

Intervening in Indigenous Gambling: A Systematic Review of the Literature

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Abstract

Internationally, Indigenous people have higher rates of problem gambling than other population groups, yet the uptake of gambling help services is thought to be low. This may be due to the lack of culturally appropriate services and staff. This study aimed to systematically search and review the literature relating to interventions designed for Indigenous populations that seek to prevent or address gambling harm, to support the design of new programs. Peer-reviewed articles and gray literature that described programs of this nature and/or which reported outcomes for Indigenous participants were included in the review. Included studies were published between January 2000 and May 2019 and available in English. Only four articles were identified for inclusion: two described programs in Australia and two in New Zealand. Only one article provided outcome data, which was inconclusive, and one described three separate interventions. Three of the four described involved community-led approaches informed by cultural and emancipatory principles. There is currently insufficient evidence to guide interventions aiming to prevent and address gambling harm for Indigenous peoples. This review identified an urgent need for new intervention research in this area.

Keywords

Aboriginal, Indigenous, first nation, gambling, gaming, intervention

Background

In Australia and internationally gambling is part of the social and cultural fabric of many Indigenous communities (Maltzahn et al., 2018). In Australia, card games, although reducing in popularity, remain an acceptable form of Indigenous social recreation in some areas (Hing et al., 2014a). However, with the introduction of commercial gambling, such as electronic gaming machines (EGMs), casinos, and off-course wagering, Australian Indigenous gambling involvement has increased significantly (Breen et al., 2010; McMillen & Donnelly, 2008). Here too, Indigenous Gambling has moved from community settings to organized venues in cities and towns, and these changes to the gambling environment have resulted in a range of far-reaching social, emotional, and economic consequences for Indigenous people (McMillen & Donnelly, 2008).

It is not the case that all gambling produces problems. Gambling can provide amusement, an opportunity to socialize, monetary gain, and an escape from day-to-day problems (Hing & Breen, 2014; Hing et al., 2015). But there are risks associated with gambling (McMillen & Donnelly, 2008); the most commonly reported is financial hardship (Hing & Breen, 2014). Terms such as pathological, problem, at-risk, disordered, and compulsive gambling are used to differentiate between controlled gambling and behavior that may cause

significant problems to the gambler, their family, and the community (Bainbridge et al., 2018; Lubman et al., 2015).

Internationally, Indigenous populations have higher rates of problem gambling than other population groups (Bertossa & Harvey, 2014; Breen et al., 2010; Larsen et al., 2013; Young et al., 2007, 2008). The higher the participation in and exposure to gambling, and the earlier the onset of involvement, the greater the risk (Hing et al., 2014b). Indigenous peoples' higher level of risk of harm from gambling has been associated with a range of factors including historical experiences of colonization, dispossession and trauma, relatively lower socioeconomic status, disadvantageous social conditions, and higher rates of addictions and mental health issues related to grief, stress, and racial discrimination (Abbott et al., 2016; Alegría et al., 2009; Currie et al., 2013; Delfabbro & King, 2012; Mason, 2017; Stevens & Young, 2009, 2010). Other risk factors may include cultural beliefs, historical

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gambling norms, and values of reciprocal obligations (Mason, 2017).

Problem gambling is recognized as one of the indicators of loss of social and emotional well-being (Bainbridge et al., 2018) and can be implicated in serious adverse consequences, including neglect of children, family arguments, breakdown and violence, criminal activity and incarceration, poor physical and mental health, and suicide (Aboriginal Health and Medical Research Council of New South Wales [AHMRCNSW], 2008). Gambling can lead to poverty at community as well as personal levels. While in previous eras a more collectivist approach to gambling meant funds were redistributed within the community, commercial gambling today is draining funds from communities and the money lost is unrecoverable (AHMRCNSW, 2008). Consequently, problem gambling has been found to diminish community cohesiveness (Phillips, 2003) and leads to social isolation (Hing et al., 2015).

Mainstream gambling interventions take a range of forms from psychological interventions, where there is evidence that approaches such as cognitive behavior therapy can help, at least in the short term (Cowlshaw et al., 2012), to industry regulations which shift the focus from the individual to the nature of gambling products and the systems that enable them (Livingstone, 2018). Other interventions involve “responsible gambling initiatives,” usually initiated by government and industry operators to assist gamblers maintain their expenditure within affordable limits. These can include self-exclusion from gambling venues, player pre-commitment to time or expenditure, warning messages; gambling education and information; and other prevention efforts but the evidence base for such programs is limited (Ladouceur et al., 2017). Other self-help strategies, characterized by being self rather than professionally directed, include self-education, self-assessment and monitoring, distraction activities, cognitive strategies, stimulus control, financial management, and social strategies (Lubman et al., 2015).

Despite the potential consequences of gambling and the range of service options, it is thought that only a small proportion of Indigenous problem gamblers utilize gambling help services (Cultural & Indigenous Research Centre Australia, 2011). This may be due to a lack of culturally appropriate services or staff, or knowledge of these services (Holdsworth et al., 2013). Feelings of shame and concerns about confidentiality may also play a part (AHMRCNSW, 2008; Cultural & Indigenous Research Centre Australia, 2011). For example, a gambling problem of a family member may remain private at first, but once the word is out, the family may experience a loss of respect among community members.

