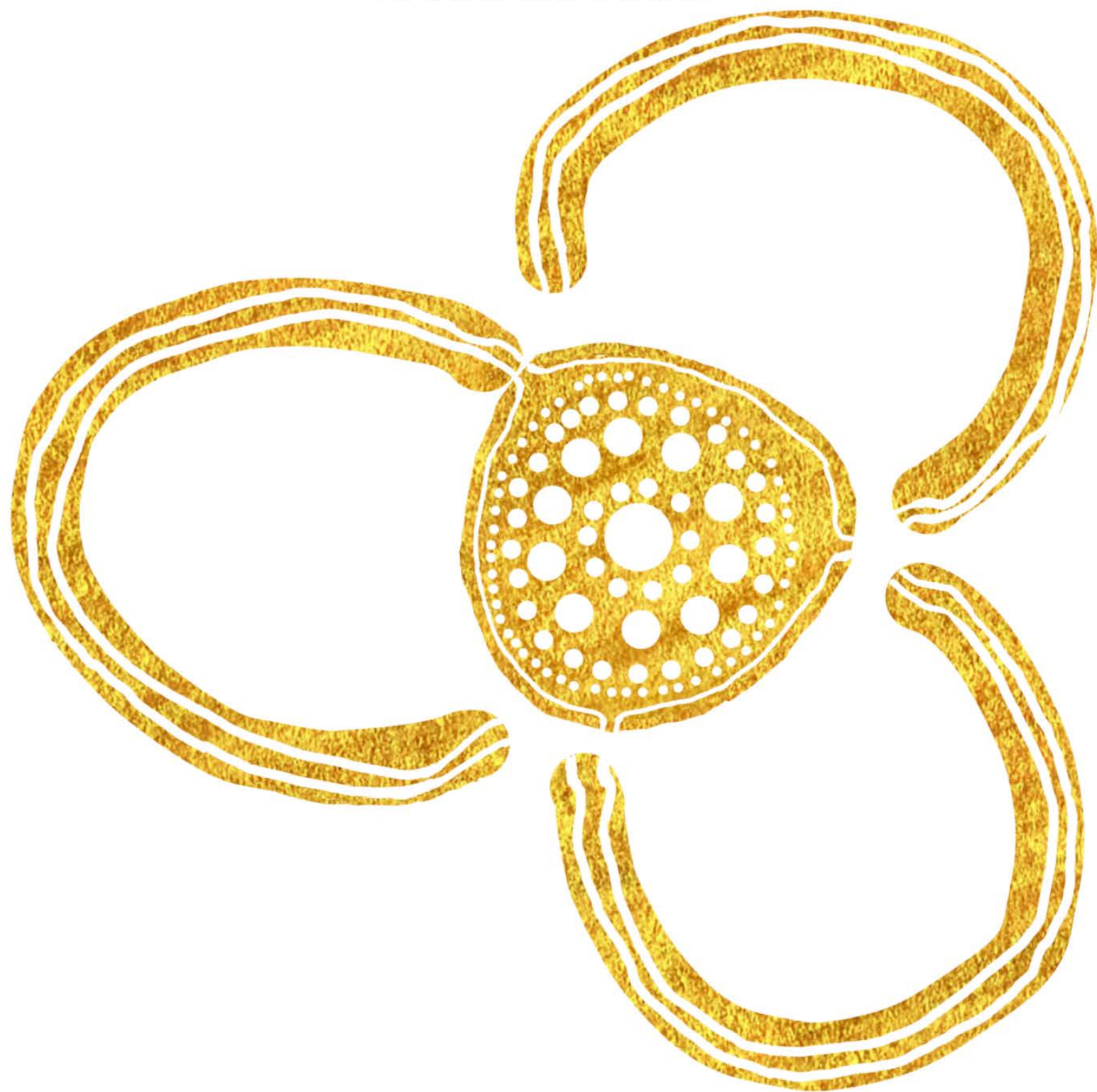
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CHAPTER 5

Discussion



5.1 Novel contributions of this work

This thesis builds on the evidence base for a bicultural approach to alcohol care. Taking a bicultural approach is to work ‘both-ways’ – applying practices and protocols rooted in Traditional (Indigenous) Knowledge alongside scientific (Western) knowledge. For the first time in the peer-reviewed literature for primary care settings this research presents: a systematic review of alcohol care approaches in non-residential settings for First Nations Australians and similarly colonised peoples; a detailed description of Australian First Nations cultural practices and processes in alcohol care; and a quantitative analysis of alcohol relapse prevention medicine prescription among First Nations Australians.

Data for studies in Chapters 3 and 4 are part of a large cluster-randomised controlled trial with 22 ACCHSs across five states and territories (New South Wales, Queensland, Northern Territory, Western Australia and South Australia) (137). Accordingly, findings are likely to be relevant for ACCHSs and Australian First Nations individuals and communities interested in reducing harms from alcohol. Findings may also be relevant for any healthcare providers in Australia and similarly colonised countries, where there is a desire to incorporate First Nations cultural healing approaches alongside standard (Western) medical alcohol care.

5.2 Scope of alcohol care for First Nations clients

5.2.1 Overview

The PRISMA guided systematic review presented in Chapter 2, assessed the scope of outpatient treatment approaches readily accessible to First Nations populations in Australia, New Zealand, USA, and Canada. In total, 28 studies were included,

published between 1968 and 2018. Evidence was disparate making it difficult to assess the scope, likely effectiveness, accessibility, or acceptability of interventions available. The majority of studies were descriptive ($n=21/28$, 75%) and most approaches described a single time (cross-sectional study), with no mention of follow-up.

Australian-based studies ($n=17/28$) focused heavily on early intervention for non-dependent drinkers (e.g. screening and brief intervention), whilst studies abroad almost solely focused on interventions for alcohol use disorders (including dependence). Along these same division lines, Australian studies were almost completely devoid of First Nations cultural or bicultural themes, whilst several cultural modalities were discussed in studies from all other countries.

Meanwhile, most Australian studies ($n=14/17$) were set in or affiliated with ACCHSs (primary care setting). Abroad, most studies were set in residential facilities with associated outpatient programs – and these outpatient programs whilst largely focused on tertiary care, also focused on the role of culture in healing, for clients, families of clients and local communities (139-141). Accordingly, the latter could be considered a primordial prevention strategy.

5.2.2 First Nations culture and bicultural approaches to prevent unhealthy alcohol use

Programs that addressed broad community-wide prevention of unhealthy alcohol use, were typically open-invitation community events, facilitated by a residential health service on-site or at a location based in the community. One Canadian study described the aim of such events as promoting “collective healing” from colonisation

and strengthening of the spirit (protective factors) against substance abuse (141). A key feature of this approach was to bring a whole community together via cultural practices and sacred ceremonies. Some examples included pow-wows, smudging (ceremonial smoking of sacred plants), arts, and use of a sweat-lodge.

In Chapter 1, discussion of primordial level “social and emotional wellbeing” programs highlighted the range of programs delivered by ACCHSs. A recent review of ACCHS annual reports confirm that this sector consistently delivers programs aimed at social determinants of health (i.e. all n=67 annual reports collected in 2017-18 reported programs targeting social determinants of health) (127). These programs were similar to collective healing approaches described in Canada (141) and the USA (140). The absence of ACCHS primordial programs in the literature is perhaps due to the broad nature of these programs (i.e. promoting social connectedness, cultural practices or healthy lifestyles to protect against risky behaviours, including unhealthy alcohol use).

5.2.3 The absence of First Nations cultural perspectives in studies set in Aboriginal Community Controlled Health Services

As mentioned above, half of all studies included in the systematic review were set in or affiliated with ACCHSs (n=14, Chapter 2, Table 3). Not one of these studies provided detail beyond a brief mention of cultural elements in care (a yarning style introduction to brief intervention) (142). Instead, these Australian studies focused on how to make approaches developed for the general population, work in ACCHSs. This raises questions over decision making power in research agendas, and the role

of ACCHSs in choosing research questions (143).

5.3 First detailed description of First Nations Australian culture in alcohol care within primary health services

5.3.1 Overview

Chapter 3 presents the first detailed description in the refereed literature of the role of Australian First Nations culture in alcohol care in primary health services. Data for this analysis came from interviews conducted to inform a larger study described in Chapter 1 (see Section 1.13 and 5.1). Seventeen Aboriginal or Torres Strait Islander interview participants representing 11 individual ACCHSs from around Australia took part.

ACCHS staff expressed the importance of culture in all aspects of alcohol care, from interpersonal processes between frontline staff and clients, through to service structure and policy. The model of alcohol care described by staff, had similarities with an existing model of Aboriginal and Torres Strait Islander social and emotional wellbeing (e.g. emphasising importance of connection to kin, community and country) (73). The “two-ways” or “both-ways” approach described by staff also resonated strongly with bicultural philosophies articulated by First Nations Elders in Australia and internationally. Similar philosophies included *Ganma* described by Yolngu peoples in the Northern Territory of Australia (144); *Malparara Way* described by Anangu women in Central Australia (5); *Two-Eyed Seeing*, now widespread in Canada (9); and *Waka-Taurua* (double-canoe) from New Zealand (10) (145).

5.3.2 Bicultural approaches in the health systems of similarly colonised countries

The model of care described by ACCHS staff in Chapter 3, fits into a category of 'bicultural' alcohol care identified in New Zealand, USA and Canada (Chapter 3, Table 3). However, bicultural approaches to alcohol care do not exist as isolated treatment modalities, rather they are part of a global movement to reintegrate traditional medicine, sometimes termed complementary medicine, into national health care systems (146). Support for this notion is reflected in the United Nations Declaration on the Rights of Indigenous Peoples (147). The WHO's Traditional Medicine Strategy (2014-2023 (146) discusses how member states (including Australia) can reintegrate traditional healing practices (therapies), practitioners (healers), and products (medicines) – all three elements fit under the 'traditional medicine' umbrella term. This topic is addressed in the Declaration of Astana for primary care providers specifically (148).

New Zealand - Rongoā Māori

For New Zealand, there is evidence of regulatory frameworks being developed to integrate traditional medicine in a bicultural health system. Over a five-year period, several government reports were published in partnership with Māori Healers to build the case for a pragmatic adoption of a bicultural health care system (149-151). Reports discussed partnerships between health professionals and Māori traditional healers, cultural integrity, the evidence base for healing activities, safety (i.e. management of adverse reactions), assessing public demand, and accountability measures such as training and certification of practitioners. This effort culminated in

the 1999 *Standards for Traditional Māori Healing* (152). Since that time, the New Zealand Ministry of Health has expanded Māori traditional medicine and healing approaches, *Rongoā Māori*, throughout their primary care system (153, 154). In the past 10 years there has been rapid growth in the number of studies describing Rongoā in general practice (155-157).

Australia - Ngangkari

In Australia there has been a similar movement towards bicultural health care, albeit within grass-roots organisations and state level health districts. The traditional healing practitioners of Central Australia are known as *Ngangkari*. This ancient practice of healing (including use of ‘bush medicine’ products) was described in the *Hand-in-Hand Report on Aboriginal Traditional Medicine* (158). The report was written in collaboration with Anangu Ngangkari Tjutaku Aboriginal Corporation (ANTAC) who developed an accreditation program and register of healers (159). The report proposes a framework to guide future integration of Aboriginal traditional medicine into Australia’s national health care system. ANTAC and other organisations that employ Ngangkari (159) have made partnerships with local health districts [publicly funded health services, including hospital and outpatient clinics], ACCHSs, prisons, and rehabilitation services across Australia (160-166). Ngangkari traditional medical services have received positive feedback from patients, other medical professionals and health service management (165). In New South Wales (NSW) government hospitals, reports suggest that visiting Ngangkari outpatient clinics and ad-hoc hospital cultural events have been offered from at least 2018 (167) through to 2023 (166). While Australia appears a long way behind New

Zealand in applying a bicultural model into the national healthcare system, the enduring partnerships between Ngangkari healers and established mainstream or community-controlled health services, gives an indication of the community's positive experiences of bicultural care and demand for such services.

North America

In the US and Canada there is similar interest in traditional medicine of the First Nations peoples. However, there is yet to be an official state strategy or framework to integrate traditional medicine on a state or national level (168, 169).

5.3.3 Tension between Western and First Nations ways of working

In Chapter 3, Australian First Nations staff described tensions between doing things 'professionally' or in line with Western organisational expectations and 'the right way' which followed cultural protocols. Some professional characteristics were desired (e.g. confidentiality and advocacy). However, some Western ways of conducting business conflicted with a cultural way of working (e.g. consultations limited to indoors setting, staff expected to share minimal information about themselves, expectation on staff to complete lengthy assessments during the allotted consultation time). Organisational or health system structure was a contributing factor to First Nations staff feeling torn between a Western and cultural way of working. ACCHSs likely minimise strain on staff however constraints at a higher level may trickle down to clinical interactions between health professionals and their clients. For example, in not permitting home visits or out-of-clinic visits (either on 'safety' grounds or because Medicare item billing practices prevent this). A bicultural framework at a higher level

in the health system, may alleviate these tensions.

5.4 Description of a novel pluralist qualitative analysis method

5.4.1 Overview

From the time this study was conceived, a pluralist stance was taken, placing value in both First Nations and Western ways of generating and validating knowledge – epistemology. As such a novel qualitative analysis methodology was used alongside grounded theory methods. This was an attempt to go beyond an First Nations perspective on Western research methodologies and methods, to demonstrate the possibility of qualitative analysis methods rooted in First Nations Australian knowledge transmission processes (170). This approach should be considered pluralist theoretically, as opposed to a purely First Nations analysis technique like ‘thought ritual’ (171).

Processes from the 8-Ways Aboriginal pedagogy (172) were used and found well suited to qualitative analysis and complementary with methods from grounded theory. The common ground is centred on two core principles described by grounded theorists (173, 174): (1) this is a research methodology that asserts that everything is a concept, embedded with meaning in words, labels or symbols; (2) analysis is an active reflective process that requires the researcher to keep the research question in mind at all times. The 8-ways pedagogical processes similarly involve active (often hands-on) narrative-based learning, reflection, and use of symbols and metaphors. As such 8-ways pedagogical processes can help researchers actively engage with the analysis to categorise, visualise, and make meaning from the data. Additionally,

8-Ways pedagogy involves indirect/synergistic learning (also known as ‘associative thinking’) which is a process of linking ideas and concepts together in ways that are not necessarily logical, though are not due simply to imagination (e.g. associating a fish and a 4-wheel drive, in a community where people often drive to a remote waterhole to fish). This way of thinking can aid in a rigorous process of abduction and constant comparison of concepts from their initial development through to advanced stages of analysis.

