Current approaches to the identification and management of gambling disorder: a narrative review to inform clinical practice in Australia and New Zealand

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Summary

- Gambling disorder is a recognised psychiatric disorder in the *Diagnostic and statistical manual of mental disorders* (DSM-5) and is classified as an addiction alongside alcohol and substance use disorders. The DSM-5 describes a past-year timeframe, episodic or persistent specifiers, early or sustained remission specifiers, and three gambling disorder severity specifiers (mild, moderate and severe).
- Although anyone can develop gambling disorder, there are known risk factors. In studies involving general adult populations, the likelihood of developing the disorder varies with the type of gambling, and is particularly high for internet gambling, casino table games and poker machines.
- Australia and New Zealand have shifted the focus of gambling disorder to the identification of gambling harm, in recognition that efforts targeting the prevention of harm may be more effective as they potentially influence a larger segment of the population.
- Temporal categories of gambling harm (crisis harms versus legacy harms) affect help-seeking and need for treatment. Crisis harms often motivate people to change their behaviour or seek help, whereas treatment addresses legacy harms, which emerge or continue to occur after gambling behaviour ceases.
- The evidence base and clinical guidelines recommend cognitive behavioural therapy and motivational interviewing but there are many gaps in our understanding of treatment for gambling disorder, including an absence of high quality evaluations that assess treatment effectiveness over the longer term, especially for treatment delivered in community settings. There is also an urgent need to understand how, why and for whom treatment works so that interventions can be optimised to individual needs, thereby facilitating client engagement.
- Because of limited access to health care and poor retention in treatment, in recent years there has been an increase in treatment choices in the form of internet therapies and smartphone applications.

Gambling disorder causes significant disruption to an individual's mental health, finances, personal functioning, employment and relationships. Gambling disorder affects people from a diverse range of sociodemographic groups and also contributes to health inequities. The disorder is associated with elevated mortality, with about one in three people experiencing lifetime suicidal ideation and over 10% reporting suicide attempts.[1,2] The past 25 years has seen a rapid expansion in gambling disorder research, prompted mainly by the introduction of levies on gambling operators. Across Australia, more than $24 billion dollars is gambled each year on poker machines, wagering, lotteries, and sports and casino gambling, with the highest expenditure[3] and prevalence of problems associated with poker machines.[4]

Australian and New Zealand regulations require a proportion of gambling revenue to be spent on harm minimisation and treatment, as well as independent scientific research and evaluation. The New Zealand Government, each Australian state and territory government, and the Australian Government fund gambling therapeutic counselling that is in-person, over the phone or online at no cost to consumers. However, the level of help-seeking and treatment for gambling disorder is relatively low, with one in five people with problem gambling and one in 25 people with lower risk gambling seeking help.[5]

This narrative review article summarises recent developments in the identification and management of gambling disorder and the continued or emerging research gaps in the available evidence base. The evidence for this review was primarily sourced from umbrella reviews (reviews of reviews) of psychological interventions[6,7] including an umbrella review on gambling disorder treatment and clinical decision making by the current authors (unpublished data), as well as high quality systematic reviews and meta-analyses on screening and assessment,[8,9] pharmacotherapy,[10] and self-help and scalable brief interventions[11,12] that were known to the authors. To highlight research relevant to Australia and New Zealand, recent individual research articles were selected as examples that reflect the broader literature.