The staff of Mallee District Aboriginal Services had long been concerned about the impact of gambling in their community and had implemented a gambling help program within their service. This service was designed on a psychological model whereby a qualified gambling help counselor

was employed to see clients experiencing gambling harm. The service managers were concerned at the low rates of service usage. They were aware that Indigenous approaches to other areas of social need, including mental health and addictions, differed from mainstream treatment strategies and sought to take a more empowering and culturally informed approach (Bainbridge et al., 2018). They commissioned the authors of this article to investigate the literature available on gambling interventions in Indigenous contexts to guide their thinking. The aim of this study was therefore to systematically search the literature for studies of programs that seek to prevent or address gambling harm that are specifically designed for Indigenous populations and to describe the nature and outcomes of these programs.

Method

A protocol for the review was developed to reach a consensus on the purpose of the review and methods for the search, screening, data extraction, and analysis. The protocol was registered with Prospero (CRD42018095992). Guidelines for research involving Indigenous people emphasize the importance of involving Indigenous people in the design and interpretation of research (National Health and Medical Research Council, 2018). Hence, an Indigenous researcher (co-author Griffin) checked the study protocol and contributed to data extraction. Our approach to reviewing the literature entailed five steps as detailed below.

Step 1—Defining the Study Parameters

Inclusion/exclusion criteria were established at the commencement of the review using the participant, intervention, comparator, outcome and study design (PICOS) tool (Moher et al., 2009). They are summarized below:

Population: While the experiences of Indigenous peoples vary, Indigenous communities in countries such as New Zealand, Canada, or the United States share a colonial history, laws, political structures, and socioeconomic outcomes with respect to their Indigenous people (Lithopoulos, 2007). Hence, studies reporting on Indigenous communities across the world were included in the review.

Intervention: We included studies of formal programs or interventions aiming to address gambling-related harms across the spectrum of intervention from prevention to early intervention to treatment of gambling harm. Gambling was defined as wagering or betting money for a chance of profit, including playing bingo and cards for money, as well as commercial forms of gambling. Interventions of interest included counseling and other psychosocial approaches; regulation including self-exclusion; education; community-based responses; and prevention and policy. Interventions in included studies needed to include a description of components.

Comparators: We included studies with or without a comparator.

Outcomes: Included studies provided outcomes such as changes in behavior, gambling behavior, and health or well-being outcomes or outcomes from empirical qualitative evaluation for Indigenous people (studies without disaggregated data for Indigenous and non-Indigenous people were excluded).

Study designs: Eligible study designs were randomized controlled trials (RCTs), non-randomized RCTs, cluster RCTs, cross-sectional, case-control, case-series, and qualitative studies. Review articles, news articles, editorials, comments and conference abstracts, and opinion pieces were excluded. Peer-reviewed journal articles and gray literature were included to ensure a broad coverage of existing literature and to avoid publication bias. Gambling technologies such as poker machines and internet gambling evolve rapidly. The start year of the search, 2000, was chosen based on the assumption that the 18-year time-period would provide a comprehensive coverage of initiatives relevant to the contemporary experience of gambling. Included studies were published between the beginning of 2000 and the May 17, 2019, and available in English.

Step 2—Detailed Searching of the Literature

Search strategy. The strategy for our search was developed in consultation with an expert librarian. The following databases were searched: EBSCOhost Databases, Informit Complete, ProQuest Central, PsychInfo (Ovid), and Google Scholar (first 100 results). We applied the following search string across all databases (gambling OR gaming OR bingo OR wagering OR betting) AND (Aborigin* OR Indigenous OR native OR “first nations”) AND (intervent* OR program*), which was adjusted to database-specific requirements where needed. Gray literature searches were conducted via the following databases: Gambling Research Exchange Ontario, Victoria Responsible Gambling databases, The Grey Literature Report, The Australian Drug Foundation database, and Open Grey.

Screening according to inclusion/exclusion criteria. The combined database and gray literature searches yielded 644 records (after individual database electronic removal of duplicates). These were imported into the bibliographic citation management software, EndNote X8. The titles and abstracts of these records were screened by one author (co-author) to remove articles that did not meet inclusion criteria, leaving 22 publications for closer examination.

Full texts of these publications were retrieved and examined by co-author [Griffin] and at least one of the other authors, to assess against established inclusion and exclusion criteria. Publications where any doubts about inclusion existed (i.e., in relation to the clarity of program description) were discussed with another two authors until consensus was

reached. Checking reference lists of included publications at this stage did not yield additional results. During this stage, a further 18 publications were excluded on the basis that they did not describe a program or intervention, they solely described gambling harm, they were purely theoretical, or opinion based, or they were guidelines without reference to evidence. Four publications were identified for inclusion in the review (Figure 1).

Step 3—Classifying Publications

Initially, we intended to assess the study quality of quantitative papers by applying the EPHPP tool criteria (Effective Public Health Practice Project, 2009) and for qualitative papers the CASP tool (Critical Appraisal Skills Programme, 2013). However, due to the diverse methods used in included studies, members of the author team assessed and discussed research quality (Sanson-Fisher et al., 2006). Each of the included studies was discussed by the team to identify strengths and limitations of the method utilized, alongside consideration of the approach to Indigenous health research (see discussion of the data extraction tool below).