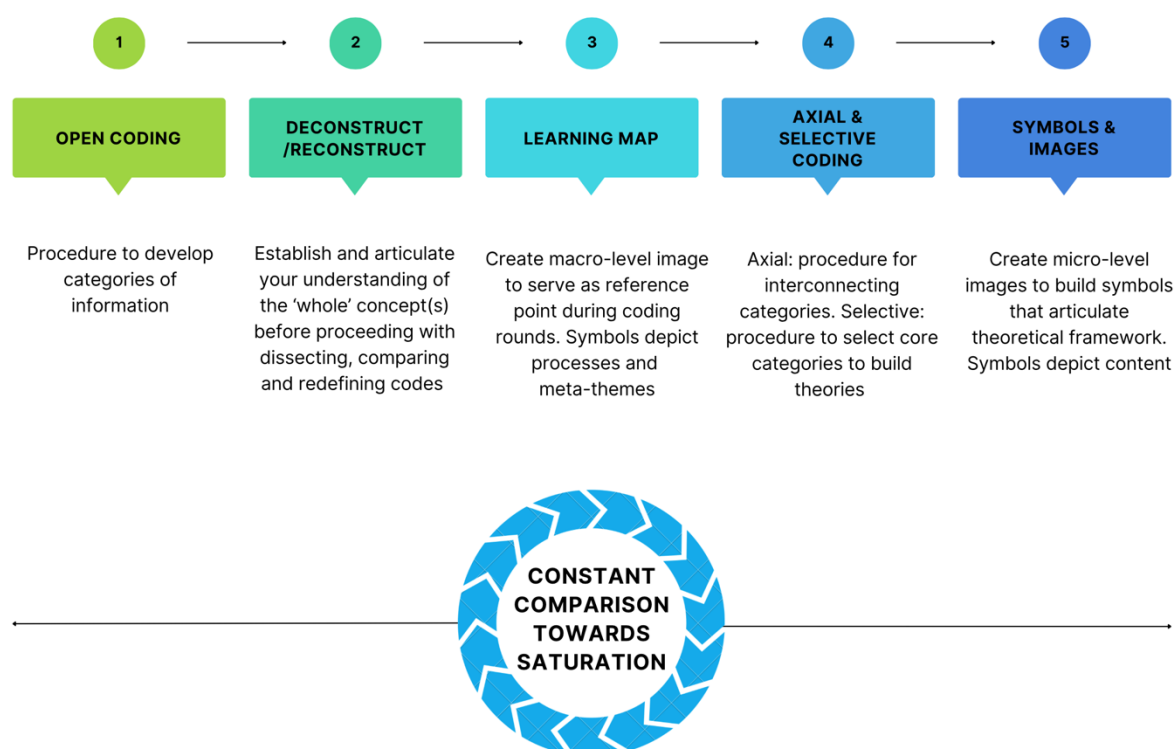
How does this pluralist methodology manifest in analysis?

The process of open coding involves categorising the data without a preconceived concept yet seeking to understand the deeper meaning of data in the context of the research question/aim. Once all data have been categorised and read several times the Aboriginal pedagogical processes of ‘deconstruct/reconstruct’ and ‘learning map’ provide an opportunity to articulate these initial impressions of the ‘whole’ concept(s). They allow for creation of an image or diagram that may serve as a reference point in later rounds of selective and axial coding. The ‘learning map’ need not dictate the final theory, rather it is an added layer of scrutiny. It acts as an aid to the axial coding process of connecting categories that overlap and to selective coding where core categories are used to build a theory. Finally, the Aboriginal pedagogical process, ‘symbols and images’, are utilised to depict the final theory visually. This pluralist process is depicted in Figure 3.

Whilst applying a cultural lens was a strength of this approach, it may prove a limitation for a non-Indigenous researchers (without cultural guidance), or for researchers not accustomed to generating conceptual diagrams.

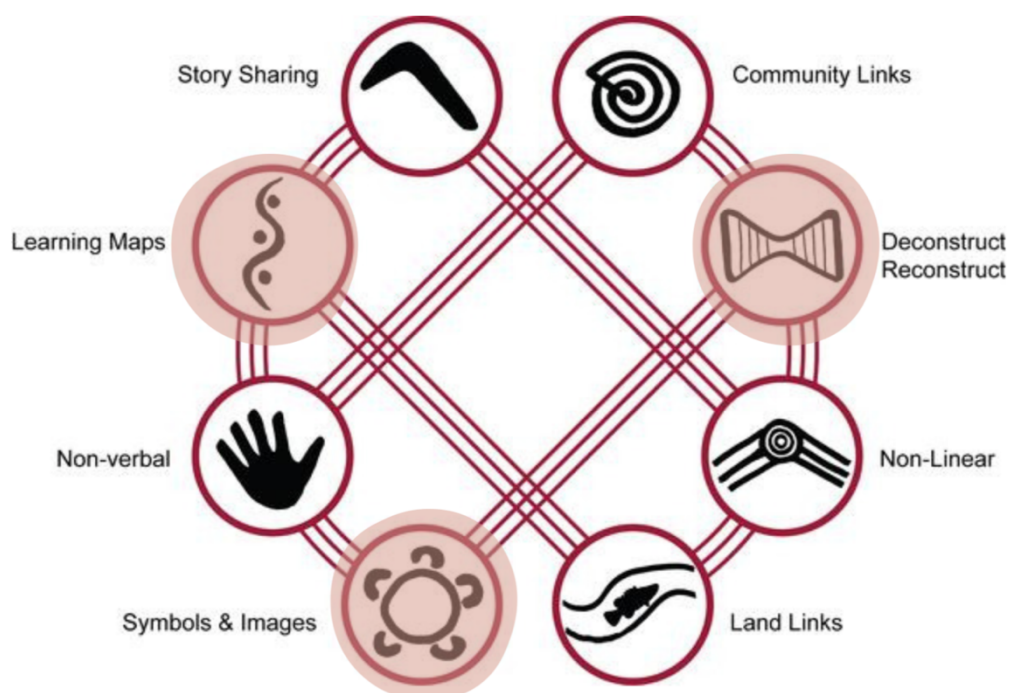
In the present novel qualitative analysis, only three of the eight 'ways' were used: deconstruct and reconstruct; learning map; and symbols and images. These are depicted in Figure 4. Future studies could apply Aboriginal pedagogical processes to qualitative analysis and not be limited to these three processes alone. A detailed description of the processes is available on the 8-Ways database (138) and in several peer-reviewed studies (175-177). This is the first time 8-Ways Aboriginal pedagogy has been used in this way however, and the pedagogy is finding uses far outside the education field from which it was first implemented (177).

Figure 1. Grounded theory and Aboriginal pedagogical processes applied to qualitative analysis



Steps 2,3 and 5 are processes adapted from the 8-Ways Aboriginal Pedagogy (138). Grounded theory approaches are informed by Straus and Corbin (173).

Figure 2. Three Aboriginal pedagogies shown in context of the full eight pedagogies



Imagery adapted from (172). The 8-Ways Aboriginal pedagogy, originally developed with knowledges from Traditional Owners across western New South Wales, Australia.

5.4.2 Extent of cultural validation of the bicultural model of alcohol care

Chapter 3 presented three diagrams generated from the qualitative analysis. These diagrams describe levels of bicultural alcohol care. Due to the publishing journal's limitation on the word count, a brief overview of the approach used to validate the diagrams with 8-Ways knowledge holders was described. Here further details are presented.

The model was informally validated with two Traditional Knowledge holders (Allan Hall and Yvonne Hill; Yuwaallaraay/Gamilaroy and Wiradjuri, respectively) who were originally part of the research team who documented the 8-Ways pedagogy. This was a necessary and valuable process for two reasons. Firstly, under the cultural

obligation of reciprocity, GK was obliged to inform the 8-Ways team of a new application of the pedagogy (a copy of Appendix A1 was also shared). Secondly, having a 'yarn' about the model (conversation following First Nations Australian cultural protocols) allowed for independent feedback on the model from subject matter experts. This yarn brought new insights on the description of alcohol care provided in ACCHSs.

After being shown the diagrams, with a brief explanation of the data source, the knowledge holders independently identified themes within each diagram that aligned with processes from the pedagogy. For example, in the Level 2 diagram (treatment and healing), 'men's and women's groups' were identified as 'community links' and 'camps on country' were identified as 'land links' (see Figure 2).

The pedagogical processes used in the qualitative analysis (deconstruct/reconstruct, learning maps, and symbols/images) were selected based on the theory described in the 8-Ways literature (175). Meanwhile, the themes identified by the knowledge holders on the diagrams that I had developed, were examples of how these 'pedagogical processes' manifest in real world settings.

During the feedback from the Aboriginal knowledge holders, the diagrams and model of care were described with an analogy which may be useful in future applications of the model of care:

"This model is like a stone fruit with its three layers. In the centre is a hard seed, this is surrounded by and attached to the flesh, and enveloped within the skin". [File note: personal communication with Yvonne Hill: Senior Education Officer, Western New South Wales Regional Aboriginal Education

Team, Department of Education, Based at the Bangamalanha Centre, Dubbo.

Not typed verbatim.

In the model proposed in Chapter 3, the seed represents the therapeutic relationship founded on trust, the bicultural treatments provided are the flesh of the fruit, and the policies, procedures and staff relationships are the skin hold the fruit together neatly.

5.5 Prescription of alcohol relapse prevention medicines among First Nations

Australians in Aboriginal Community Controlled Health Services

5.5 Prescription of alcohol relapse prevention medicines among First Nations

Australians in ACCHSs

5.5.1 Overview

As identified in the systematic review (Chapter 2), studies of alcohol relapse prevention medicines with First Nations peoples are rare and none had been conducted in Australia. Existing studies included one double-blind randomised controlled trial of naltrexone (178) and two uncontrolled trials of disulfiram (179, 180), with promising results. Studies on prescription rates of these medicines to First Nations peoples are largely absent from the literature in Australia, NZ, Canada and USA. In the study presented in Chapter 3, several ACCHS staff expressed their interest in naltrexone, and it appeared to be a medicine that could be offered alongside cultural elements of care (psychosocial supports) in the bicultural model.

In the general Australian population, the medicines are underutilised compared to the prevalence of dependence (181). Prescription of relapse preventions medicines in Australia are between 6-9 times lower for individuals residing in rural and remote

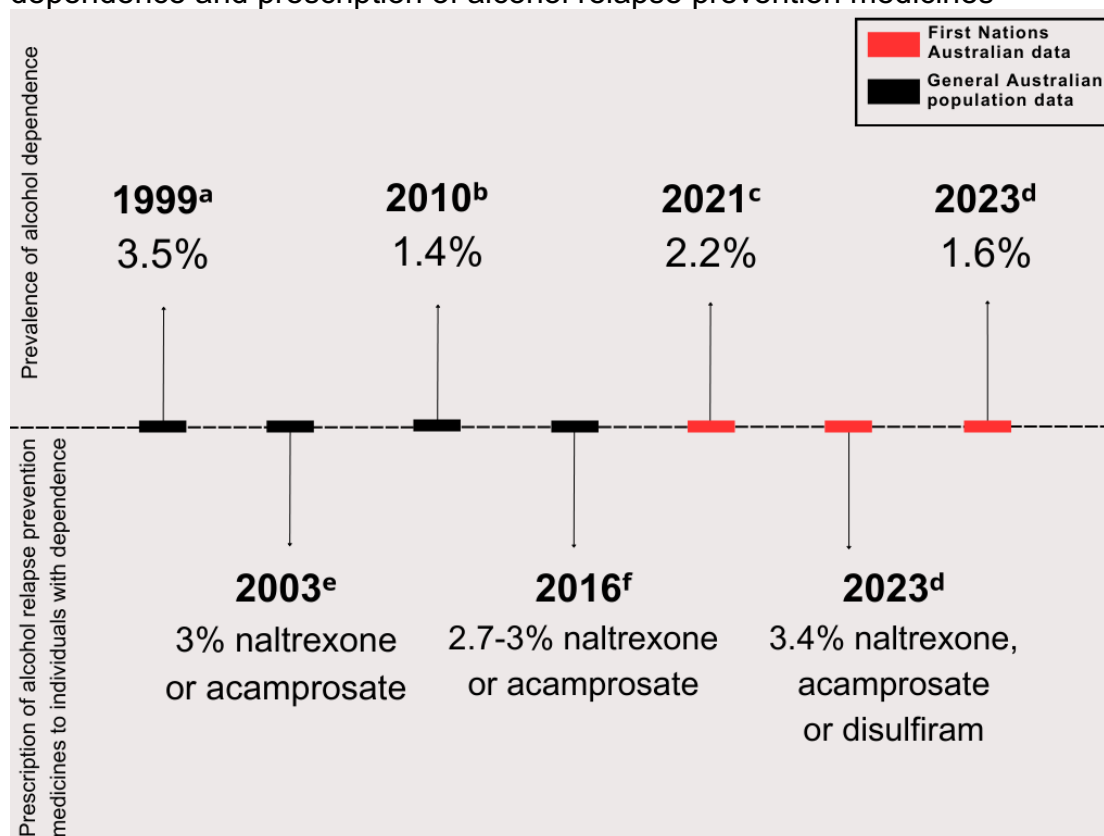
Australia, compared to urban dwellers (182). Access to prescription medicines in general is consistently lower for First Nations Australians compared to their non-Indigenous counterparts (183). This may be due to their (overall) lower socioeconomic status and that significant proportions of First Nations Australians reside in non-urban locations (184).

Given the paucity of information on relapse prevention medicines among First Nation Australians, a quantitative analysis of prescription rates in ACCHSs, and factors associated with prescription, was conducted (Chapter 4).

5.5.2 Low prescription rate and insufficient treatment duration

Using routinely collected data from usual care in 22 ACCHSs, Chapter 4 established the prescription rate of alcohol relapse prevention medicines among First Nation Australians over a 12-month period. The prescription rate was 3.4% among n=854 clients who were likely dependent (AUDIT-C score ≥ 9). This is a combined rate for prescription of any one of naltrexone, acamprosate or disulfiram. This prescription rate is low, but similar to the rate for non-Indigenous Australians (2.7-3% Australians with current alcohol dependence prescribed between 2011-2012) (181).