Diagnosis and classification of gambling disorder

Over the past 25 years, there has been a shift in the terminology used to describe and classify gambling disorder. In the fourth edition of the *Diagnostic and statistical manual of mental disorders* (DSM-IV), gambling disorder was referred to as "pathological gambling" and was classified as an impulse control disorder. In the most recent edition of the manual (DSM-5), gambling disorder was re-classified as a behavioural addiction alongside alcohol and substance use disorders, characterised by persistent problematic gambling behaviour that is associated with clinically significant impairment or distress.[13] The DSM-5 diagnostic criteria include nine indicators, such as needing to gamble more money to get the same effect, loss of control, repeated attempts to change, preoccupation, and gambling to escape negative mood. Criteria also relate to the detrimental impact on relationships or employment and a reliance on others to relieve financial situations, as well as chasing losses in the hope of regaining the amount spent. For the first time, the DSM-5 specifies a past-year timeframe, episodic or persistent specifiers, early or sustained remission specifiers, and three gambling disorder severity specifiers: mild (four to five criteria), moderate (six to seven criteria) and severe (eight to nine criteria). There are limited observable signs of gambling compared with alcohol and other drug use disorders, in which there are indicators of intoxication such as slurred speech or reduced cognitive functioning. For gambling, the person may appear stressed, agitated or in a depressed mood or unable to concentrate.[13]

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Recognising that gambling problems occur across a continuum of risk, Australia and New Zealand government, treatment and academic sectors have historically referred to gambling that has adverse consequences for gamblers, others or the community as "problem gambling", and the varying levels of risk can be determined by the Problem Gambling Severity Index (PGSI).[14] The PGSI was developed to estimate the population prevalence of problem gambling, but has also been widely applied in clinical and community services, and has four levels of gambling risk: non-problem, low-risk, moderate-risk, and problem gambling.[8] There is some evidence that a score of greater than 8 on the PGSI (the problem gambling threshold) is likely to be broadly equivalent to exhibiting four or more DSM-5 criteria (ie, correlating to at least a mild severity according to DSM-5).[15]

More recently, the application of a public health lens in Australia and New Zealand has shifted the focus of gambling disorder and problem gambling from the individual patient to the identification of gambling harm in recognition that efforts targeting the prevention of harm may be more effective as they potentially influence a larger segment of the population. Gambling harm refers to negative consequences of problematic patterns of gambling.[16] Gambling harm, which can range from mild to significant and be chronic or episodic, can affect anyone, including family and friends and the wider community. There is also recognition that harms can be separated into temporal categories, including crisis harms, which often motivate people to change their behaviour or seek help, and legacy harms, which emerge or continue to occur after gambling behaviour ceases.

The terms gambling disorder, problem gambling and gambling harm are often incorrectly used interchangeably. They are closely related, but distinct, constructs. Gambling disorder refers to a recognised psychiatric disorder, as presented in the DSM-5, that results in clinically significant impairment or distress, whereas problem gambling is the public health equivalent that refers to excessive time or money spent gambling resulting in negative consequences. Gambling disorder and problem gambling both comprise indicators of behavioural dependence (behavioural, emotional and cognitive symptoms) and adverse consequences, while gambling harm is a public health conceptualisation that only considers adverse consequences.

Prevalence and epidemiology

The prevalence of gambling disorder or problem gambling internationally ranges from 0.5% to 7.6%, with an average of 1.3–2.3%.[17,18] Australia and New Zealand have similar figures, with recent population prevalence studies indicating this disorder affects 1% of adults, with an additional 3–5% of the population at risk.[18] Although the figures have remained relatively stable,[19,20] estimates vary by availability and type of gambling. For example, recent population prevalence studies suggest gambling problems are three times more likely for individuals who regularly gamble on poker machines.[4] Although poker machine gambling has been declining across Australia and New Zealand, engagement with sports betting and wagering has been increasing.[19,20] Coronavirus disease 2019 (COVID-19) affected gambling opportunities, leading to a migration to online gambling and reduced land-based gambling. Land-based gambling has since returned to pre-COVID-19 levels.[21,22] Despite age restrictions, gambling is common in adolescents, with about 1.5% experiencing gambling disorder and a further 2.2% of adolescents at risk.[23] Adolescent gambling problems are most often related to online gambling with pre-paid credit cards and offline non-regulated gambling, such as card games with friends.[24,25] Adolescent gambling opportunities have increased with simulated gambling smartphone applications (apps) and the inclusion of chance-based mechanisms in video games, such as loot boxes, which are often targeted towards children and adolescents.[26]