Adapting the approach outlined by Sanson-Fisher et al. (2006), the authors classified publications according to whether they provided the following kinds of information:

- Program descriptions (descriptions of methods or processes undertaken for an Indigenous gambling project, without data-based evaluation reported);
- Intervention research (studies that tested the effectiveness of an intervention in relation to gambling).

Step 4—Systematically Extracting the Data

A customized data extraction form, developed prior to the search for use in systematic reviews involving Indigenous people and communities, was used to facilitate the extraction of data on the characteristics of included studies (MacLean et al., 2015). This form differs from other tools in that it was developed by a team that included three Indigenous researchers. The tool includes appraisal of compliance with recommendations from guidelines on Indigenous health research as measures of study quality (see, for example, National Health and Medical Research Council, 2018).

For each included paper, two authors used the tool to record data on first author and year; literature type (peer-reviewed or gray literature); study type (original, intervention, program description, measurement research); aim of study; population studied and location where research was conducted; focus; method(s); guiding principles, strategies employed, or recommendations; outcomes or effects.

Step 5—Analyzing the Data

The included papers were coded for characteristics and outcomes using a thematic analysis approach (Braun & Clarke,

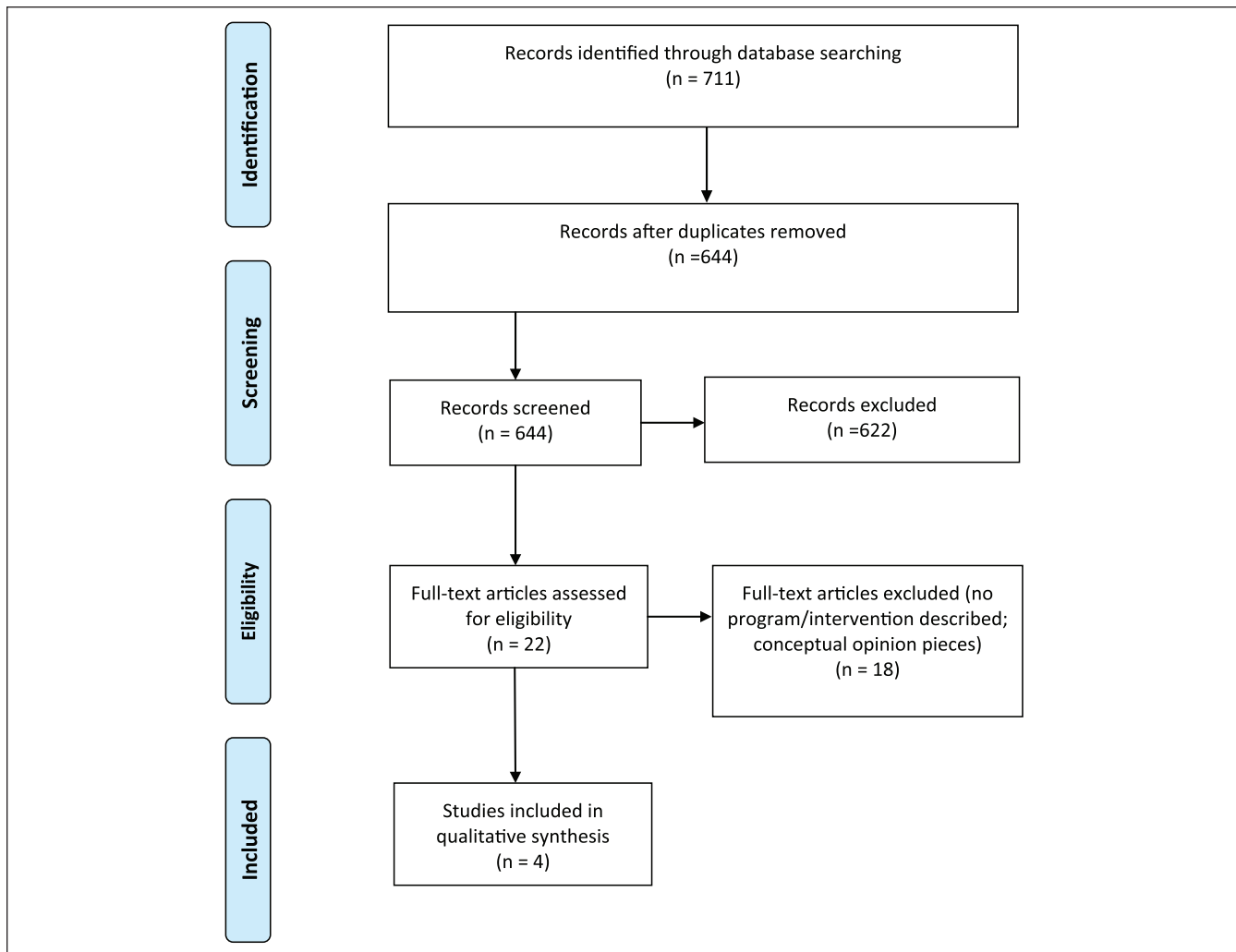


Figure 1. The search strategy.

2006). This involved reading through the papers carefully for information relating to the research questions. The results are organized according to the themes of nature of programs, including strategies and principles, and program outcomes.