Figure 3. A timeline of Australian studies reporting on prevalence of current alcohol dependence and prescription of alcohol relapse prevention medicines



Current dependence measured over past-12 months. a= 1997 National Survey of Mental Health and Wellbeing (185); ICD-10 criteria for diagnosis. b= 2007 National Survey of Mental Health and Wellbeing (186); DSM-IV. c= data collected using the Grog Survey App using community representative samples in an urban and remote (South Australian) site (39); ICD-11 (2+ symptoms, weekly or more often). d= The current study (187); routinely collected data on prescription rates and screening results from practice software from 22 ACCHSs, August 2016-17. AUDIT-C criteria (≥ 9) for likely dependence. e= Australian Pharmaceutical Benefits Scheme (PBS), dispensing claims in 2001 (188). Assumed 3.5% prevalence of alcohol dependence in general Australian community, based on Hall et.al.1999 (185). f= PBS dispensing claims - 12-month period, 2011-2012 (181). Assumed 3.9% prevalence of alcohol dependence in general community, based on Teesson et.al. 2010 (186).

In our study, not a single client received a repeat prescription, however n=4 clients received a prescription for a second type of relapse prevention medicine. This is concerning as treatment effectiveness of naltrexone, acamprosate or disulfiram may be compromised when the recommended minimum 3-month treatment regime is not adhered to. This would equate to three prescriptions being required as a single prescription typically contains 28-days of supply. The lack of repeat prescriptions has also been observed in the general Australian population (181). Between July 2009 and June 2013, only a minority of individuals completed three months of naltrexone

treatment (25%) or acamprosate treatment (15%) (181). There is no data for disulfiram prescription rates or treatment completion in the general Australian population.

5.5.3 Nuances in prescription data suggest barriers to access

In Chapter 4 we identified factors associated with increased likelihood of receiving a prescription of alcohol relapse prevention medicines. Factors included being male, middle aged (34-55yrs), attending an urban service, and being screened with AUDIT-C. Although being screened with AUDIT-C was an independent predictor of prescription, 60% of those who received a prescription, had no recorded screening score. This may be due to obvious symptomatic presentation of dependence (negating the need to screen with AUDIT-C). However, there may also be significant barriers to prescription, as 96.6% of clients who had a likely dependent screening score (n=825) did not receive a prescription. Our study did not collect data on barriers to prescription in ACCHSs, however research suggests that barriers are multi-level and significant in the general population (e.g. clinician low confidence to screen or treat dependence and low knowledge of the medicines, perception that pharmacotherapy prescription and management is limited to specialist services, poor provider reimbursement for pharmacotherapy treatment) (115). As discussed in Chapter 3, barriers to prescription may be compounded for First Nation Australians. For example, First Nations individuals experience higher rates of chronic illnesses, some of which may be contraindicated for certain relapse prevention medicines. Also, significant First Nations populations reside in remote areas of Australia. This poses extra challenges to health services such as pathology service access (i.e. to

monitor clients during treatment).

5.5.4 Possible under-detection of dependence

An additional consideration in low prescription of medicines in our data, is the possibility of under-detection of likely dependence. This may have occurred due to screening not being routine (189), with scores recorded for under one-fifth (17.2%) of ACCHS clients. It is also possible that AUDIT-C was variable in its ability to detect likely dependence among this sample. A US study using national past 12-month alcohol survey data found false positive ($\approx 20\%$) and false negative ($\approx 5\%$) AUDIT-C screening results (190). In this study, AUDIT-C failed to return a positive result in approximately 5% of screened individuals who had reported heavy episodic drinking on the same screen (US general population 4.9%, CI: 4.6–5.3; Veterans Affairs sample: 5.3%, CI: 5.2–5.3).

A community representative study of First Nations Australians aged 16+, reported that current drinkers consume a median of 7.8 standard drinks per single drinking occasion, but three quarters of current drinkers go for extended periods without drinking (median: 60 days; 1.3 drinking occasions per month) (191). This raises a possibility that ‘likely dependence’ was under-detected in our sample, given that episodic drinking patterns in some dependent drinkers, can return negative AUDIT-C results (191). Despite this, our results matched recent community estimates of dependence, with 1.6% of clients with likely dependence in the current study (187), compared with 2.2% in a community sample (urban and remote South Australian sites) (192) and 1.4% in the general Australia population (186).

Acknowledging the limitations of AUDIT-C as opposed to a diagnostic assessment, screening tools are the most commonly used instrument in primary care and in population-based studies. Only a small number of studies have used a diagnostic criteria for alcohol dependence, and these have been in very specific community-based settings (35, 186).

5.5.5 Dearth of prescription data for First Nations individuals abroad

Comparing and contrasting these findings to similarly colonised populations abroad is difficult. As stated earlier in this discussion, evidence on use of alcohol relapse prevention medicines with First Nations peoples is scarce. Very few studies internationally present dispensing data (non-experimental) with First Nations individuals, and among available data, analysis is not stratified by First Nations status. For example, just one study was identified with dispensing data among a First Nations population abroad (in New Zealand) (193). This study used data from the national dispensing database for medicines (the 'Pharmaceutical Collection': 2014 data). In this study, disulfiram was more frequently prescribed than naltrexone (AUD only: 2.1% vs 0.7%). However, analyses were not stratified by ethnicity status (Māori vs Pacifika vs Asian vs European). In fact, data on ethnicity status were only available for under one-third of the total sample ($n=1422/5004$, $n=147$; [2.9% of total sample] reported as Māori). Of the individuals with a clinical diagnosis of alcohol use disorder, the combined prescription rate for naltrexone and disulfiram for individuals was 2.8%. This rate is similar to the prescription rate calculated in the current study, 3.4% amongst First Nations Australians, and the general Australian population, 2.7-3% (181).

5.6 Knowledge translation

“If you take something, put something back” – 8-Ways Aboriginal Pedagogy (138).

The three studies presented in the empirical chapters of this thesis, have been concerned with enhancing alcohol care for First Nations individuals in primary care settings. Treatment modalities have included both First Nations healing traditions as well as ‘Western’ treatments, such as relapse prevention medicines. Improving alcohol care is one important community priority shared by the medical community, as they seek improved health outcomes and holistic healing post-colonisation.

Accordingly, supporting ACCHSs and individual healthcare professionals to provide alcohol care in a culturally inclusive and supportive model of care is an emerging trend in the Australian literature. Recognition of the importance of a bicultural approach is likely to increase in the wider discourse on alcohol treatment guidelines, funding provisions and key performance indicators. Community participation in the research process is an important ethical obligation and essential for successful development of future bicultural models of care. The current knowledge translation section will describe ways in which the findings of this thesis research have been fed back to services and communities.

5.6.1 Report to participating services and interview participants

Returning data to interview participants (and all 22 ACCHSs participating in the larger trial) from the qualitative study in Chapter 3 was important for several reasons. Firstly, interview data are the sovereign knowledge and intellectual property of participants (194). Secondly, sharing output from research is highly encouraged

according to the First Nation Australian cultural tradition of reciprocity (195). This expectation is common throughout Australia and is a condition of ethical approvals, detailed in the guideline for 'Ethical conduct in research with Aboriginal and Torres Strait Islander Peoples and communities' (143). Return of research output or knowledge translation, is ideally translated for the specific audience who will be receiving it (143, 196). To make findings of the qualitative study (Chapter 3) more accessible for busy ACCHS staff, a report was developed with a summary of key information.

The research participant feedback report includes a summary of the overarching project, study methods, results, conclusions, and future applications (Appendix A1). The four diagrams that comprise the model of care were included. Participants were credited as co-owners of the diagrams as their knowledge and intellectual property informed the development of these diagrams. This was not negotiated in the research agreement, however is in line with the tradition of reciprocity and spirit of goodwill expressed in the National Health and Medical Research guideline section on 'cultural and intellectual property' (143). Additionally, an original artwork was made by GK for the front and back cover of the report. This artwork illustrates the network of 11 ACCHS participating services on the front cover, and the larger ACCHS network on the back cover (See Appendix A1). The relationships between researchers, interview participants, and bicultural tools to analyse data, that led to the documentation of the bicultural model of care are depicted on the back cover.

5.6.2 Community report

A second version of the report was created for a general community audience (Appendix A2). This was done with the vision (originally conceived by EW) of using the bicultural model of care beyond alcohol care settings. In this scenario the model could be used as a scaffold and/or as a data collection tool, used to develop new bicultural models of care, tailored for individual community priorities and cultural traditions.

Key summary information on the development of the bicultural model was included in the report with appropriate (de-identified) acknowledgement of the research participants. A summary of potential use of the model of care to scaffold future studies was also included. The three levels of care were retained to match report wording (interpersonal processes, treatments and healing, and service level policies and procedures). In this report the model of care was given a name to be used for future, non-alcohol related purposes: the “Australian Bicultural Model of Care”. This is essentially a ‘base model’, where the alcohol-specific content can be removed, so that new ideas can be mapped, providing the opportunity for new ideas to be mapped to each level of care (Appendix A2).

5.7 Practical applications of the research

5.7.1 National Australian alcohol treatment guidelines

The research findings generated from the systematic review in Chapter 2, and the qualitative analysis in Chapter 3, informed the newest edition of the National Australian Alcohol Treatment Guidelines (99). Findings informed Chapter 15:

Aboriginal and Torres Strait Islander Peoples, including scope of approaches and best ways to work with clients in primary care services.

5.7.2 A bicultural model of tele-oncology

After the bicultural model of alcohol care was finalised (Chapter 3, Diagram 1-4), Dr Emma Webster (EW) conceived use of the model to codesign a tele-oncology service with communities and health service staff. This project was co-conceived and developed by EW and a senior medical oncologist (Dr Florian Honeyball) at the Western Cancer Centre Dubbo. The author of this thesis was a chief investigator on this study. Tele-oncology is a term used to describe delivery of chemotherapies by trained nurses in remote sites, supervised by specialised oncology nurses in regional cancer centres (197). Remote towns in NSW are characterised by small population numbers but high proportions of Aboriginal residents. All residents find it difficult to access specialist cancer services and mainstream services must be appropriate for Aboriginal and non-Aboriginal patients.

This model was shared by EW during community consultation as a potential data collection tool to develop a bicultural model of tele-oncology. The model was well received in the remote communities of Bourke and Brewarrina and was incorporated into the research design. As well as using the model to collect data (Appendix A3), the evolving model diagrams provided a visual map to show community and research participants and initiate subsequent rounds of data collection. Using the Australian Bicultural Model of Care allowed for tailored models of care to be described for each community. It is of note that 8-Ways Aboriginal Pedagogy was developed from Aboriginal Traditional Knowledges from north-western NSW (198).

Suitability or acceptance across all Aboriginal Nations cannot be assumed, however the Australian Bicultural Model of Care has been a useful tool to generate discussion.

5.7.3 Community consultation for a drug and alcohol rehabilitation service

The Australian Bicultural Model of Care has also been proposed to map community priorities and facilitate cultural input for the development of a new drug and alcohol residential rehabilitation service in Dubbo, NSW. Use of the model was endorsed by one local Elder and several Aboriginal staff (personal communication with Emma Webster) in the early stages of consultation. There is ongoing community concern over the exclusion of First Nations culture and values in drug and alcohol services in towns with large First Nation communities, like Dubbo. Using a framework like the Australian Bicultural Model of Care can assist communities to document their priorities and values during consultations for services that will impact on them.

5.8 Limitations

Each study in the empirical chapters of this thesis has a discrete set of limitations:

The systematic review presented in Chapter 2 focused on approaches set in primary care services or readily accessible outpatient settings, even if the care was delivered off-site (e.g. in a local park). Grey literature contains many reports of a bicultural nature, however due to time constraints grey literature was not included. A deliberate decision to include all historical studies to grasp the scope of the care over time. This brought challenges when extracting and analysing data due to reporting standards in

the studies published around 50 years prior. Methods were often mixed with results and in two instances it was necessary to cross-check study details in outside sources (e.g. a PhD thesis, and via personal correspondence with an author) to ensure the historical studies met the inclusion criteria.

The qualitative study presented in Chapter 3 was set in ACCHSs and included only First Nations staff interview data. Some elements of bicultural approach may have been missed as we could not compare findings to the perspective of clients or non-Indigenous staff. The interview framework was not specifically tailored to capture data about culture in care. Accordingly probing questions on culture were not asked and relevant information may have been missed. Additionally, we do not have effectiveness data for the bicultural approach described by staff. Another gap in our understanding is from the client's perspective on the use of culture in alcohol care. An additional area where the peer-reviewed literature is lacking is on the evidence and or safety of a bicultural approach on treatment outcomes.

The qualitative analysis method described in Chapter 3 has several limitations. Firstly, this novel approach follows a pluralist tradition. Therefore, it may only be appropriate for analysis of data of a bicultural nature. Also, given variation within and between First Nations communities, universal application may not be appropriate. Likewise, the application to research which includes non-Indigenous participants (or by non-Indigenous researchers) may not be appropriate.

The quantitative study presented in Chapter 4 included First Nation clients attending 22 geographically separated ACCHSs. The true number of clients attending services may have been lower than the figure presented, as clients could have attended multiple services. Data was collected over a 12-month baseline period. A longer

study may have shown fluctuations in prescription and predictors of prescription. AUDIT-C screening was made part of the nKPI (National Key Performance Indicator) soon after the data collection period ended. Thus, screening rates may have increased, and detection of likely dependence which could potentially have led to increased prescription. It is possible that clients were offered medicines but declined or had contraindications, but these data were not collected. It is also possible that clients were using a relapse prevention medicine not captured in the practice software. This could occur if a client was prescribed this at a separate clinic (e.g. drug and alcohol rehabilitation service), or if a prescription was handwritten and not recorded in the software. Finally, data collected on likely dependence was limited to current (past 12-months) and did not assess lifetime prevalence.

5.9 Implications for research, policy and practice

5.9.1 Research

Literature

A review of the grey literature would complement the findings from the systematic review in Chapter 2. This is because details of cultural and bicultural programs are likely found in individual organisation reports. Expanding this review to include inpatient residential services could further inform the scope and nature of such approaches.

Bicultural models of care

Findings from Chapter 3 could be followed up with targeted, in-depth interviews on the role of culture in ACCHS alcohol care. Including clients and non-Indigenous staff and broadening the scope from alcohol to all forms of substance use, would complement this research. A separate study to validate and assess acceptability and utility of the bicultural model of alcohol care from the perspective of ACCHS staff, could inform future use of the model.

The novel pluralist qualitative analysis method

The application of 8-Ways processes alongside grounded theory needs to be assessed from both an Indigenist and Western methodological perspective.