Although anyone can experience gambling disorder, there are known risk factors. Having difficulty in school, being a man, and misusing alcohol or illicit substances are associated with a high risk of gambling problems later in life.[27] In the general adult population, the likelihood of developing gambling disorder varies with the type of gambling, and is particularly high for internet gambling, casino table games and poker machines.[28] In Australia, poker machines are associated with more than half of the population's gambling problems.[29] Individuals with gambling disorder often have a family member who had a gambling problem, alcohol problems, anxiety, depression or suicidal thoughts.[28] First Nation and Indigenous people experience a higher prevalence of gambling disorder due to a range of reasons, including the effects of colonisation, loss of cultural connection, poverty and other addictions.[30] Recent models of gambling harm have moved beyond an individual focus, to social and commercial determinants, such as industry practices and advertising.[13]

The Australian and New Zealand gambling service sectors

Levels of engagement with treatment are low[5], with barriers including wanting to self-manage the problem, feeling embarrassed for themselves or their family, and being too overwhelmed to seek help.[31] Help-seeking varies according to the individual's perception of problem severity, beliefs and attitudes about treatment effectiveness, pressure from family members, and being able to access the right type of treatment at the right time.[32,33] Treatment is typically sourced through the national helpline/online services or via disclosure to primary care or allied health services. Although a brief intervention is sufficient to elicit change for some people, more intensive support is often needed, especially for individuals with co-occurring mental health or addiction problems.

Treatment for gambling disorder is delivered by experts in gambling, mental health or addiction in community settings and usually involves, but is not limited to, psychological, behavioural, financial, pharmacological, cultural or social interventions. In Australia and New Zealand, gamblers and their affected others can access free therapeutic counselling (face-to-face, telephone, online) and financial counselling. Some Australian states and territories have dedicated multicultural and Aboriginal services, while New Zealand has dedicated Māori, Pacific and Asian services. Additionally, some services provide specialised support in the form of multidisciplinary or intensive services, residential treatment, peer support programs, legal support, and digital support options. In Australia, people can be referred to a private psychologist by a general practitioner via a mental health plan, for which they receive a Medicare rebate.

Screening tools and outcome measures

There are numerous screening instruments for problem gambling, all of which vary in their predictive ability.[8,9] The nine-item PGSI is currently the most common screening tool, and is advantageous as it includes cut-off points to identify gambling problems at four levels of risk. Several brief screening

instruments (one to five items) demonstrate promise in detecting problem gambling.[8] For example, the PGSI-short form consists of three items and is the only brief screening tool to provide a cut-score for at-risk and problem gambling.[34] Where even shorter screening tools are required, the one-item screening tool[35] and the Lie/Bet Questionnaire[36] have shown promising results[8] (the Box). Although these screening tools are brief and easy to administer, evidence on their classification accuracy, particularly in clinical settings, is still emerging. There are challenges with embedding gambling screening tools in clinical practice settings, including time, priorities and knowledge of appropriate tools.[37,38]

Screening tools aim to detect gambling disorder, whereas to evaluate the efficacy of treatment, outcome measures are required. It is recommended that outcome measures be determined at periodic intervals for a two-year period following the end of treatment. A range of outcome measures can be used to evaluate treatment, including gambling symptom severity, gambling behaviour (eg, frequency, money spent, duration), psychological functioning (substance use, depression, anxiety, stress), global functioning, and wellbeing.[39] The measures that are selected should reflect the targeted outcomes of the treatment. When selecting an outcome measure, consider the purpose of the measure and the measurement period. The PGSI and DSM-5 criteria measure gambling symptoms over the previous year, which would be useful for determining the severity of the problem.[14] In contrast, the Gambling Symptom Assessment Scale[40] can detect change over the past week and is therefore more suitable for measuring the immediate, short term and longer term effects of treatment. Assessment of frequency, money spent and duration can be improved using a validated scale such as the Time Line Follow Back, which uses a calendar-based system with prompts to identify gambling episodes.[41] When assessing the efficacy of a treatment, other measures to consider include those assessing the proposed change mechanisms of the treatment being delivered, such as changes to gambling cognitions, confidence to manage urges, and level of social support.