Limitations

There were methodological limitations in the design of this review. For example, our search protocol, though rigorous, may have led us to miss intervention research aimed at the general population which at the same time considered the cultural background of the participants. However, our concurrent scoping review of mainstream literature did not provide any indications that such an analysis exists. Indeed, several authors called for further research into treatment and intervention for problem gambling in mainstream communities as the evidence base in this area is also lacking (Gooding & Tarrier, 2009; Rash & Petry, 2014).

Results

A total of four articles met the criteria for inclusion in our review, and a description of characteristics and outcomes is presented in Table 1. The papers were published between 2004 and 2018, with only one study published before 2010, and the remaining studies published thereafter. Three studies were peer-reviewed and one was classified as gray literature (Herd & Richards, 2004; apparently a book chapter but only available from the internet). Two articles addressed interventions in Australia (Fogarty et al., 2018; Lamb & Young, 2011) and two were in New Zealand (Herd & Richards, 2004; Morrison & Boulton, 2013).

Nature of Programs

Overall, the objective of described interventions or programs centered around the prevention or minimization of harm related to problem gambling or healing facilitation. Three

Table 1. Characteristics of Included Publications.

Authors, year, country	Study type	Aim of study	Population	Method(s)	Program and strategies	Outcomes
Fogarty et al. (2018) Australia	Three program descriptions	To review community-level health promotion approaches to problem gambling	Indigenous Australian people	n/a	A health promotion approach incorporating: community engagement and locally designed strategies for counseling, staff training, diversionary activities, public awareness and education, and partnerships.	One of the three programs reported reduced gambling when people attended diversionary events, less crime and substance misuse and improvements in service partnerships and community engagement.
Herd & Richards (2004) New Zealand	Program description	To describe a culturally appropriate group program for addressing gambling-related harm	Maori women	Narrative description	Group healing intervention utilizing cultural knowledge and integration of Western knowledge.	Not reported
Lamb & Young (2011) Australia	Intervention research	To test the impact of an income management intervention, commercial gambling	Aboriginal Australian people	Interrupted time-series analysis in two towns.	Policy options at the local level with community engagement.	Inconclusive results—reduction in EGM expenditure at two of 13 venues. Other factors might have impacted on this outcome.
Morrison & Boulton (2013) New Zealand	Program description	To describe the development of a checklist, informed by Maori cultural values.	Maori women	Narrative description	Intervention checklist, informed by Maori cultural values, to facilitate safe gambling.	Not reported

Note. EGM = electronic gaming machine.

involved program descriptions and one was an intervention study of a policy measure (Lamb & Young, 2011).

Of the three papers describing programs, two described New Zealand intervention strategies for Māori women at risk of gambling harm. One of these programs involved a culturally appropriate group approach to addressing gambling-related harm (Herd & Richards, 2004). An emancipatory and decolonizing epistemological framework was central to the “Wahine Tupono” group program described by Herd and Richards (2004). Designed by Maori women for Maori women, the program is embedded in the “kaupapa Maori concepts of manaakitanga, tautoko, aroha, tetahi ki tetahi (caring, support and love, one to another)” (Herd & Richards, 2004, p. 178), and a Maori understanding of health as involving four cornerstones: physical, mental or emotional, spiritual, and family. Cultural rituals, imagery, language, incantations, genealogy, songs, story-telling, and healing methods are incorporated into the program and a celebration ceremony is held at completion (Herd & Richards, 2004). While culturally informed, Wahine Tupono also draws on and integrates Western knowledge. For example, a psycho-educational component provides information about gambling to give participants the opportunity to challenge misconceptions, gain insight into their experiences, and to explore the options and choices they have in relation to gambling. Local partner organizations provide training on budgeting and money management skills. Group facilitators have experience in counseling or health promotion and support and mentor each other (Herd & Richards, 2004).

The second program targeting Māori women described the development of an intervention checklist, informed by Maori cultural values, to facilitate safe gambling (Morrison & Boulton, 2013). The Tu Toa Tu Maia program also included training resources designed to promote safe gambling among Maori women, also informed by Maori knowledge. This knowledge was obtained through a process of community research informed by Maori methodology. The checklist focuses on basic needs, relationships, safety, gambling behavior, emotional attachment, denial, secrecy, and addiction and utilizes cultural imagery and language. In the development phase, a community advisory group and other community members provided feedback on the authenticity and cultural relatedness of the resource. Reported flow-on effects of the Tu Toa Tu Maia Intervention have included community capacity building through awareness-raising campaigns with Māori and non-Māori social, health, and mental health organizations and gaming venue staff to promote the use of the checklist by their patrons (Morrison & Boulton, 2013).

The third paper provided three Australian community-level case studies of health promotion practice addressing Indigenous gambling issues (Fogarty et al., 2018). The first of these, the Amity Community Services gambling education and harm minimization program in the Northern Territory (NT), commenced with a process of community engagement and discussions with Indigenous and non-Indigenous health workers about gambling and its impact. Workshops were then run with community groups where story-telling and art

were used to stimulate conversations and to develop strategies and resources to address gambling. These informed a broader public awareness and education program in which health promotion messages were translated into Aboriginal languages and distributed via “talking posters,” TV campaigns, t-shirts, mugs, and bags.