Particularly important is how researchers perceive that the pluralist process allows them to reach theoretical saturation and develop critical theories to explain the data. At the same time, it is important to assess utility of symbols and images generated in the qualitative analysis, in feeding back results to research participants and communities, as has been described in this thesis (Appendices A1-3).

Alcohol relapse prevention medicines for First Nation Australians

Trials of alcohol relapse prevention medicines with First Nations Australians could help test efficacy (e.g. genetic and epigenetic factors predicting efficacy (131, 178)), factors associated with treatment adherence, ways to safely treat individuals with comorbidities and the potential for integrating cultural approaches to healing, alongside the medicines. Future studies could investigate barriers to prescription as

well as client and provider acceptability.

5.9.2 Policy

Policy reform should include altering silo funding structures for the ACCHS sector.

Siloing does not provide service flexibility to effectively deliver bicultural alcohol care.

The triennial terms of funding further strain staff. In both the systematic review and qualitative study (Chapters 2-3) this strain was discussed in terms of job and retention insecurity and workforce burnout. Furthermore, Medicare billing practices may impede a bicultural approach as these are linked to specific, Western-style approaches to prevention or treatment.

Lastly, if guidelines were established for cultural and bicultural approaches to alcohol care, this could inform future updates of the national Australian alcohol treatment guidelines. However, incorporating a bicultural approach to healthcare broadly, would more effectively address unhealthy alcohol use as it occurs in the context of overall wellbeing.

5.9.3 Practice

General practitioners and health professionals working with First Nations Australian clients, whether in ACCHSs or mainstream primary care services should consider a bicultural approach to alcohol care. This need not be a comprehensive model as described in Chapter 3, but may be as simple as taking time to listen or have a 'yarn', share information two-ways, and develop common ground during routine clinical interactions (99). This approach has much in common with person-centred

care and evidence suggests that individuals regardless of their ethnicity or culture, experience better treatment outcomes when these principles of communication are applied (199). Finally, increasing rates of systematic AUDIT-C screening can help maximise detection of alcohol dependence and engage clients in care, including prescription of relapse prevention medicines where appropriate (200).

5.10 Generalisability

The studies in this thesis have relevance to healthcare providers to First Nation peoples in colonised countries. This is due to the shared experience of trauma and marginalisation driving unhealthy alcohol use, and a shared sense of culture, with Traditional Knowledges and traditional medicine being central to healing. However, as studies in Chapter 3-4 used only Australian First Nations data, the findings may be less applicable outside Australia. Studies in Chapters 2-3 were focused on primary care settings, catering for First Nations clients. It is not known if the study findings are transferable to mainstream primary care providers, or to drug and alcohol residential rehabilitation services.

5.11 Reflexive statement

I undertook this course of study to improve access for my local Aboriginal community to pharmacotherapies for alcohol dependence. This was my sole focus due to chatter in the community about naltrexone, and uncertainty around how to access this “wonder drug”. My mum would yarn with me about this because she was always taking food to someone sick from drinking, feeding their pets when food money was

spent on alcohol, and she often gave friends a lift to/around town after they had lost their licence due to drink-driving. Going “cold turkey” or even cutting down, is a hard thing to propose to someone drinking heavily. Community mob liked the idea of a medicine to help change their drinking. Pharmacotherapies also offered alternatives to attending residential rehabilitation, which continues to pose barriers to First Nations peoples’ access.

Through my own life experiences, I knew that our people need *care* – not just *treatment*, and that mainstream approaches were not addressing the spirit. After strong cultural themes emerged (outside Australia) in the systematic review, my core focus became investigating Australian perspectives of bicultural alcohol care. Around this same time, I attended conference sessions with teachers of the 8-Ways pedagogy, run by Auntie Yvonne and Uncle Allan. I also took on some work for a project, *Clinical Yarning*, which gave me more exposure to 8-Ways literature, and time listening to Elders and community yarn about how healthcare can cover both cultural ways, and Western ways.

I began the qualitative analysis with only grounded theory methods in mind. After open-coding, I instinctively started to deconstruct/reconstruct to make meaning of the whole, in order to understand all the micro-level codes that I was applying. Then I drafted symbols and images to visualise the themes talked about in the interviews. At that point I realised 8-Ways was true to my own (unconscious) ways of learning. Crucially, it was something I could explain to others, drawing on 8-Ways literature. The novel analysis method developed from there. As Dr Tyson Yunkaporta (whose PhD formally described the 8-Ways) has aptly described, it is about *processes guiding your hands*, rather than *your hands guiding the process*.

Finally, research was done with a practical purpose, not simply for the sake of writing a PhD thesis. This is very important to our communities who have been over-researched and not seen enough benefits of research projects and rarely participate in evaluation of the research methods and outcomes. I strived to make my research meaningful and translate findings for participants and community audiences.

Being a part of the Tubbagah community (Wiradjuri Nation, outside Dubbo, NSW) during the research process has been an important reminder to keep ethical conduct at the heart of my research projects and thesis writing. Additionally, being a student with the Centre of Research Excellence in Indigenous Health and Alcohol, has helped me to stay connected to fellow First Nations Australian researcher students, and the communities they represent.

5.12 Conclusion

This research reports the current scope of alcohol care for First Nations peoples, delivered in primary care or outpatient settings, in Australia and similarly colonised countries. Common cultural and bicultural themes in care were identified in New Zealand, USA and Canada. Australian perspectives on culture in alcohol care have now been reported by ACCHS staff, who deliver a comprehensive bicultural care model. An example of *how* to incorporate First Nations knowledge, processes and values in qualitative analysis itself, is also presented. The use of alcohol relapse prevention medicines with First Nations Australians was an under-researched Western treatment approach. Prescription rates in ACCHSs are low which suggests there may be barriers to prescribing. ACCHSs need support to increase prescription (where appropriate) of these medicines, which have a proven record of safety and

efficacy, in general populations (99). Delivering pharmacotherapy in a culturally supportive setting such as ACCHSs, will likely aid in the acceptability of these medicines. Adequate funding and service flexibility will optimise the ability of ACCHS staff to deliver these medicines in a bicultural model of care.

Overall, this thesis has presented evidence for working both-ways to deliver alcohol care. This research agenda is consistent with the broad directive of person-centred healthcare and reintegration of traditional healing practices into national health care systems internationally.

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APPENDICES

**A1 Report to participating services and interview participants: Culture In
Alcohol Care – Listening To First Nations Staff In Aboriginal Community
Controlled Health Services**

This appendix is a summary of findings from Chapter 3, based on ACCHS staff interviews. A physical copy of this report was sent to the 22 ACCHSs participating in the larger trial (137).



CULTURE IN ALCOHOL CARE

LISTENING TO
FIRST NATIONS STAFF IN
ABORIGINAL COMMUNITY
CONTROLLED HEALTH
SERVICES

The cover design represents the bicultural model of alcohol care practiced at 11 individual Aboriginal Community Controlled Health Services (ACCHSs) as described by First Nations staff. Big or small, the ACCHSs form a network of health services across Australia, the whole of which is depicted on the back cover. The relationships between the researchers, and their tools to synthesis the knowledge that had been generously shared by staff, is also depicted in the inner circle of the back cover art. The researchers were a group of women and their tools varied from yarnning and deep listening to processes from the 8-ways Aboriginal Pedagogy, storytelling in symbols and qualitative data computer programs.

This booklet has been created by Gundungurra woman, Gemma Purcell-Khodr. Its ownership is shared with all who took part in the interviews, which informed its creation.

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Suggested citation:

Booklet

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Journal article

Purcell-Khodr et al. (2022). *The importance of culture in alcohol care: Listening to First Nations staff in Australian Aboriginal Community Controlled Health Services*. The International Indigenous Policy Journal, 13(3).
<https://doi.org/10.18584/iipj.2022.13.3.14030>

Dear services and staff,

The diagrams enclosed describe an Australian Bicultural Model of Care. The model is based on alcohol care delivery in 11 Aboriginal Community Controlled Health Services (ACCHSs) as described by First Nations (Aboriginal) staff during interviews conducted in 2017.

Staff spoke at length about their perceived strengths and challenges of delivering alcohol care in an ACCHS setting. At the core of these interviews were shared principles of best practice. Many of these practices centred on cultural ways of working and integrating First Nations healing alongside western approaches to health care. Overall there were remarkable similarities between urban, regional and remote sites, and a shared sense of how best to work with clients and community. The structure of health services had the ability to help or hinder these relationships.

We hope the findings may be useful in your clinical practice and be a tangible outcome for those staff who generously participated in the interviews. The diagrams have been developed with great consideration to the advice shared and all participants are credited with their creation in the acknowledgements.

Why did we conduct interviews?

In 2016 we began a study with 22 Aboriginal and Torres Strait Islander Community Controlled Health Services. We aimed to develop a model of support for ACCHS staff and services, to enable them to deliver the best care for clients with unhealthy alcohol use. Interviews were conducted with staff to help inform the training and support offered in the study.

Kristie Harrison conducted the interviews with her sister, Kaylie Harrison. Kristie conducted an initial analysis of the interviews (with Mustafa Al Ansari who also analysed this same data). Kristie's findings will be published separately (this includes Indigenous and non-Indigenous staff interviews). Some of you may have heard Kristie present findings from the interviews at conferences, including NIDAC 2019 and 2022.

In this booklet we present findings from further analysis of these same interviews undertaken with First Nations staff. We focus on one major theme from Kristie's initial analysis, the role of culture in alcohol care. Participants were not asked directly about culture, all responses on culture were raised spontaneously.

Were First Nations peoples and community part of the research?

The overarching study has significant contributions by Australian First Nations researchers, services and communities. First Nations staff of two state-wide umbrella agencies for ACCHSs (in SA and NSW) were involved in formulating the research question and study design. Kristie Harrison, a Wiradjuri woman, played a key role in recruiting services, conducting face-to-face training and interviews with service staff. The present sub-study is also led by an Australian First Nations (Gundungurra) author, Gemma Purcell-Khodr.

Who was interviewed?

17 First Nations staff from eleven ACCHSs across SA, NSW, QLD and the NT. Services covered urban, regional and remote sites. Staff held a range of professions including a doctor and other frontline clinicians (Aboriginal health workers, alcohol and drug workers etc) and non-clinical staff (e.g. managers, driver).

What's the model all about?

The model of care arose from Gemma's analysis and summary of what the participants said.

It proposes three important levels to providing alcohol care: 1) interpersonal processes as central to care relationships, 2) treatment and healing, 3) service strategies.

- At the centre is the patient and clinician, and how they get to know and trust each other.
- The second level describes treatments and healing available to the patient, which includes both western medical approaches and cultural aspects (e.g. men's and women's groups, yarning circles, or smoking ceremony).
- The outside circle details all the factors that organisations need to consider to be successful in delivering these services.

It is important to take each level of care into account in this model, as they are connected and interdependent. For example, to abandon or devalue First Nations staff members' cultural duty of care at Level 1 (interpersonal processes) or Level 3 (service strategies) would jeopardise client and community relationships. Meanwhile insensitive or inflexible service management practices (Level 3) could inhibit staff from delivering cultural and bicultural treatments (Level 2). Likewise, from a Western medical perspective, failing to uphold principles of evidence-based practice would not be in the best interests of clients, nor would it meet community expectations.

The model is being used to inform practice

While the model is based on alcohol care delivery in ACCHSs it can be used in other areas of healthcare where there is a desire to implement standard evidenced-based practice (Western biomedical care) alongside Australian First Nation approaches to healing.

Two projects are now using this model: one on co-design of chemotherapy services in Bourke and Brewarrina; and another that is documenting community priorities in consultations for an alcohol and other drug residential rehabilitation service in Dubbo.

These projects are using the model as a framework and tailoring it through consultation with their own community's needs, aspirations and cultural traditions. This approach appears to work well as the model is inclusive by its nature, with a core value for partnership building between clinicians, clients, and the wider community.

Can I use the model?

Yes! We would be delighted to see the model used and shared freely. Please use the acknowledgement of its source on the next page. We also welcome feedback and request you share any new understanding or applications of the model via email in the spirit of reciprocity.

Acknowledgement to be used with diagrams or formal discussion of the model:

The Australian Bicultural Model of Care has been developed with traditional knowledges and cultural expertise of First Nations staff working in Aboriginal Community Controlled Health Services across SA, NSW, QLD and the NT (Purcell-Khodr et al., 2022).

Additional acknowledgement for Level 1 Interpersonal processes diagram:

Diagram adapted from 8-ways Aboriginal pedagogy originally developed with knowledges from Traditional Owners across north western New South Wales, Australia (Yunkaporta & McGinty, 2009).

Suggested citation:

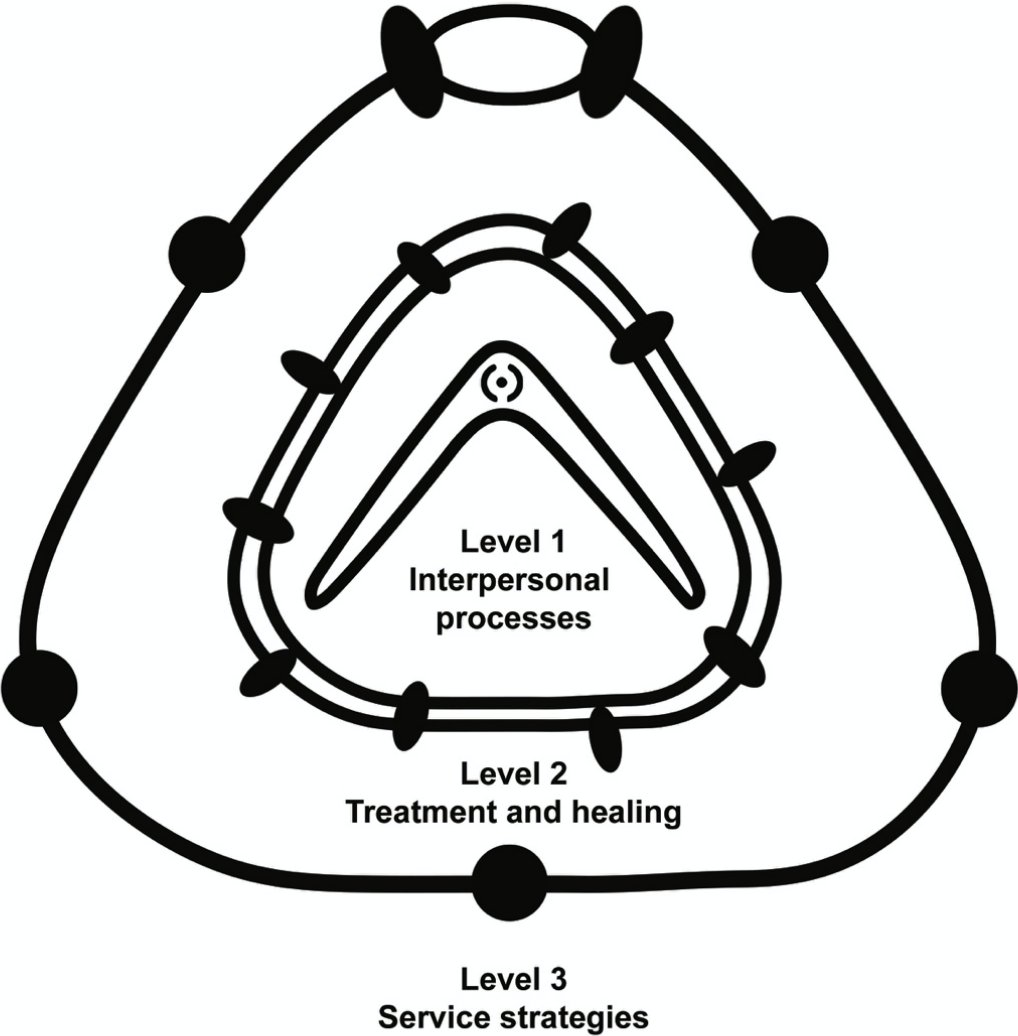
Purcell-Khodr, G, Webster, E, Harrison, K, Dawson, A, Lee, KSK, Conigrave, K. (2022). *The importance of culture in alcohol care: Listening to First Nations staff in Australian Aboriginal Community Controlled Health Services*. Manuscript submitted for publication.