Current status of treatments and interventions

Psychological treatment

Psychological therapies, mainly cognitive behavioural therapy (CBT) and motivational interviewing, have the strongest evidence base for the treatment of gambling disorder in adults[6,7] and are recognised in clinical guidelines for the treatment of gambling disorder.[30–32] Although treatment goals include abstinence from all gambling activities or only the problematic activity, non-abstinence goals in the form of reduced frequency or reduced money spent are consistent with the harm minimisation approach that has been adopted in Australia and New Zealand.[42]

CBT, which is typically delivered over six or more sessions on a weekly or fortnightly basis, encompasses a range of treatment strategies, including relapse prevention, behavioural avoidance, cognitive restructuring, exposure therapy and imaginal desensitisation. This therapy aims to address both cognitions and behaviours and the interactions people have with their social and physical environment. Treatment often starts with setting a goal on the amount of time or money spent gambling,

Selected screening and outcome tools for detecting gambling disorder

Scale	Description	Scoring
Problem Gambling Severity Index (PGSI)[14]	• Developed to reflect the DSM-IV criteria for pathological gambling • The PGSI is a subset of items from the Canadian Problem Gambling Index, which collects data of frequency and type of gambling • Five items on dependence, inclusive of the development of and chasing losses as well as betting more than can be afforded • Four items on consequences, inclusive of finances, interpersonal and intrapersonal problems	• Nine items • Each item is assessed over the past year on a four-point scale from never (0) to almost always (3), with a total score of 0–27 • A score of 8 or more indicates problem gambling
Problem Gambling Severity Index short-form[34]	• Developed to track problem gambling in the general population • Is a subset of the items from the PGSI • Items on betting more than could afford, criticism from other people or other people reflecting that there is a problem and feeling guilty about gambling	• Three items • Each item is assessed over the past year on a four-point scale from never (0) to almost always (3), with a total score of 0–9 • A score of 3 or more indicates problem gambling • A score of 1 or more indicates at-risk gambling
Lie/Bet Questionnaire[36]	• Developed to reflect the DSM-IV criteria for pathological gambling • Items on lying to important people about the amount of money spent gambling and feeling the need to bet more money	• Two items • Each item is assessed over the lifetime with a yes/no response option • Yes to any item indicates problem gambling
One-item screen[35]	• Developed in Australia for use in medical settings when time is limited • Includes one item, which is: have you ever had an issue with your gambling?	• One item • Assessed over the lifetime with a yes/no response option • A score of one indicates further assessment
Gambling Symptom Assessment Scale[40]	• Developed to assess symptom severity and change during treatment • Four items on gambling urge • Single items on gambling frequency, time spent gambling and duration • Single items on self-control, anticipation of gambling, anticipation of excitement related to winning • Single items on emotional distress from gambling and experience of negative consequences such as relationship, employment, legal, medical or health	• 12 items • Each item is assessed over the past seven days on a four-point scale from 0–4 with varying anchors to the scale • The total score is 0–48 with symptoms ranging from mild, moderate, severe and extreme