In the second case study, community engagement was central to the Waruwi gambling help program, managed by the NSW Aboriginal Safe Gambling Service. Here, community members and service providers were supported to develop and implement local action plans through community workshops, small grants, and the appointment of Aboriginal Safe Gambling Ambassadors. This strategy was part of a broader gambling program involving phone counseling services for Aboriginal clients, online forums, training and support for other gambling help professionals, and promoting gambling awareness at major events, such as sporting events and music festivals (Fogarty et al., 2018).

“The Bidyadanga Gambling Diversion Program” in northern Western Australia, the third case study described by Fogarty et al. (2018), was initiated by elders concerned about the well-being of young people. The program aims were to strengthen community action and provide a supportive environment for young people. Through the program, a Youth and Community Engagement Coordinator was employed to engage young people in alternative activities to gambling, to build community awareness of gambling, and to build the capacity of young people to make informed decisions about their gambling behavior. The program team worked in partnership with a range of other community agencies including the local Aboriginal medical service, the school, the police, government child protection service, and sport and recreation organizations (Fogarty et al., 2018).

The intervention study of a policy measure included in this review (Lamb & Young, 2011) tested the efficacy of the Australian Northern Territory income management intervention. Income management intervention was a key strategy of the Australian government’s response to a contested report documenting successive government policy failure toward Aboriginal Australians and disturbing evidence of endemic child abuse, poor education, poor health, alcohol abuse, and problem gambling (Lamb & Young, 2011; Wild & Anderson, 2007). In 2007, legislation was passed to stipulate that half of any welfare payment provided to Aboriginal people living in specified parts of the NT could only be spent on certain products such as food, clothing, housing, or health, thus reducing the cash flow available to the individual for EGM gambling (Lamb & Young, 2011).

Outcomes

There were no empirical outcomes reported for gambling interventions specifically targeting Indigenous people. The only study that described outcomes was Lamb and Young’s

(2011) evaluation of the impact of the NT income management intervention targeting Aboriginal people on the amount spent on EGM gambling. Here, the findings were inconclusive. Lamb and Young (2011) found that the intervention appeared to have reduced spending at two of the 13 venues they studied in the towns of Alice Springs and Katherine. However, they found that the effect was difficult to separate from other variables including local patterns in the use of gambling venues and other social policies (Lamb & Young, 2011).

While reported as an observation rather than as a finding of empirical qualitative research, Fogarty et al. (2018) noted that community members spoke about how the Bidyadanga Gambling Diversion program resulted in a reduction in individual gambling, as people chose to attend local diversionary events rather than gamble. This, in turn, lessened the impacts of gambling on others. It also impacted positively on crime and substance misuse, improved cooperation between service providers, and community engagement in local activities (Fogarty et al., 2018).

Discussion and Conclusion

This study highlights an almost complete lack of research evidence internationally in relation to interventions designed to address gambling-related harm experienced by Indigenous individuals, families, and communities. The only intervention research study included in the review (Lamb & Young, 2011) tested the efficacy of an Australian income management intervention to reduce spending on commercial gambling and the results were inconclusive. The authors raise concern about the potentially damaging effects of a policy that targets people according to race and caution against the ongoing implementation of income management until locally variant effect are better understood. These results are not necessarily reflective of the availability of problem gambling programs for Indigenous peoples, rather the lack of scholarly evaluation and reporting of programs.

While little is known about effective interventions in response to gambling in Indigenous communities, findings from evaluation of programs aiming to decrease prevalence of other dependency forming practices such as substance use are likely to be relevant also to gambling. For example, the literature indicates that interventions specifically designed to meet the needs of Indigenous people can be effective in addressing smoking (Carson et al., 2012). A systematic review of interventions designed to improve Australian Indigenous people’s health and well-being through utilizing Aboriginal cultural interventions, including programs tackling substance misuse, found improvements in a range of psychosocial, behavioral, and clinical measures (MacLean et al., 2017). Collaborative, culturally sensitive and family inclusive approaches are recommended as part of alcohol and other drug programs in Australian Aboriginal communities (see, for example, Gray et al., 2010).

While the paucity of evidence on gambling interventions is surprising, particularly in light of the international evidence that Indigenous peoples are at greater risk of gambling harm (Bertossa & Harvey, 2014; Breen et al., 2010; Larsen et al., 2013; Young et al., 2007, 2008), the findings are consistent with other literature reviews of intervention research for Indigenous peoples (see, for example, McCalman et al., 2014). This lack of research makes it difficult for program developers to design a program based on “what works.” There remains a critical need for intervention research in this area. The lack of ready research evidence on strategies to combat gambling in Indigenous communities in Canada or the United States is particularly concerning given the gambling prevalence and problems in these countries (see, for example, Alegría et al., 2009). Services that provide interventions for Indigenous communities need to be properly resourced to evaluate and report on their work.

While the evidence may be lacking, similarities in the descriptions of programs included in this review provide some important directions for pilot intervention design. Each involved a recognition of the impact of colonization on Indigenous people and the need for an empowerment or emancipatory approach which involved local communities and integrated cultural knowledge. This differentiates Indigenous responses to gambling harm from mainstream approaches.