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Overview: Australian Bicultural Model of Care



Level 1: Interpersonal processes/care relationships

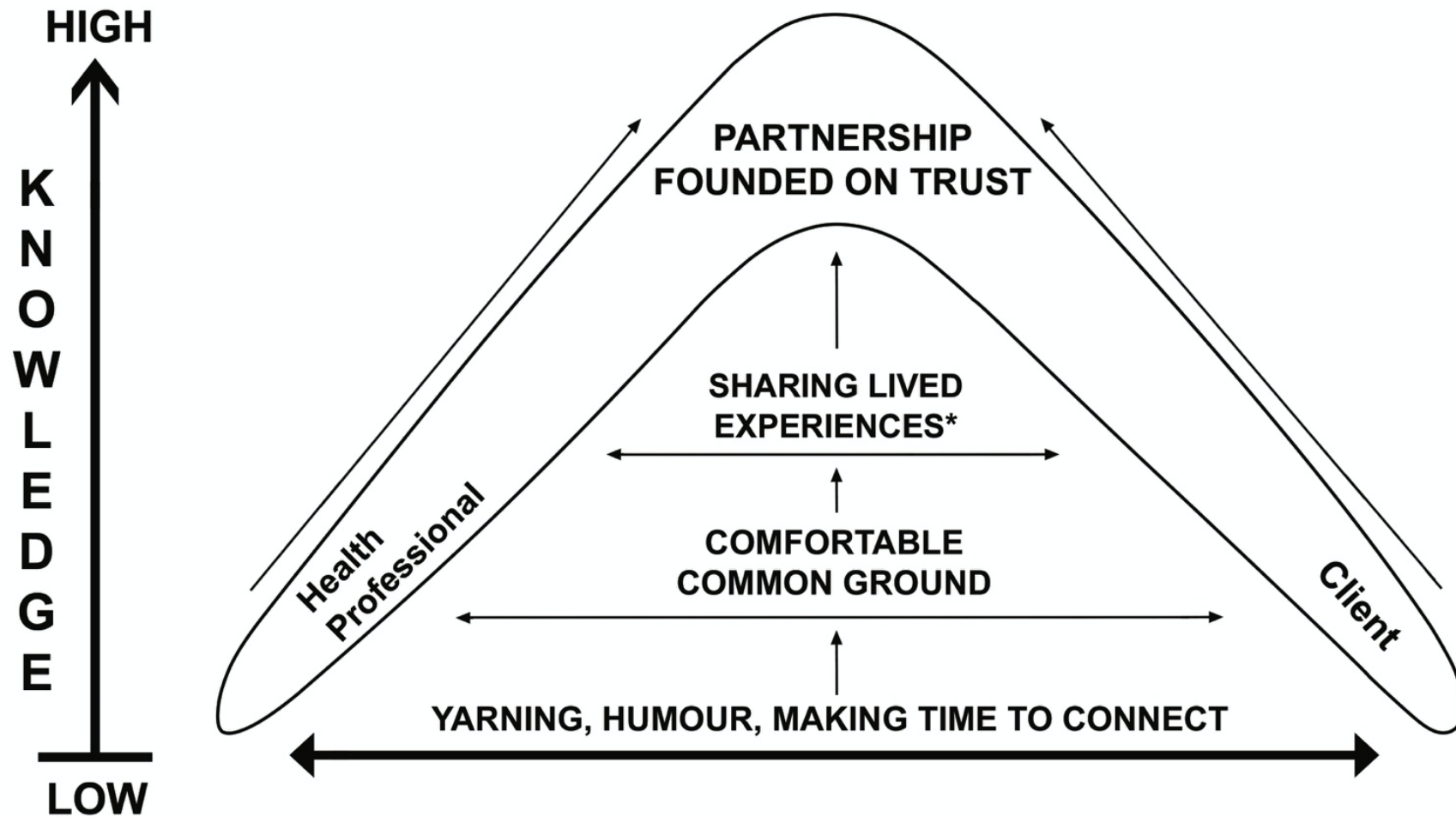


Diagram adapted from 8-ways Aboriginal pedagogy originally developed with knowledges from Traditional Owners across western New South Wales, Australia (Yunkaporta & McGinty, 2009).

The returning boomerang diagram illustrates the process of a health professional and a client, sharing information two-ways. Together they build a relationship and ultimately a therapeutic partnership to discuss the client's alcohol care and wellbeing goals. To do this, both parties have yarns (conversations) while following cultural protocols and try to go from low to high knowledge of one another.

*Any personal story could be used to connect with clients. Some health professionals may choose to share their own healing journey, where applicable. This was seen as sharing 'authentic knowledge' and helped clients feel comfortable and understood.

Level 2: Treatment and healing

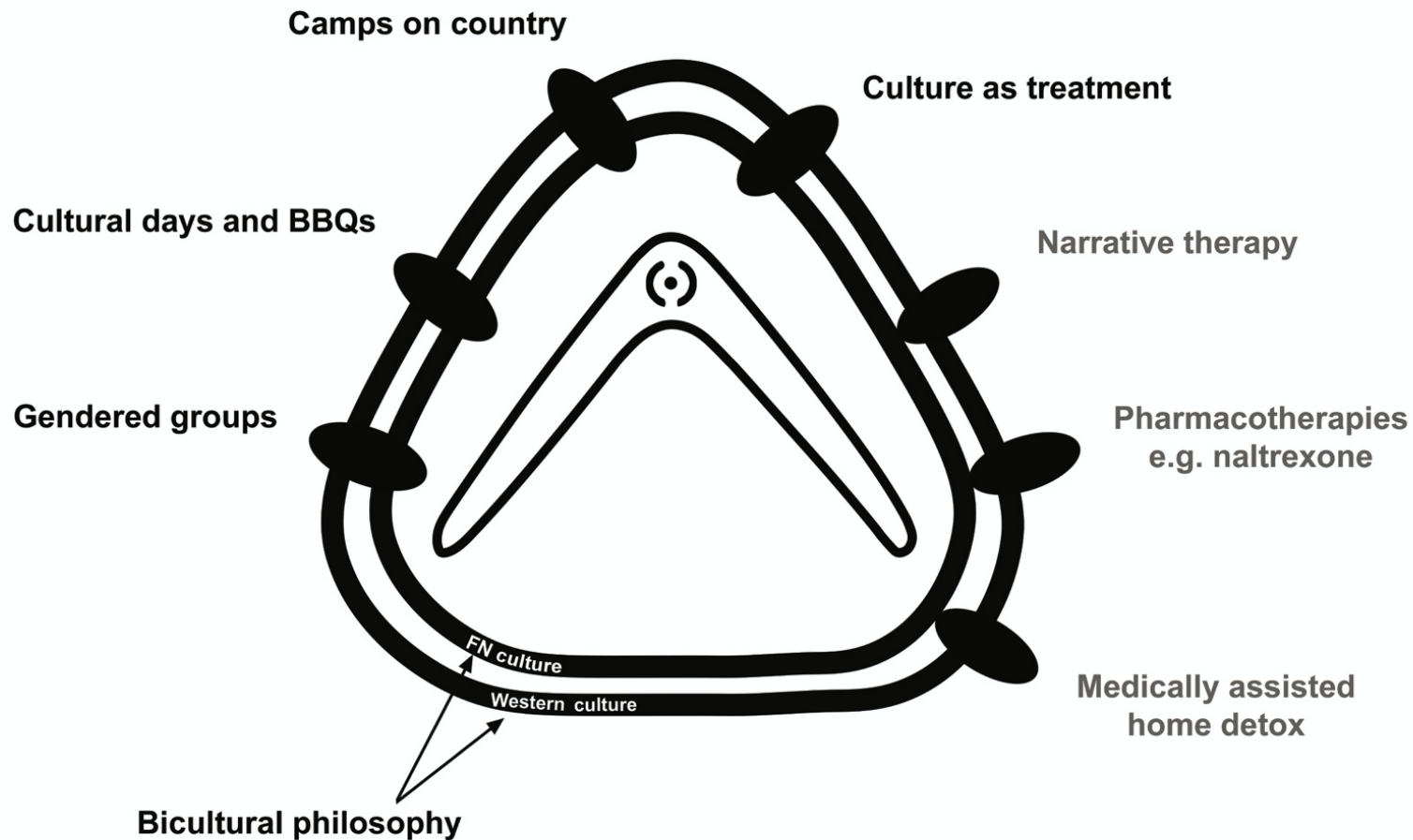


Diagram 2 depicts the bicultural philosophy implemented at some ACCHSs as described by participants. The two concentric lines represent the two knowledge bases working side-by-side, with dots intersecting at varying points. The treatment or healing approaches in black type had a strong bicultural focus, whilst those in grey are examples of predominantly Western approaches that can be delivered in a culturally inclusive model. The interpersonal processes, represented by the returning boomerang at the centre, facilitate delivery of these Western treatments in a trusting partnership. Similarly, the therapeutic partnerships developed (in the inner layer) may be impacted by what treatments staff can offer clients.

Level 3: Service strategies

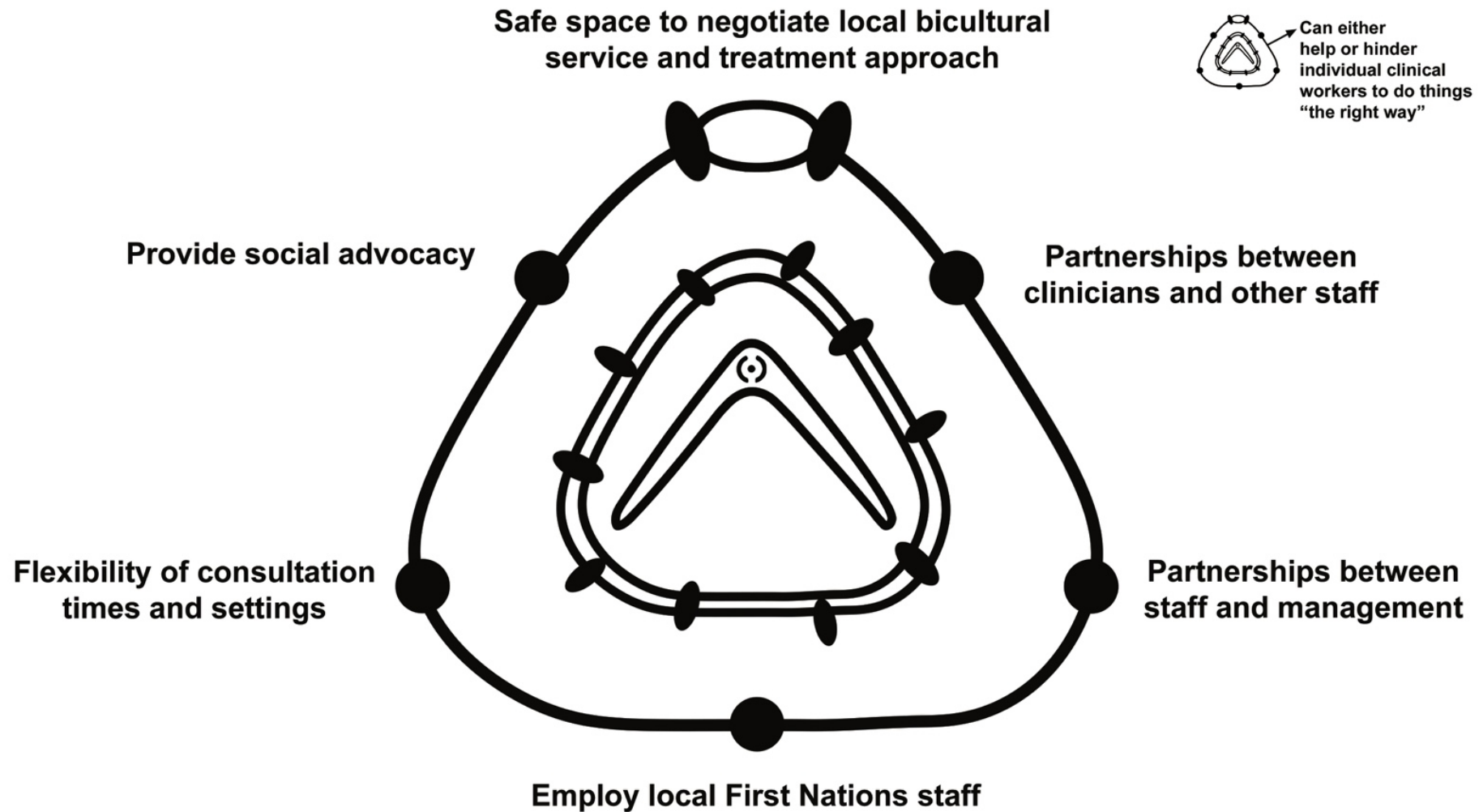


Diagram three depicts the service-wide strategies employed by ACHHSs to meet the bicultural expectations of staff and community. All factors in the outer layer can impact on the specific therapeutic approaches available at the service, as well as the interpersonal relationships between staff and their clients.