DSM-IV = *Diagnostic and statistical manual of mental disorders*, 4th edition. ◆

which might be no gambling or reduced gambling. Behavioural strategies can be introduced to limit access to money for gambling and the person may also register to self-exclude from specific land-based or online gambling venues or install blocks on their banking cards or electronic device to prevent access. Delivered as part of relapse prevention, individuals are prompted to identify high risk situations that expose them to gambling cues and prompt unplanned gambling.[7] Treatment involves reduction of responsivity to these cues and strategies to respond to the cues as they arise. A reduction in responsivity may include approaches such as graded exposure to triggers to gambling and response prevention, such as remaining with the urge, without gambling, until the urge subsides. The individual addresses a hierarchy of triggers as homework tasks three to five times per week until they no longer feel compelled to gamble.[43] Learning new coping strategies when experiencing distress or stress is important and there might be a renewed focus on substitutions for gambling and engagement with other interests.[7] To reduce the desire to gamble, CBT identifies and changes thinking patterns where the person believes they can win at gambling by selecting lucky numbers, believing that a win must follow a series of losses, or trying to recoup losses by more gambling. Over time, the person gradually has increased self-efficacy to maintain change and reduced expectations that gambling is a way to make money or relieve negative mood states.

There is also considerable evidence for motivational interviewing, which is an approach aiming to support people to elicit their own readiness and self-efficacy to alter gambling behaviours. Motivational interviewing is often combined with CBT, such that the first one to two treatment sessions involve strengthening change talk and readiness followed by a series of CBT sessions aiming to elicit alterations to thinking and behaviours about gambling. Motivational interviewing is effective in reducing gambling symptoms over the short term but for lasting change, other approaches may be needed.[6]

Pharmacological treatment

There is mixed evidence on the effectiveness of medications for gambling disorder in the short term and no evidence of effectiveness over the longer term.[6,10] Several small trials of opioid antagonists, atypical antipsychotics, antidepressants and mood stabilisers indicate mixed results.[6,10] Opioid antagonists (eg, naltrexone) and atypical antipsychotics (eg, olanzapine) demonstrate improvement in gambling symptom severity in the short term but no impact on gambling behaviours. These conclusions need to be interpreted with caution due to a limited evidence base characterised by small sample sizes, strong placebo effects and limitations in participant selection, such as exclusion of participants with psychiatric conditions. There may be merit, however, in prescribing pharmacological treatments when another treatment has failed to have an effect. Accordingly, clinical guidelines in Australia, New Zealand and the United Kingdom suggest naltrexone could be prescribed off-label and in conjunction with a holistic treatment plan.[6,44,45]

Self-help

Self-help refers to the use of tools, programs or resources to enact change that may be undertaken with or without professional oversight. Three types of self-help are dominant in the treatment of gambling disorder: self-help treatment, self-help strategies and self-help groups. Self-help treatment refers to a professionally developed intervention that delivers CBT over six or more sessions and uses techniques such as personalised feedback, interactive activities, homework assignments and online discussion groups.[6,46] Self-help treatment has become widely available to address barriers to treatment access and is scalable, has a larger reach than in-person treatment, is cost effective, and can be integrated into most service types including allied health and primary care settings. It is usually delivered via a website or smartphone app and contains multiple modules or activities. There is emerging evidence that structured treatment delivered over a period of several weeks is as effective as equivalent interventions delivered in-person and more effective than brief interventions, such as a single session of motivational interviewing delivered over the telephone.[12]

Self-help strategies or self-management refers to the use of tools and resources that are sourced from a range of different places, such as methods to block gambling (self-exclusion or website blockers), seeking support from family and friends, and working out ways to deal with urges and cravings.[47] Self-management tools have variable levels of evidence despite their widespread use. For example, self-exclusion from gambling venues is a tool used by about 15% of people with gambling disorder[48] but there are only a few longitudinal studies and no clinical trials assessing its long term effectiveness.[47]

Self-help groups, such as Gamblers Anonymous, and peer support can be used as a standalone treatment or in combination with treatments delivered by a professional or peer worker. Evidence for the effectiveness of Gamblers Anonymous is mixed but there is some evidence that it may be helpful when offered alongside professional treatment.[49]

Prognosis and outcomes

A major challenge to improve the course and duration of gambling disorder over the longer term is treatment retention, as more treatment is associated with better longer term outcomes.[50] Although gambling disorder can result in extensive negative consequences for the gambler and their affected others, there is a delay in the onset of treatment seeking. For example, in New Zealand, gambling problems are most prevalent in the 18–24 year age group[51], but help-seeking is most prevalent in the 25–44 year age group. The course of gambling disorder varies because people move between regular and episodic (binge) gambling or are in remission.[52] It is estimated that about 25% of people with gambling disorder relapse within the first year of recovery, with relapse rates increasing to 30% within two and 40% within three years, respectively.[52] Relapse prevention is therefore important, in addition to long term monitoring of this condition.