Regardless of the nature of the intervention, from accessible counseling services to group healing programs, safe gambling checklists, and public awareness campaigns, all papers highlighted the importance of the intervention being guided by key principles. Three of the four included articles provided program descriptions that highlighted the importance of utilizing guiding principles to inform the design of strategies to address gambling harm with Indigenous communities (Fogarty et al., 2018; Herd & Richards, 2004; Morrison & Boulton, 2013). These included taking an emancipatory approach, community engagement, local involvement in program design, integrating culture into the program, building community capacity, and partnerships between service organizations and community. While the fourth article reported a study that was not informed by these principles and strategies and involved a government policy response, the authors concluded that policy responses to excessive gambling consumption require “locally-sensitive policies formulated jointly with Aboriginal interest groups” (Lamb & Young, 2011, p. 136).

These principles are supported by other literature addressing Indigenous gambling where there is a strong focus on recognizing the impact of historical and socioeconomic factors (Nagel et al., 2011; Robertson et al., 2005) and the link between disempowerment, marginalization, and gambling (Dyall, 2012; McGowan & Nixon, 2004). Also recognized is the importance of cultural knowledge and, in some cases, spirituality, in individual and community recovery (Breen et al., 2010; Holdsworth et al., 2013; Nagel et al., 2011). This

can be in the form of culturally grounded models and strengthened cultural knowledge among Indigenous people, as well as culturally informed resources (Dyall, 2012; Morrison & Boulton, 2013; Nagel et al., 2011); community and family support is considered vital especially where appropriate services are not available (Breen et al., 2010; Holdsworth et al., 2013). The involvement of local communities in their own strategies for change is viewed as a human rights issue as Indigenous rights, including those enshrined in international human rights and Indigenous rights conventions, include Indigenous people’s right to develop their own institutional systems (Breen et al., 2010). Other writers support Fogarty et al.’s (2018) call for a public health approach, as more holistic and multi-level strategies provide a corrective to the dominant over-emphasis on individual factors and one-on-one responses (Breen et al., 2013). Similar recommendations are made for social and emotional well-being interventions more broadly (Bainbridge et al., 2018).

The focus on principles and locally driven action to address gambling identified through this article are significant as, in the mainstream literature, many gambling support programs and policies take a largely individual behavior change approach to gambling harm (Miller et al., 2018). Illustrative of this, Breen et al. (2013) found that, while Indigenous community members and gambling venue managers identified gambling as social, gambling counselors tended to identify gambling as a solitary activity. This suggests that their interventions may overemphasize individually focused solutions, such as cognitive behavior therapy and its variants, rather than seeing the communal and connected nature of gambling, and, in turn, the systemic and historical factors that makes gambling attractive in communities (Breen et al., 2010). Evaluation of programs founded on Indigenous principles as described above and which involve Indigenous people in planning and delivery are urgently required to confirm the efficacy of this approach on achieving outcomes in relation to harmful gambling.

In summary, this review identifies an urgent need for research of interventions designed for Indigenous populations that seek to prevent or address gambling harm. At present, there is insufficient evidence to guide program design. This entails a long-term commitment to resourcing program development as well as rigorous evaluation design.

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Ethical Approval

This article does not contain any studies with human participants or animals performed by any of the authors.