A2 Community report: The Australian Bicultural Model of Care

This appendix is a summary of findings from Chapter 3, tailored for a general community audience. The report also contains materials and example guides for community groups and researchers to use in developing new models of bicultural care.

An Australian Bicultural Model of Care

Community feedback report



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Let's have a yarn: practical example of how use the framework to tailor a model to your communities healthcare needs and cultural traditions	12

Acknowledgements and citations

Acknowledgement to be used with diagrams or formal discussion of the model:

The Australian Bicultural Model of Care has been developed with traditional knowledges and cultural expertise of First Nations staff working in Aboriginal Community Controlled Health Services across SA, NSW, QLD and the NT (Purcell-Khodr et al. 2021).

Additional acknowledgement for Level 1 Interpersonal processes diagram

(boomerang): Diagram adapted from 8-ways Aboriginal pedagogy originally developed with knowledges from Traditional Owners across north western New South Wales, Australia (Yunkaporta & McGinty, 2009).

Suggested citation for diagrams with content relevant to alcohol care delivered in

ACCHSs (pages 6-9): Purcell-Khodr, G., Webster, E., Harrison, K., Dawson, A., Lee, KSK., Conigrave, K. (2021). *The importance of culture in alcohol care: Listening to First Nations staff in Australian Aboriginal Community Controlled Health Services*.

Suggested citation for blank diagrams (pages 11-13):

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Overview: An Australian Bicultural Model of Care

The diagrams enclosed describe an Australian Bicultural Model of Care. The model is based on alcohol care delivery in Aboriginal Community Controlled Health Services (ACCHSs) but it is also being used in other areas of healthcare (e.g., co-design of chemotherapy services in Bourke and Brewarrina). The Australian Bicultural Model can be used where there is a desire to implement standard evidenced-based practice (Western biomedical care) alongside Australian First Nation approaches to healing.

You can use the model as a framework and tailor it through consultation to your own community's needs, aspirations and cultural traditions. In such consultation, the model can be informed by all community members, Indigenous and non-Indigenous. The model is inclusive by its nature with a core value for partnership building between clinicians, clients, and the wider community.

Where did the model come from?

The model was developed following analysis of interviews with 17 First Nations (Aboriginal) staff from eleven ACCHSs across SA, NSW, QLD and the NT. Services covered urban, regional and remote sites. Staff held a range of professions including a doctor and other frontline clinicians (Aboriginal health workers, alcohol and drug workers etc) and non-clinical staff (e.g. managers, driver). Interviews were designed to explore staff perceptions of strengths and challenges in providing alcohol care within their ACCHS to clients, families and communities. Interviews were conducted by two Wiradjuri researchers (Kristie and Kaylie Harrison) as part of a larger study.

What's it all about?

The model proposes three important levels to providing alcohol care: 1) interpersonal processes central to care relationships, 2) treatment and healing, 3) service strategies:

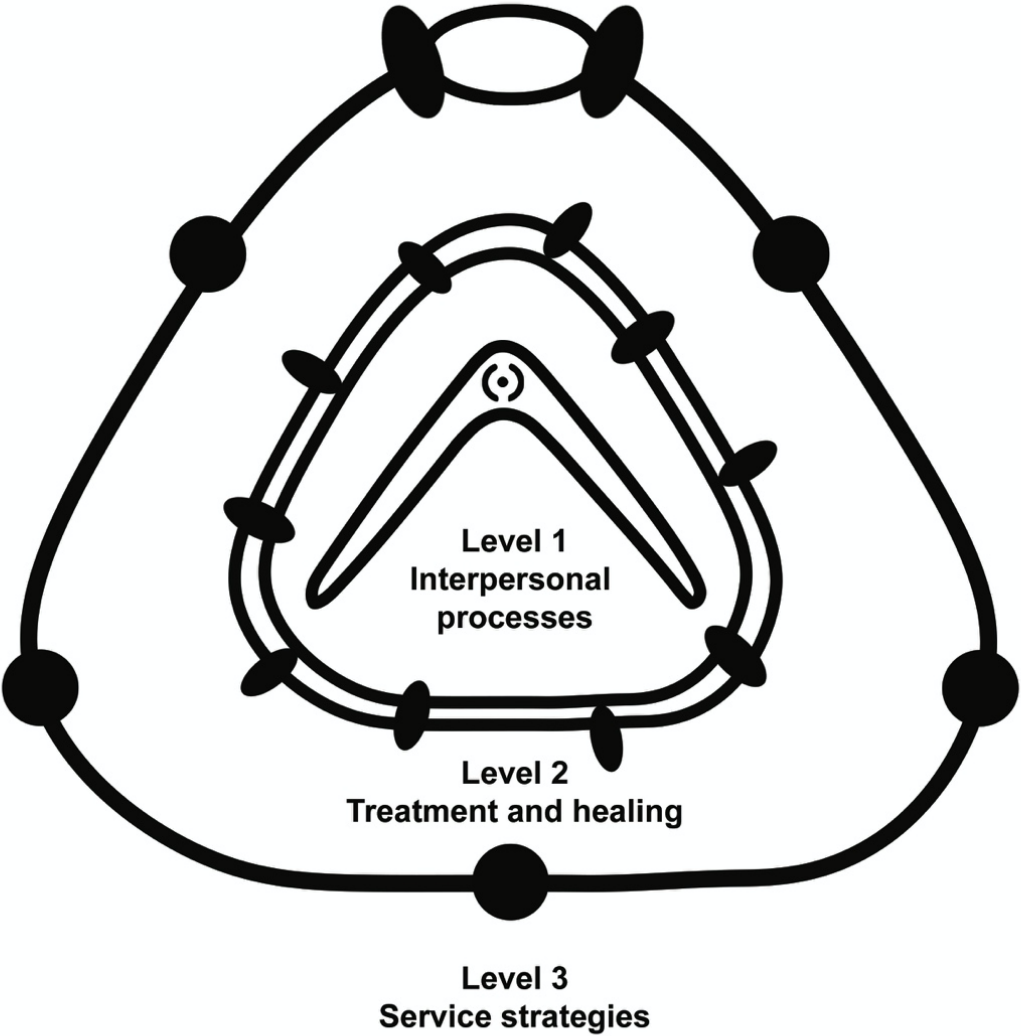
- At the centre is the patient and clinician, and how they get to know and trust each other.
- The second level describes treatments and healing available to the patient, which include both western medical approaches and cultural aspects (e.g. men's and women's groups, yarning circles, or smoking ceremony).
- The outside circle details all the factors organisations need to consider to be successful in delivering these services.

It is important to take each level of care into account in this model, as they are connected and somewhat interdependent. For example, to abandon or devalue First Nations staff members cultural duty of care at Levels 1 (interpersonal processes) or 3 (service strategies) would jeopardise client and community relationships. Meanwhile insensitive or inflexible service practices (Level 3) could inhibit staff from delivering cultural and bicultural treatments (Level 2). Likewise, from a Western medical perspective, failing to uphold principles of evidence-based practice would not be in the best interests of clients, nor would it meet community expectations.

Can I use the model?

Yes! We would be delighted to see the model used and shared freely. Please use the acknowledgement of its source given on the next page. We also welcome feedback and request you share any new understanding or applications of the model via email in the spirit of reciprocity.

Overview: Australian Bicultural Model of Care



Level 1: Interpersonal processes/care relationships

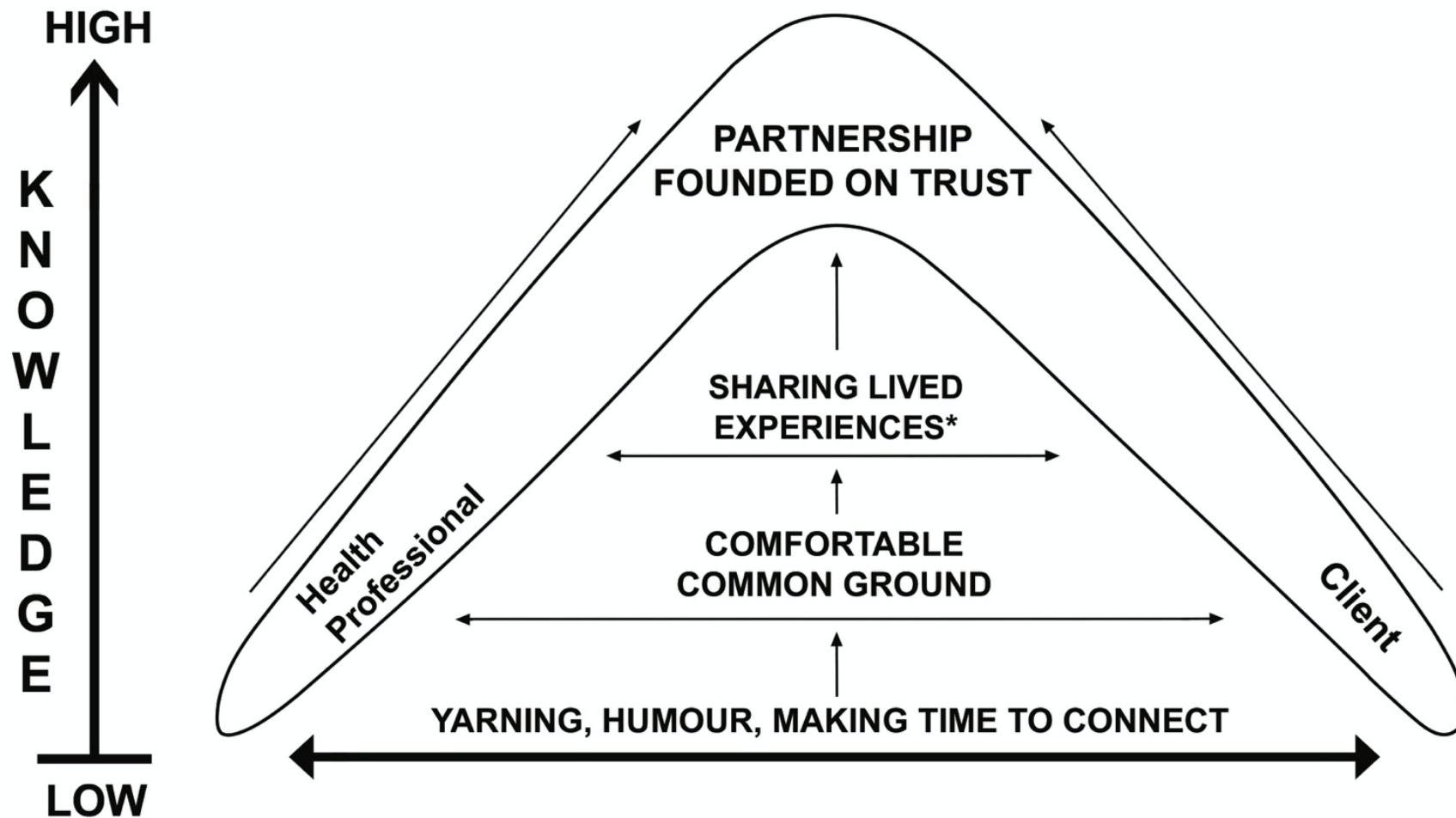


Diagram adapted from 8-ways Aboriginal pedagogy originally developed with knowledges from Traditional Owners across western New South Wales, Australia (Yunkaporta & McGinty, 2009).

The returning boomerang diagram illustrates the process of a health professional and a client, sharing information two-ways. Together they build a relationship and ultimately a therapeutic partnership to discuss the client's alcohol care and wellbeing goals. To do this, both parties have yarns (conversations) while following cultural protocols and try to go from low to high knowledge of one another.

*Any personal story could be used to connect with clients. Some health professionals may choose to share their own healing journey, where applicable. This was seen as sharing 'authentic knowledge' and helped clients feel comfortable and understood

Level 2: Treatment and healing

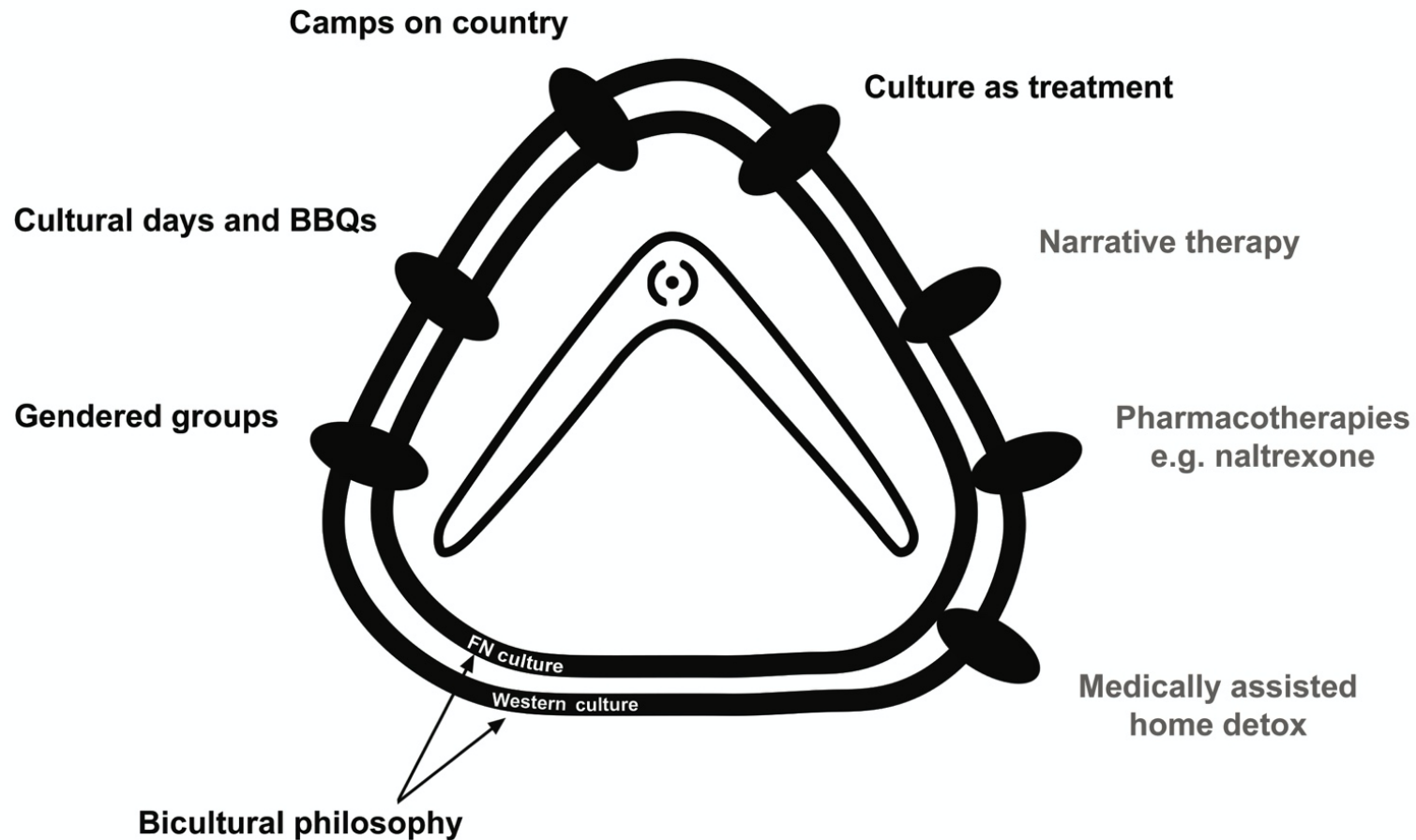


Diagram 2 depicts the bicultural philosophy implemented at some ACCHSs as described by participants. The two concentric lines represent the two knowledge bases working side-by-side, with dots intersecting at varying points. The treatment or healing approaches in black type had a strong bicultural focus, whilst those in grey are examples of predominantly Western approaches that can be delivered in a culturally inclusive model. The interpersonal processes, represented by the returning boomerang at the centre, facilitate delivery of these Western treatments in a trusting partnership. Similarly, the therapeutic partnerships developed (in the inner layer) may be impacted by what treatments staff can offer clients.