Gaps and implications

As indicated in this narrative review, the treatment field has established that CBT and motivational interviewing are effective interventions for the treatment of gambling disorder. Moreover, over the past decade, the field has expanded to develop and evaluate the efficacy of digital interventions, including online and mobile self-directed interventions.[53–55] However, the literature on gambling treatment outcomes has stalled, with major gaps remaining in our knowledge. There is a gap between what services provide and evidence-based interventions and there are very few pragmatic trials done on treatment services. One of the largest and most vital gaps is the absence of high quality evaluations that assess treatment effectiveness over the longer term, particularly in relation to treatment in community settings. Australia and New Zealand spend millions of dollars each year in

treatment services but long term evaluation remains scarce. The absence of longer term evaluations means relapse is not being detected or addressed, even though this is a known challenge for individuals with gambling disorder. Ideally, we need to harness technology for routine follow-up evaluation that is client-centred and provides easy re-entry to treatment, as needed.

Although CBT and motivational interviewing have demonstrated efficacy for gambling disorder, there are limited studies that evaluate other interventions, including approaches that show promise for a range of other psychiatric and addictive disorders. For example, although they show promise, there is only a limited and low quality evidence base for third-wave CBT interventions, including acceptance and commitment therapy, dialectical behaviour therapy, mindfulness-based cognitive therapy, and mindfulness-based stress reduction. As recommended by the Australian Psychological Society,[56] other treatment types that should be investigated include eye movement desensitisation and reprocessing, emotion-focused therapy, family therapy and family-based interventions, interpersonal psychotherapy, hypnotherapy, narrative therapy, play therapy, psychodynamic therapy, schema-focused therapy and solution-focused brief therapy.

The 2023 guideline for the management of gambling disorder by the National Institute for Health and Care Excellence, recommends that people with gambling disorder have the right to make informed decisions about their care.[44] To date, however, the available evidence is insufficient to provide an adequate range of evidence-based interventions on which these individuals can base these decisions. This is because the available studies generally have methods with considerable limitations, and there is limited empirical data to guide the selection of one intervention over another. Moreover, given the high rates of psychiatric comorbidity with gambling disorder, there is a paucity of research examining the effectiveness of transdiagnostic treatments, in which comorbidity is addressed by providing an intervention target that can have an impact across multiple disorders. This contrasts with integrated or tailored interventions, in which treatments for gambling disorder and comorbid psychiatric conditions are combined and sequenced.

Our review covered a range of different topics but there are other important topics not covered. We need to know more about engagement and retention in interventions for people demonstrating gambling problems but not yet meeting the threshold for gambling disorder. There is a need for more replication of clinical trials, especially with people from different cultures, ages and degrees of readiness to change. Similar to substance use disorder, it is likely that we need to build treatment programs that are tailored to the type of gambling so that people only receive content relevant to their condition. This review did not cover family and affected others, but this is an important topic that is gaining attention in Australia and New Zealand. Family and affected others experience serious harms from gambling, including suicide, family breakdown and financial disruption.[2,57]

The first question that is asked in treatment outcome research is "What works?". In line with a translational approach, however, we should not just be examining what works, but also the how, why, and for whom our interventions work so we can develop more efficient and effective interventions to reduce gambling harm. Understanding how and why treatments work can optimise interventions by retaining the treatment components that work the best and removing or refining the components that are not as effective. Similarly, understanding which treatment works best for whom and under what conditions has the potential to target the heterogeneity in gambling disorder to maximise treatment response, enhance client satisfaction, reduce attrition and lower treatment costs.

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