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References

- Abbott, M., Stone, C. A., Billi, R., & Yeung, K. (2016). Gambling and problem gambling in Victoria, Australia: Changes over 5 years. *Journal of Gambling Studies*, 32(1), 47–78.
- Aboriginal Health and Medical Research Council of New South Wales. (2008). *Pressing problems: Gambling issues and responses for NSW Aboriginal communities*. <http://esvc000239.bne001tu.server-web.com/Downloads/Publication/AHMRC%20Pressing%20Problems%20Community%20Reportcolor.pdf>
- Alegría, A. A., Petry, N. M., Hasin, D. S., Liu, S.-M., Grant, B. F., & Blanco, C. (2009). Disordered gambling among racial and ethnic groups in the US: Results from the National Epidemiologic Survey on Alcohol and Related Conditions. *CNS Spectrums*, 14(3), 132–143.
- Bainbridge, R., Mccalman, J., Jongen, C., Campbell, S., Kinchin, I., Langham, E., Benveniste, T., Calder, R., & Doran, C. (2018). *Evidence check: Improving social and emotional wellbeing for Aboriginal and Torres Strait Islander people*. Sax Institute.
- Bertossa, S., & Harvey, P. (2014). Measuring problem gambling in Indigenous communities: An Australian response to the research dilemmas. *Australian Aboriginal Studies*, 2014(2), 21–29.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101.
- Breen, H., Hing, N., & Gordon, A. (2010). *Exploring Indigenous gambling: Understanding Indigenous gambling behaviour, consequences, risk factors, and potential interventions*. <http://pandora.nla.gov.au/pan/129615/20111011-1015/www.gamblingresearch.org.au/ca256db1001771fb/page/gra+research+reports-exploring+indigenous+gambling8e07.html>
- Breen, H., Hing, N., & Gordon, A. (2013). Indigenous Australian gambling crime and possible interventions: A qualitative study. *Asian Journal of Gambling Issues and Public Health*, 3, 4. <https://ajgiph.springeropen.com/articles/10.1186/2195-3007-3-4>
- Carson, K. V., Brinn, M. P., Peters, M., Veale, A., Esterman, A. J., & Smith, B. J. (2012). Interventions for smoking cessation in Indigenous populations. *Cochrane Database of Systematic Reviews*, 1, CD009046. <https://doi.org/10.1002/14651858.CD009046.pub2>
- Cowlishaw, S., Merkouris, S., Dowling, N., Anderson, C., Jackson, A., & Thomas, S. (2012). Psychological therapies for pathological and problem gambling. *Cochrane Database of Systematic Reviews*, 11, CD008937. <https://doi.org/10.1002/14651858.CD008937.pub2>
- Critical Appraisal Skills Programme. (2013). *Critical Appraisal Skills Programme: Making sense of evidence*. <http://www.casp-uk.net/>
- Cultural & Indigenous Research Centre Australia. (2011). *Development of culturally appropriate problem gambling services for Indigenous communities*. Department of Families, Housing, Community Services and Indigenous Affairs.
- Currie, C. L., Wild, T. C., Schopflocher, D. P., Laing, L., Veugelers, P., & Parlee, B. (2013). Racial discrimination, post traumatic stress, and gambling problems among urban Aboriginal adults in Canada. *Journal of Gambling Studies*, 29(3), 393–415.
- Delfabbro, P., & King, D. (2012). Gambling in Australia: Experiences, problems, research and policy. *Addiction*, 107(9), 1556–1561.
- Dyall, L. (2012). Gambling and Whānau Ora: Changing lifestyles and life choices. *He Pukenga Korero*, 9(2), 35–43.
- Effective Public Health Practice Project. (2009). *Quality assessment tool for quantitative studies*. <http://www.ehpnp.ca/tools.html>
- Fogarty, M., Coalter, N., Gordon, A., & Breen, H. (2018). Proposing a health promotion framework to address gambling problems in Australian Indigenous communities. *Health Promotion International*, 33, 115–122.
- Gooding, P., & Tarrier, N. (2009). A systematic review and meta-analysis of cognitive-behavioural interventions to reduce problem gambling: Hedging our bets? *Behaviour Research and Therapy*, 47(7), 592–607.
- Gray, D., Stearne, A., Wilson, M., & Doyle, M. (2010). *Indigenous-specific alcohol and other drug interventions: Continuities, changes and areas of greatest need*. Australian National Council on Drugs; National Drug Research Institute, Curtin University.
- Herd, R., & Richards, D. (2004). *Wāhine Tūpono: A Kaupapa Māori intervention programme*. <http://www.hma.co.nz/wp-content/uploads/2016/01/CHAPTER-15-Wahine-Tupono-A-Kaupapa-Maori-Intervention-Programme.pdf>
- Hing, N., & Breen, H. (2014). *Indigenous Australians and gambling*. Australian Gambling Research Centre. <https://aifs.gov.au/agrc/publications/indigenous-australians-and-gambling>
- Hing, N., Breen, H., Gordon, A., & Russell, A. (2014a). Aboriginal card gamblers and non-card gamblers: Do they differ? *International Gambling Studies*, 14(2), 228–250. <https://doi.org/10.1080/14459795.2014.896388>
- Hing, N., Breen, H., Gordon, A., & Russell, A. (2014b). Gambling harms and gambling help-seeking amongst Indigenous Australians. *Journal of Gambling Studies*, 30(3), 737–755.
- Hing, N., Breen, H., Gordon, A., & Russell, A. (2015). Gambling motivations of Indigenous Australians. In G. Martinotti & H. Bowden-Jones (Eds.), *Gambling: Cultural attitudes, motivations and impact on quality of life* (pp. 30–58). Nova Science.
- Holdsworth, L., Breen, H., Hing, N., & Gordon, A. (2013). One size doesn't fit all: Experiences of family members of Indigenous gamblers. *Australian Aboriginal Studies*, 1, 73–84.
- Ladouceur, R., Shaffer, P., Blaszczynski, A., & Shaffer, H. (2017). Responsible gambling: A synthesis of the empirical evidence. *Addiction Research & Theory*, 25(3), 225–235. <https://doi.org/10.1080/16066359.2016.1245294>
- Lamb, D., & Young, M. (2011). “Pushing buttons”: An evaluation of the effect of Aboriginal income management on commercial gambling expenditure. *Australian Journal of Social Issues*, 46(2), 119–140.
- Larsen, C. V. L., Curtis, T., & Bjerregaard, P. (2013). Gambling behavior and problem gambling reflecting social transition and traumatic childhood events among Greenland Inuit: A