Level 3: Service strategies

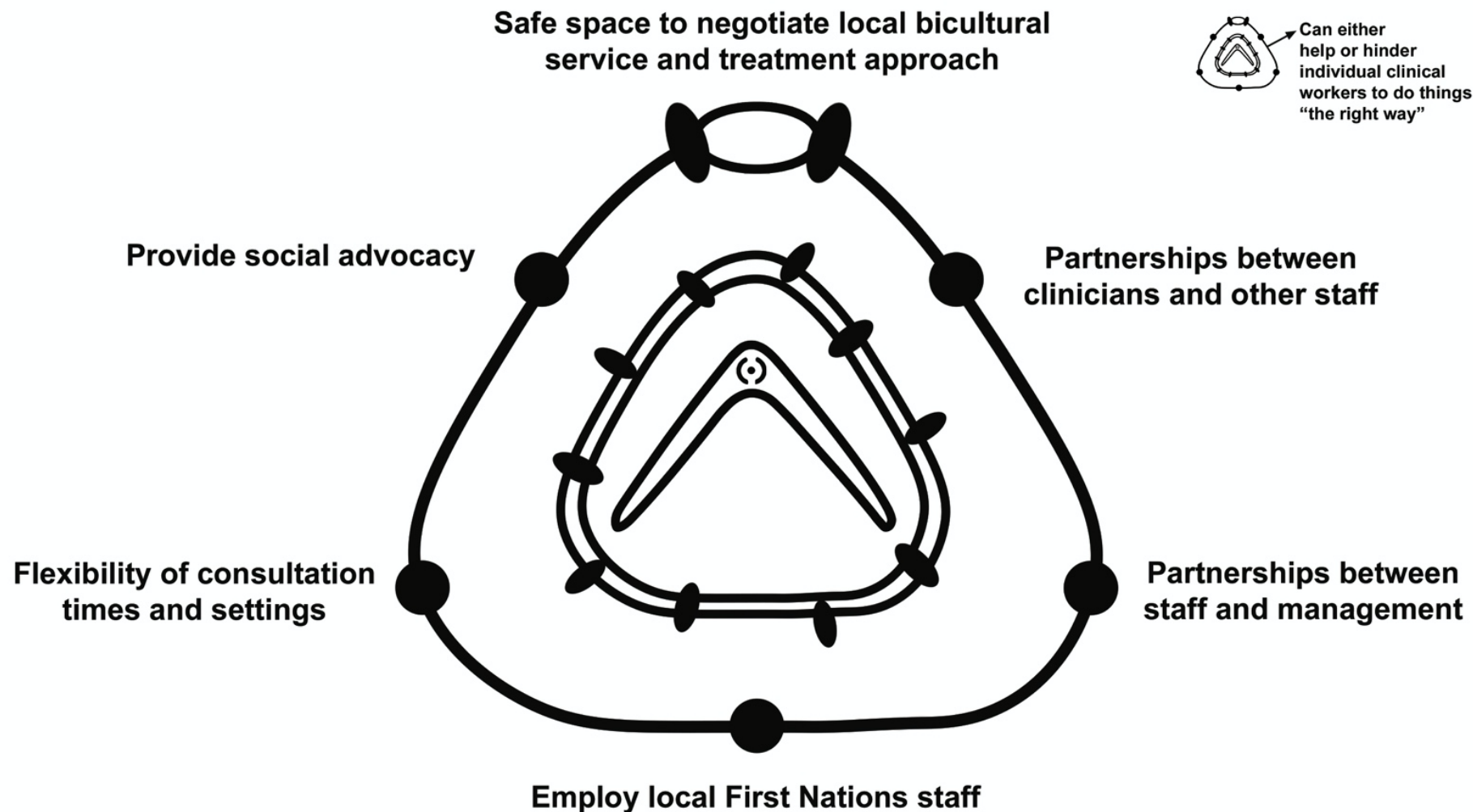
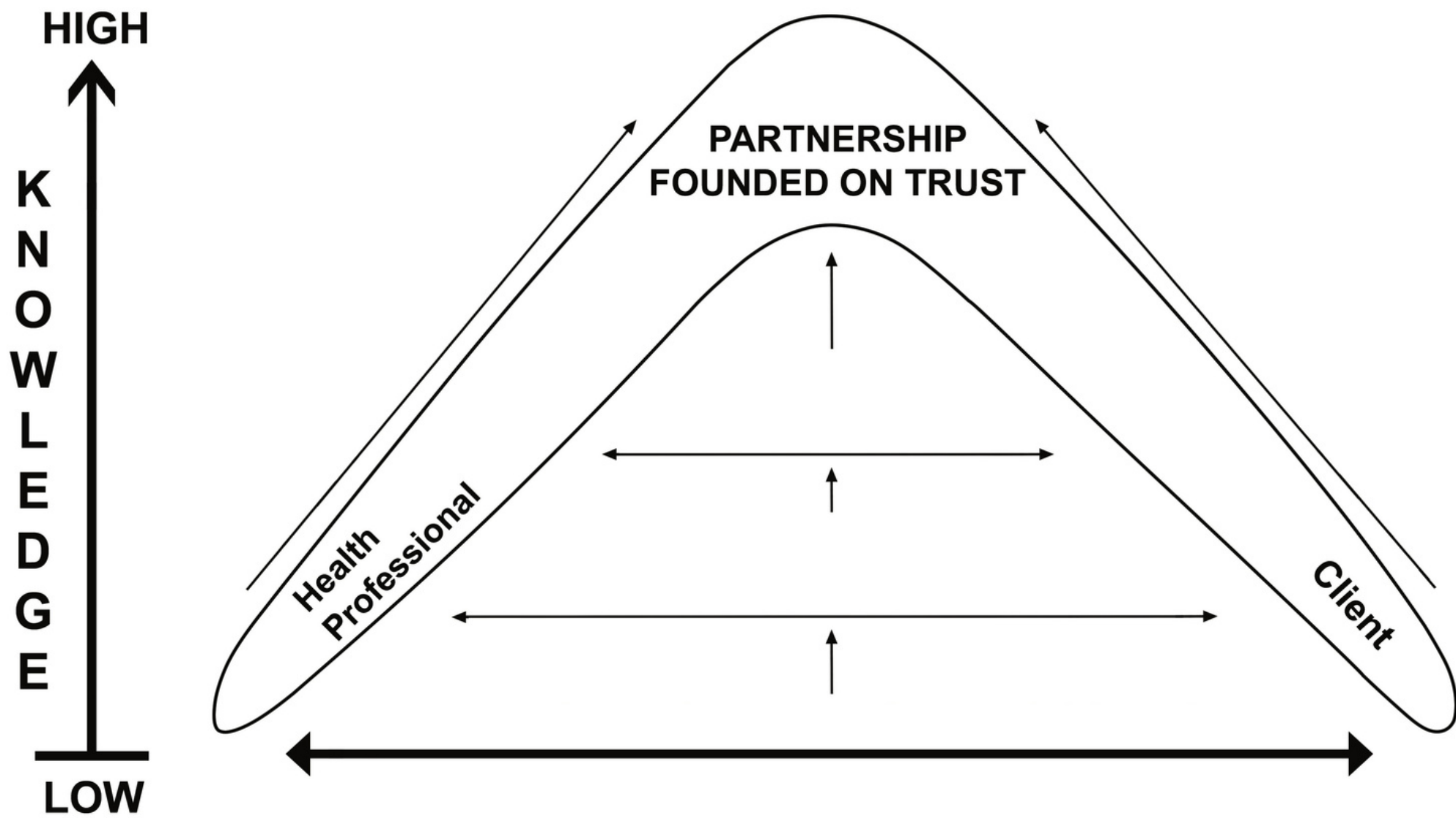
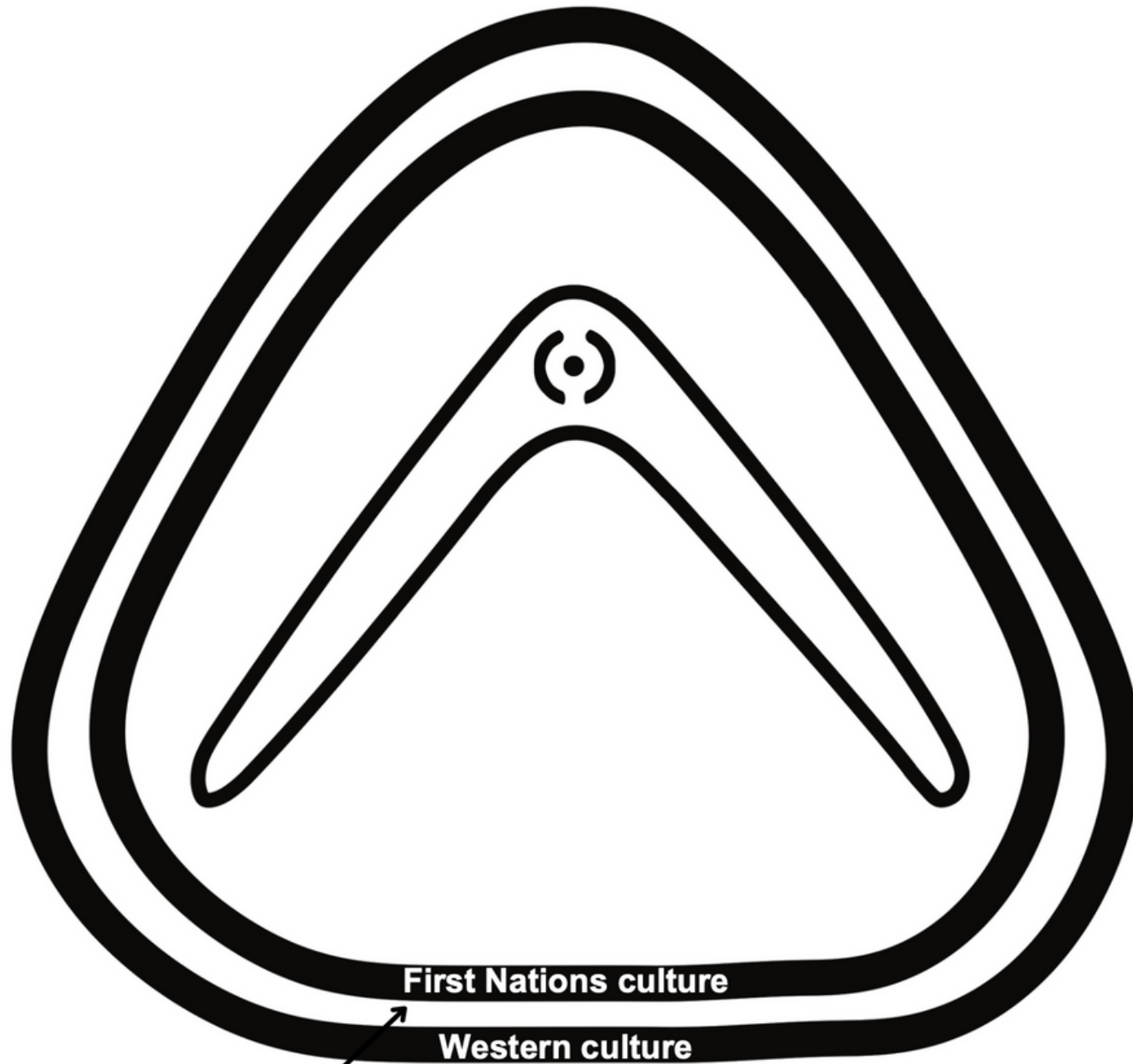


Diagram three depicts the service-wide strategies employed by ACHHSs to meet the bicultural expectations of staff and community. All factors in the outer layer can impact on the specific therapeutic approaches available at the service, as well as the interpersonal relationships between staff and their clients.