- cross-sectional study in a large Indigenous population undergoing rapid change. *Journal of Gambling Studies*, 29(4), 733–748. <https://doi.org/10.1007/s10899-012-9337-6>
- Lithopoulos, S. (2007). *International comparison of Indigenous policing models*. Public Safety Canada. <https://www.public-safety.gc.ca/cnt/rsrscs/pblctns/cmprsn-ndgns-plcng/cmprsn-ndgns-plcng-eng.pdf>
- Livingstone, C. (2018). *A blueprint for preventing and minimising harm from electronic gambling machines in the ACT*. Canberra Alliance for Gambling Reform; Gambling & Social Determinants Unit, School of Public Health and Preventive Medicine, Monash University.
- Lubman, D., Rodda, S., Hing, N., Cheetham, A., Cartmill, T., Nuske, E., Hodgins, D., & Cunningham, J. (2015). *Gambler self-help strategies: A comprehensive assessment of self-help strategies and actions*. Gambling Research Australia.
- MacLean, S., Ritte, R., Thorpe, A., Ewen, S., & Arabena, K. (2015). Assessing compliance with Aboriginal and Torres Strait Islander health research guidelines within systematic reviews. *Australian Indigenous Health Bulletin*, 15(4), 1–5.
- MacLean, S., Ritte, R., Thorpe, A., Ewen, S., & Arabena, K. (2017). Health and wellbeing outcomes of programs for Indigenous Australians that include strategies to enable the expression of cultural identities: A systematic review. *Australian Journal of Primary Health*, 23(4), 309–318. <https://doi.org/10.1071/PY16061>
- Maltzahn, K., Vaughan, R., Griffin, T., Thomas, D., Stephens, R., Whiteside, M., & Maclean, S. (2018). Pleasures and risks associated with bingo playing in an Australian Aboriginal community: Lessons for policy and intervention. *Journal of Gambling Studies*, 1–18.
- Mason, E. (2017). *An ecological and life course analysis of binge drinking and problem gambling among Indigenous populations in Canada* [Master's thesis]. University of Lethbridge. <https://search.proquest.com/openview/ef8a12a97617b48917a49dd3ae4da888/1?pq-origsite=gscholar&cbl=18750&diss=y>
- McCalman, J., Bridge, F., Whiteside, M., Bainbridge, R., Tsey, K., & Jongen, C. (2014). Responding to Indigenous Australian sexual assault: A systematic review of the literature. *SAGE Open*, 4(1), 1–13. <https://doi.org/10.1177/2158244013518931>
- McGowan, V. M., & Nixon, G. (2004). Blackfoot traditional knowledge in resolution of problem gambling: Getting gambled and seeking wholeness. *Canadian Journal of Native Studies*, 24(1), 7–35.
- McMillen, J., & Donnelly, K. (2008). Gambling in Australian Indigenous communities: The state of play. *Australian Journal of Social Issues*, 43(3), 397–426.
- Miller, H. E., Thomas, S. L., & Robinson, P. (2018). From problem people to addictive products: A qualitative study on rethinking gambling policy from the perspective of lived experience. *Harm Reduction Journal*, 15(1), 16.
- Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & the PRISMA Group. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *Annals of Internal Medicine*, 151(4), 264–269. <https://doi.org/10.7326/0003-4819-151-4-200908180-00135>
- Morrison, L., & Boulton, A. (2013). Reversing the harmful effects of gambling in Indigenous families: The development of the Tu Toa Tu Maia intervention. *Pimatisiwin: A Journal of Aboriginal and Indigenous Community Health*, 11(2), 255–268.
- Nagel, T., Hinton, R., Thompson, V., & Spencer, N. (2011). Yarning about gambling in Indigenous communities: An Aboriginal and Islander Mental Health Initiative. *Australian Journal of Social Issues*, 46(4), 371–389.
- National Health and Medical Research Council. (2018). *Ethical conduct in research with Aboriginal and Torres Strait Islander Peoples and communities: Guidelines for researchers and stakeholders*. Commonwealth of Australia. <https://www.nhmrc.gov.au/about-us/resources/ethical-conduct-research-aboriginal-and-torres-strait-islander-peoples-and-communities>
- Phillips, G. (2003). *Addictions and Healing in Aboriginal country*. Aboriginal Studies Press.
- Rash, C. J., & Petry, N. M. (2014). Psychological treatments for gambling disorder. *Psychology Research and Behavior Management*, 7, 285–295.
- Robertson, P., Pitama, S., Huriwai, T., Ahuriri-Driscoll, A., Haitana, T., Larsen, J., & Uta'i, S. (2005). Developing services in te rohe o Ngai Tahu for Maori with gambling related problems. *New Zealand Journal of Psychology*, 34(1), 35–43.
- Sanson-Fisher, R. W., Campbell, E. M., Perkins, J. J., Blunden, S. V., & Davis, B. B. (2006). Indigenous health research: A critical review of outputs over time. *Medical Journal of Australia*, 184(10), 502–505.
- Stevens, M., & Young, M. (2009). Betting on the evidence: Reported gambling problems among the Indigenous population of the Northern Territory. *Australian & New Zealand Journal of Public Health*, 33(6), 556–565. <https://doi.org/10.1111/j.1753-6405.2009.00453.x>
- Stevens, M., & Young, M. (2010). Independent correlates of reported gambling problems amongst Indigenous Australians. *Social Indicators Research*, 98(1), 147–166. <https://doi.org/10.1007/s11205-009-9536-4>
- Wild, R., & Anderson, P. (2007). *Ampe Akelyernemane Meke Mekarle: "Little children are sacred": Report of the Northern Territory Board of inquiry into the protection of Aboriginal children from sexual abuse*. <http://www.partnerships.org.au/Library/littlechildrenaresacred.htm>
- Young, M., Barnes, T., Stevens, M., Paterson, M., & Morris, M. (2007). The changing landscape of Indigenous gambling in Northern Australia: Current knowledge and future directions. *International Gambling Studies*, 7(3), 327–343.
- Young, M., Stevens, M., & Morris, M. (2008). Problem gambling within the non-Indigenous Population of the Northern Territory of Australia: A multivariate analysis of risk factors. *International Gambling Studies*, 8(1), 77–93. <https://doi.org/10.1080/14459790701870571>