**Blank template diagrams for
tailoring your own model of care**

Level 1 Interpersonal processes





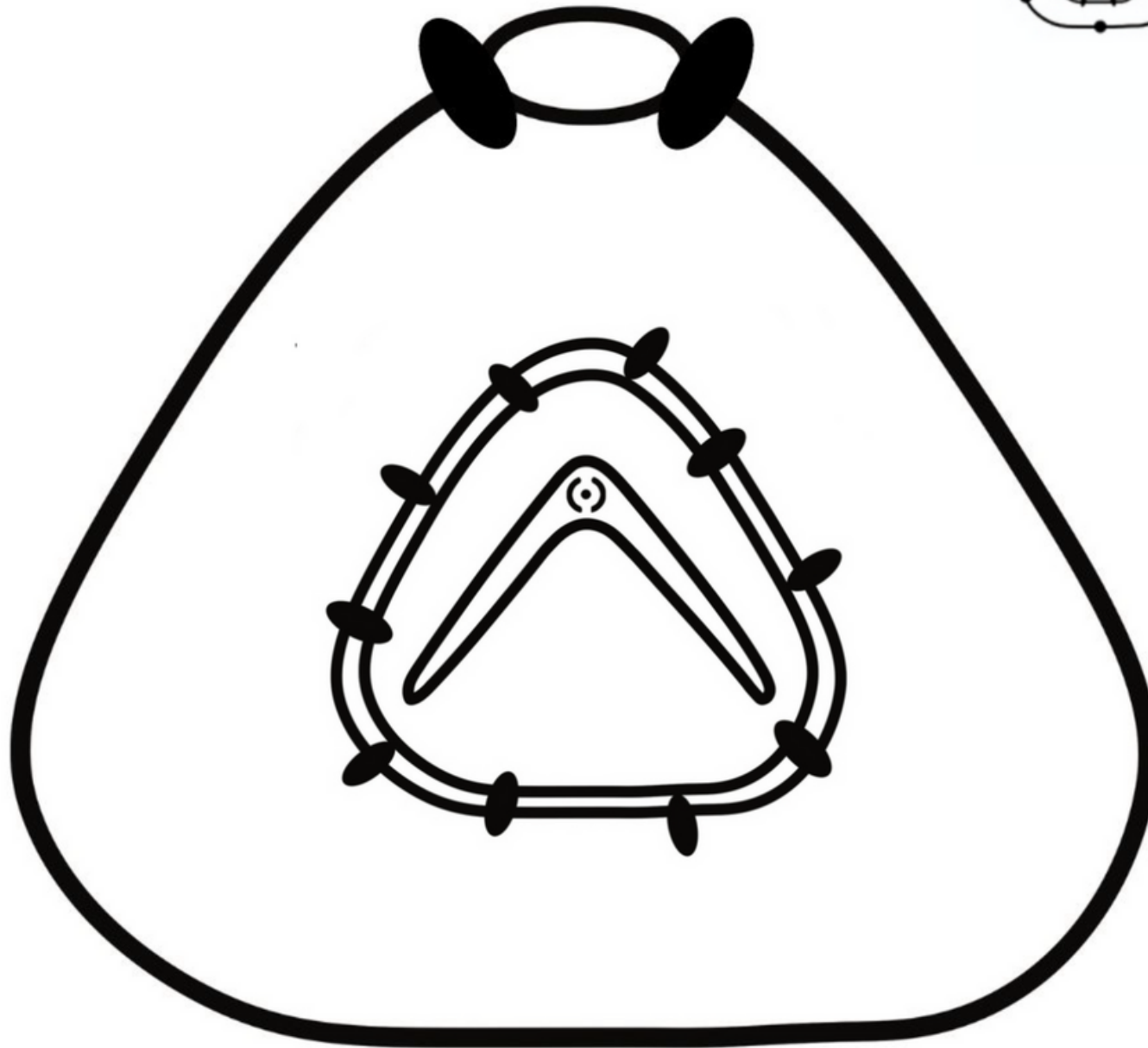
First Nations culture

Western culture

Bicultural philosophy

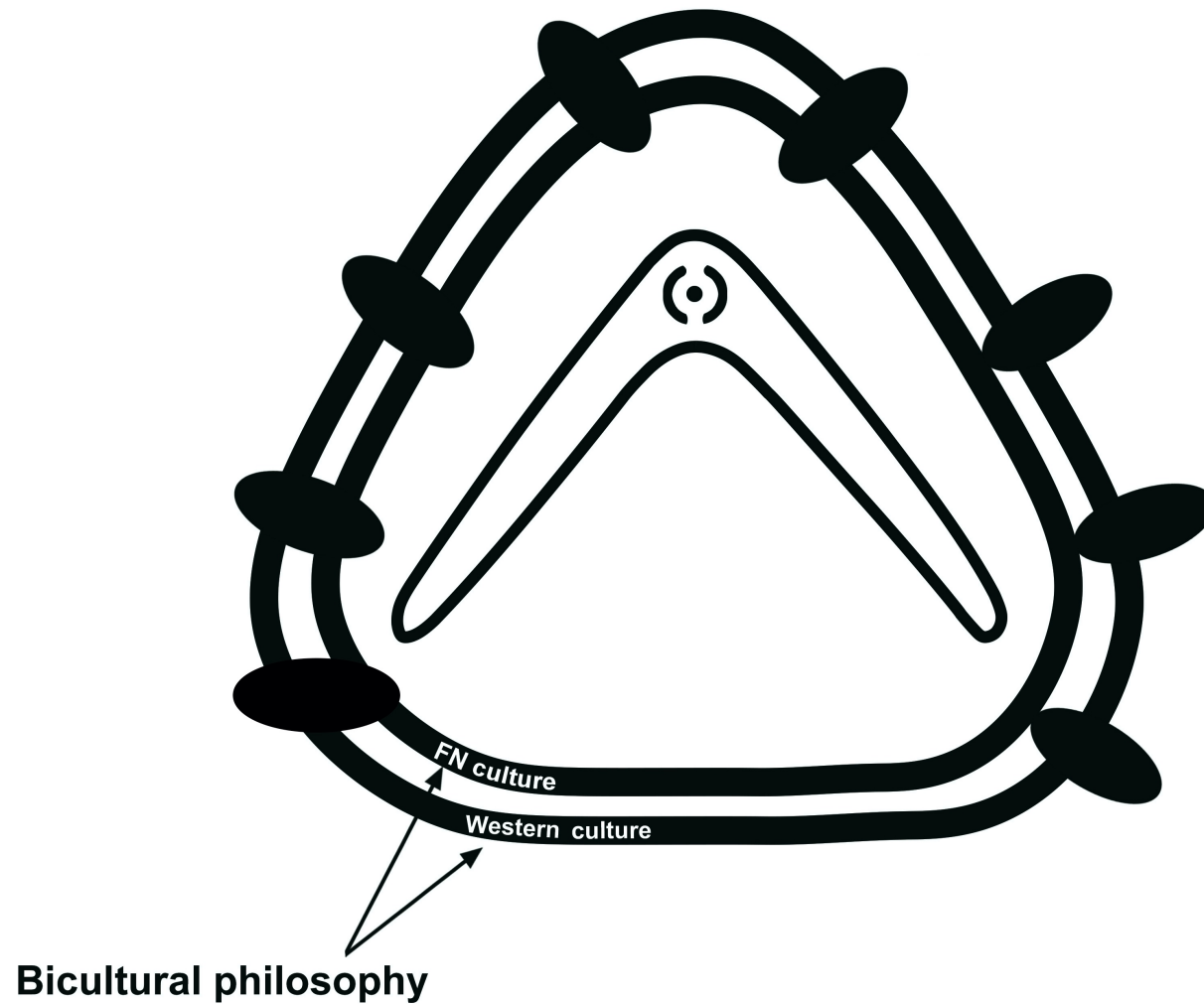


Can either
help or hinder
individual clinical
workers to do things
“the right way”

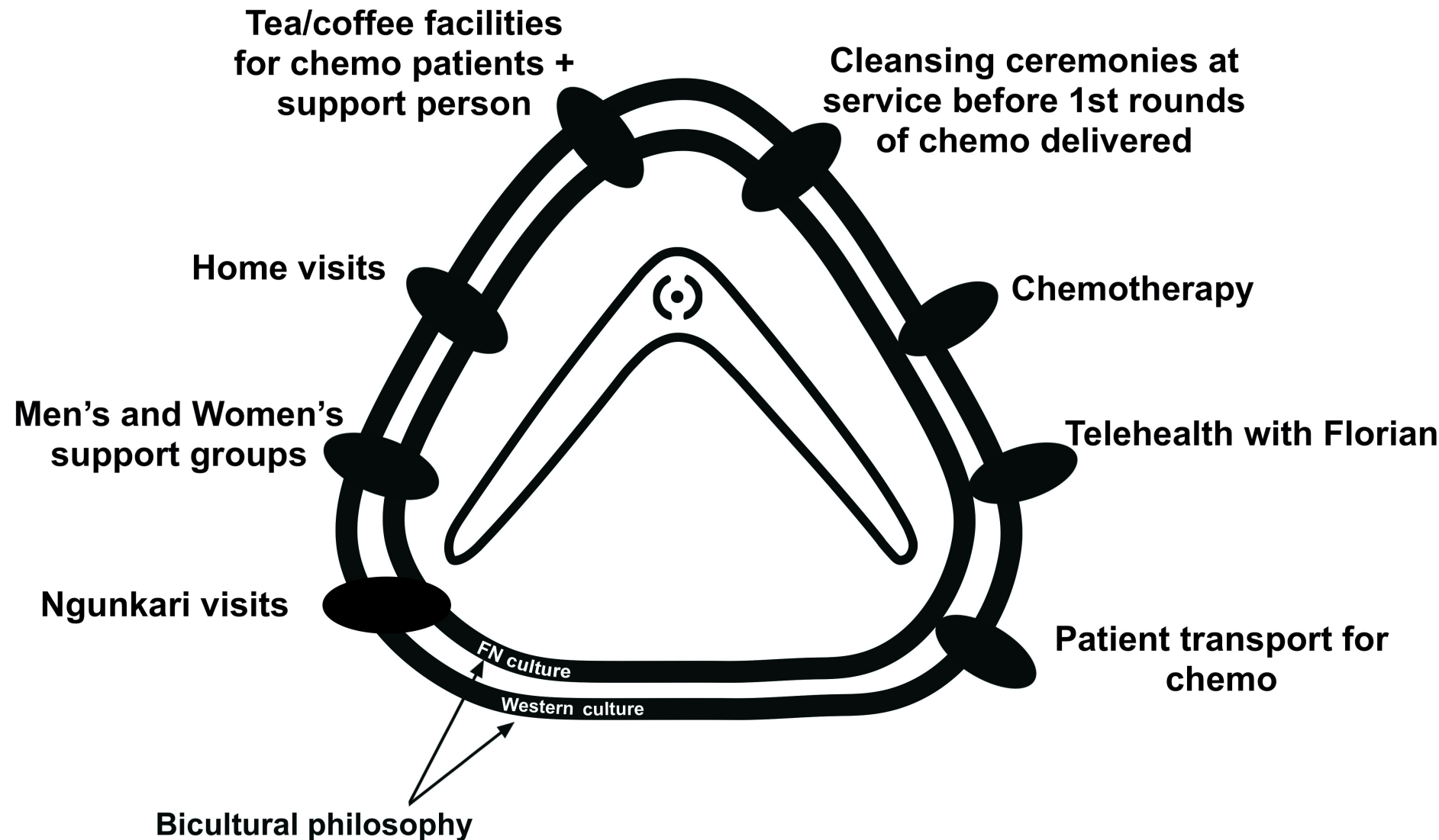


**Let's have a yarn: practical example
of how use the framework to tailor a
model to your communities
healthcare needs and cultural
traditions**

What are the Western and Cultural elements needed for Chemotherapy and healing?



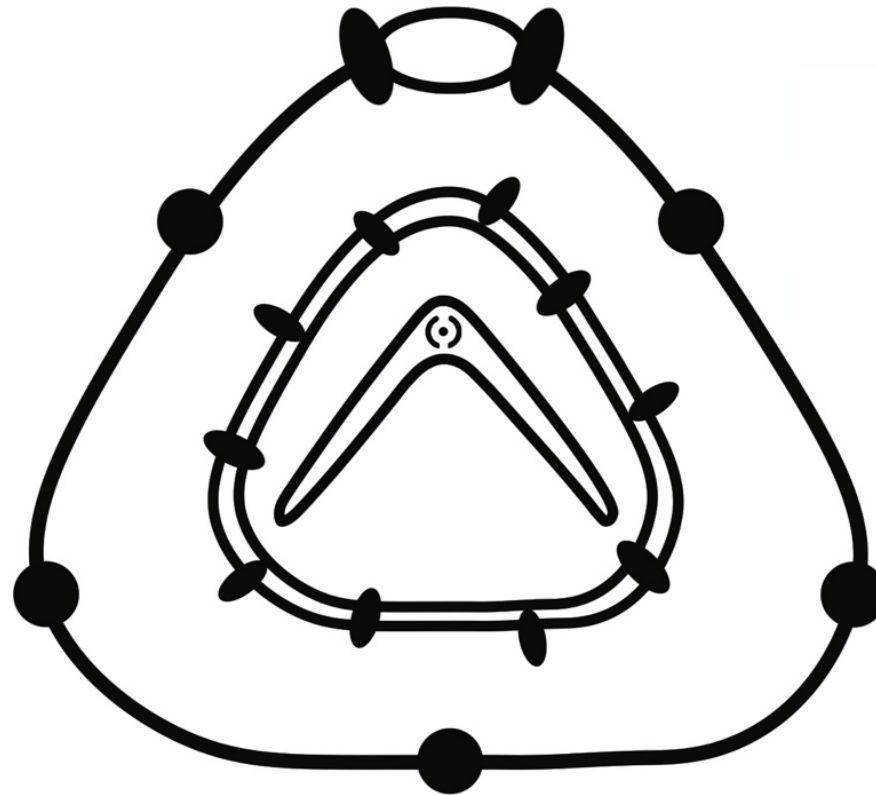
What are the Western and Cultural elements needed for Chemotherapy and healing?



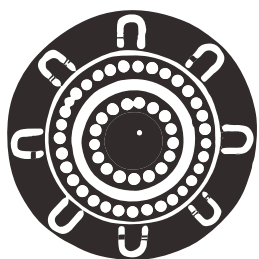
How can the service enable staff to deliver bicultural chemotherapy?

Safe space to negotiate local bicultural service and treatment approach

 Can either help or hinder individual clinical workers to do things "the right way"



Employ local First Nations staff



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A3 The Australian Bicultural Model of Care adapted for a chemotherapy telehealth program: a framework and data collection tool

This appendix contains a data collection tool used in a chemotherapy telehealth project (described in 5.7.2)., informed by the model developed in Chapter 3, and established as a 'stand-alone' framework in Appendix A2. This was developed by a team led by: Principal Investigator Dr Emma Webster, and co-Investigators Dr Florian Honeyball, Allan Hall (Yuwaallaraay and Gamilaroi), Yvonne Hill (Wiradjuri), Cecil See (Wiradjuri), Katrina Ward (Ngiyampa), Billie Townsend (Gamilaroi) and Gemma Khodr (Gundungarra).

APPENDIX 10: DATA COLLECTION TOOL

Codesign of cancer services in Bourke and Brewarrina

Participants	New/returning	Male/female	Aboriginal/non-Aboriginal	Representing community or service (eg AMS, local government, other)
Example N=5	N=1/n=4	N=2/n=3	N=5/n=0	Health service n=1 Community n=2 Other organisation n=2

Level 1 Interpersonal Processes	Level 2 Treatment and Healing	Level 3 Service Strategies	Additional notes

Figure 1: Australian Bicultural model of care

